

**DIFFERENTIATION AND INTEGRATION IN ADULT DEVELOPMENT:  
THE INFLUENCE OF SELF COMPLEXITY AND INTEGRATIVE  
LEARNING ON SELF INTEGRATION**

By

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## **DEDICATION**

**This dissertation is dedicated to my mother, Florence, to my father, Yannis, and to my daughter Nausika.**

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## **List of Abbreviations**

<b>AFLEX:</b>	Adaptive Flexibility
<b>AC:</b>	Abstract Conceptualization
<b>AE:</b>	Active Experimentation
<b>ASI:</b>	Adaptive Style Inventory
<b>CE:</b>	Concrete Experience
<b>ELT:</b>	Experiential Learning Theory
<b>ICT:</b>	Intentional Change Theory
<b>IL:</b>	Integrative Learning
<b>LSI:</b>	Learning Style Inventory
<b>PEA:</b>	Positive Emotional Attractor
<b>RO:</b>	Reflective Observation
<b>SC:</b>	Self-Complexity
<b>SI:</b>	Self-Integration
<b>SI Congruence:</b>	Self-Ideal Congruence
<b>SI Process:</b>	Self-Integrating Process

## GLOSSARY

**Adaptive Flexibility:** The operational definition for the construct of *integrative learning* in this study. It is the ability for *systematic variability* in a person's response to different environmental needs (Kolb, 1984). It is measured in this study by the Adaptive Style Inventory (Kolb, 1984; Boyatzis and Kolb, 1993).

**Self-Complexity:** The operational definition for the construct of *differentiation* in this study. It is *the numbers of self-aspects that a person utilizes to represent his/her self internally* (Linville, 1987), as measured by the test offered by Linville (1985; 1987).

**Self-ideal congruence:** The extent to which a person's real self image is in harmony with their ideals (Rogers, 1954); this captures the conventional, or piagetian conception, of self-integration (Piaget, 1948 ;). It is measured in this study via a test offered by Higgins' (1985; 1987) and based on its definition in intentional change theory (Boyatzis, 2006; Boyatzis and Akrivou, 2006).

**Self-integration:** It is defined in this study as *the ability of a person to subjectively answer the fundamental identity question "who am I?" with a high degree of integrity and authenticity*. This definition follows constructivist adult development theory; it emphasizes changes in

a person's epistemology and meaning making that underlie psycho-social and cognitive maturation components in adulthood (Cook-Greuter, 1999). Drawing from constructivist adult development theory (Kegan, 1994; Lahey, 1986; Lahey et al., 1988; Loevinger, 1976), self-integration is defined as two distinct variables. The first variable captures the conventional component of self-integration. The second variable captures the post-conventional component of self-integration.

**Self-integrating process:** The ability to experience the self as a process - a dynamic and fluid self-identity, allowing authenticity and deeply being “what one truly is” (Rogers, 1961). It is the ability for openness, creativity, meaning, relatedness and adding value to the world by impacting the status quo. This captures the post-conventional, or post-piagetian, view of self-integration (Kegan, 1994; Lahey, 1986; Lahey et al., 1988; Loevinger, 1976).

# **Differentiation and Integration in Adult Development: The Influence of Self Complexity and Integrative Learning on Self Integration**

## **Abstract**

by

KLEIO AKRIVOU

This study explores the relationship between self-integration, self-complexity, and integrative learning. Drawing from constructivist adult ego development theorists (Kegan, 1994; Loevinger, 1976; 1988; Lahey et al. 1988; Perry, 1999; Piaget, 1962; Rogers, 1951) the definition of self-integration emphasizes a person's *transformation in epistemology and meaning making*, underlying both psycho-social and cognitive maturation. Building on post-conventional constructivist adult ego development theory (Cook-Greuter, 1999; Johnson, 2000; Kegan, 1994; Lahey, 1986) this is one of the first empirical explorations of self-integration, operationally defined as two variables, capturing a conventional and a post-conventional component. Important work in this area has been theoretical.

Self-integration is operationalized as (1) *self-ideal congruence*, as measured by Higgins (1985; 1987 ;) and as defined in intentional change theory (Boyatzis and Akrivou, 2006), and (2) *self-integrating process*, as captured by a newly developed direct response measure based on post-conventional constructivist theory. Self-complexity is operationally defined as *the numbers of self-aspects that a person utilizes to represent*

*his/her self internally* (Linville, 1987). Integrative learning is measured as *adaptive flexibility*, the ability for *systematic variability* in a person's response to different environmental needs (Kolb, 1984).

Based on quantitative research methods, overall findings from data collected from 198 adults in management and professional roles confirmed the hypotheses that self complexity is positively related to both measures of integration (self-ideal congruence and self-integrating process), and integrative learning is positively related to the second measure of integration. Age, a control, is positively related to the second measure of integration. Findings support operationalization of self-integration as two distinct variables, being -to my knowledge- the first empirical testing of relevant post-conventional ego development theory.

This study adds to theories on constructivist adult development (Cook-Greuter, 1999; Kegan, 1994; Lahey, 1986; Lahey et al. 1988; Loevinger, 1976; 1988; Perry, 1999; Piaget, 1962; Rogers, 1951, 1961;), self-concept structure (Campbell et al., 2003; Higgins, 1987; Linville, 1985; 1987), experiential learning (Kolb, 1984) and intentional change (Boyatzis, 2006) theories. It adds to theory of leadership, professional and personal development. This study informs applications in organizational practice that aiming in integrating the individual and the organization (Argyris, 1964; Doherty et al., 2007) leadership development and executive coaching.

**Keywords:** Self-Integration, Self-Complexity, Differentiation-Integration, Self-Ideal Congruence, Self-Integrating Process, Adaptive Flexibility, Integrative Learning, Self-

Concept Structure, Adult Development, Leadership Development, Experiential Learning Theory, Learning Style, Adaptive Style, Ideal Self, Intentional Change Theory.



## I. CHAPTER ONE – INTRODUCTION

### *The relationship between differentiation and integration in philosophy and the epistemology of the self.*

The construct of integration and the importance of the relationship between differentiation and integration<sup>1</sup> as a mechanism underlying the growth from lower to higher forms of evolution is rooted in the ideas of pre-Socratic Greek philosophers (such as Parmenides, and Thales O Milesios) and upon their philosophy of Reason, Ontology, Mathematics and Religion. Many important European philosophers have drawn from that previous work. In epistemology of science, Karl Popper discussed differentiation and integration as related to the “making and matching” of new epistemological domains, in order to include the objective world of *It*, the subjective world of *I*, and the cultural world of *We* (Popper, 1983; 1994). In cosmology, the synthetic philosophy of Spencer claims that the evolutionary process is marked by two movements - namely integration and differentiation (Elliot, 1917). In turn, this work has heavily influenced biological observations of evolution - viewing the growth and development of every living organism lying in its ability to differentiate itself from its surrounding and other organisms.

---

<sup>1</sup> Definitions:

"differentiate v.

1 distinguish, discriminate, contradistinguish, separate, contrast, oppose, set off or apart, tell apart: They must learn how to differentiate one species from another.

2 modify, specialize, change, alter, transform, transmute, convert, adapt, adjust: All organisms possess the power to differentiate special organs to meet special needs.

integrate v. combine, unite, blend, bring or put together, assemble, merge, amalgamate, join, knit, mesh, consolidate, coalesce, fuse; US desegregate: We must integrate all the parts into a coherent whole. Several cultures have been well integrated into our community." *Oxford Dictionary*.

Specifically, biological observations of evolution present that by increasing an organism's ability for specialization in order to serve a special function or purpose, it is able to move upwards in the phylogenetic scale (Johnson, 2000; Kolb, 1984). An excellent discussion of differentiation as a developmental phenomenon that leads to higher level integration is found in Werner's (1948) orthogenic principle, stating that human growth proceeds from a state of "relative globality" to a stage of increased "differentiation".

*Differentiation* is viewed as having two aspects, being (1) an increasing complexity of units and (2) a decreasing interdependence of parts. Conversely, *hierarchic integration* is seen as the organizing response to the increasing complexity and differentiation, via higher consciousness of a human's ability for meaning making (Cook-Greuter, 1999; Kolb, 1984). Both constructs are viewed by all different theory lines as applying to *both* integrative meaning making between parts of oneself (intra-psychic) and between self and other (Johnson, 2000).

The relationship between differentiation and integration is a research problem that has been one of the most enduring questions in modern times in the *epistemology of the self*. It has been viewed as a critical mechanism which accounts for human growth and development. The concepts of differentiation and integration are important for psychoanalytic theory (for example, Adler, 1964; Mahler et al. 1975), object relations theory (for example, Kernberg, 1976), and self-psychology on identity, development and adjustment (Block, 1961; Erikson, 1950; 1968; Blasi & Glodis, 1995;). They are

fundamental concepts for *theories of cognitive development in childhood, adolescence and adulthood* (for detailed references, read Blasi & Glodis, 1995; Cook-Greuter, 1999; Erikson, 1950; 1968;) and among them for constructivist adult ego development theory (Kegan, 1982, Lahey, 1986; Loevinger, 1966, 1976, Piaget, 1962; Perry, 1999). All of these fields use separate terminologies to describe each construct and their relationship as seemingly structurally similar phenomena of psychic organization (Johnson, 2000).

Although there are commonalities in the abstract conception of differentiation and integration within the literature that describes this relationship, the terms differentiation and integration are used inconsistently. Psychoanalytic theory views both constructs as distinct stages or phases (Mahler et al. 1975). On the other side, constructivist adult ego development theory (Kegan, 1982, Lahey, 1986; Loevinger, 1966, 1976, Piaget, 1962; Perry, 1999), object relations (Kernberg, 1976) and self-psychology (Kohut, 1977) all agree in their view of differentiation as a phenomenon underlying and facilitating the process of psychological development (Johnson, 2000)<sup>2</sup>. In addition to the inconsistent use of terms different measures are offered to capture each of the constructs. Most of these are problematic to use outside their respective literature. They either measure differentiation and integration as part of the same phenomenon and method and lack external validity (for example, those offered by Blatt et al (1976) and Fast et al. (1996)) or they only have face validity (for example, those offered by Kegan ( 1982) and Lahey et al. (1988)).

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<sup>2</sup> Another inconsistency is related to the extent to which differentiation is viewed as an end state of psychosocial maturation in adulthood (Erikson, 1968), or a stage of development that begins in infancy and is completed in childhood (Mahler et al., 1975).

***Operational definitions for self-integration, self-complexity and integrative learning in this study, as manifested in its related literature.***

This study explores the relationship between the two constructs as manifested in the operational definitions of self integration and self-complexity. Drawing from constructivist theory on adult ego development (Kegan, 1994; Loevinger, 1976; 1988; Lahey et al. 1988; Perry, 1999; Piaget, 1962; Rogers, 1951, 1961;) the conceptualization for self-integration I am using emphasizes a person's *transformation in epistemology and meaning making* that underlie both psycho-social and cognitive maturation (Cook-Greuter, 1999). Accordingly, self-integration is defined as *the ability of a person to subjectively answer the fundamental identity question "who am I?" with a high degree of integrity and authenticity*. Two different measures of self-integration are used to operationally define the construct of self integration in this study. They are:

(1) *self-ideal congruence*, the extent to which a person's real self image is in harmony with their ideals, as measured by the Higgins Selves Questionnaire (1987), and its definition in intentional change theory (Boyatzis, 2006; Boyatzis and Akrivou, 2006), and

(2) *self-integrating process*, referring to the ability to experience the self as process - a dynamic and fluid self-identity allowing authentic experience of "what one truly is" (Rogers, 1961), and the creativity and freedom to impact transformation of the

status quo beyond conventional views of reality (Kolb, 1984). This variable is measured by a newly developed direct response measure based on adult development theory.

Self-complexity is operationally defined as *having multiple self-aspects and maintaining greater distinctions among these different self-aspects, or numbers of self-aspects that a person utilizes to represent his/her self internally, and the degree of redundancy between these self-aspects* (Linville, 1987, p. 664). It is measured by the self-complexity psychological task, created by Linville (1982; 1985; 1987).

Integrative learning is operationally defined as *adaptive flexibility* (Kolb, 1984; Boyatzis and Kolb, 1993), being the ability for *systematic variability* in a person's response to different environmental needs and transactions with context (Kolb, 1984).

***Theory and empirical data on the relationship between self-integration, self-complexity and integrative learning in the related literature.***

This research indicates that self complexity and integrative learning positively predict the achievement of a mature higher form of integrated identity, as measured by the self-ideal congruence and self-integrating process variables. All constructivist adult development theories agree on a sequence for adult psychosocial and cognitive maturation, starting from acquisition of more simple forms/skills of meaning making, to an increase in their complexity in meaning making, through the (conventional) adaptation to social demands and roles, towards higher self-maturation stages that allow for creativity, freedom, authenticity, self-actualization and impact to society.

Adult constructivist ego development theory has stated that the relationship between complexity and integration *is a developmental phenomenon underlying the whole process of adult development (Johnson, 2000)*, thus it is assumed that there is a positive relationship between self-complexity and self-integration. Following this basic assumption, psychological theories that focus on the evolution of the self towards the ability of cognitive and psycho-social maturation (expressed by the term self-integration) posit that, before achieving self-integration, the person experiences a period of having “multiple selves”. The increase in self-complexity or self-multiplicity is seen by development theory as a key variable that positively predicts a person’s ability to move towards higher abilities of ego and cognitive maturation. In the reviewed literature, these are seen as abilities of the self-integrated person. Self-concept structure theory is another social psychological theory that deals with the relationship between complexity and integration. The assumption in this theory is that complexity and integration of the self concept of adults represent antithetical conditions, thus they are (should be) negatively related variables (Campbell et al., 2003).

Integrative learning has been seen as a variable that is critical for the achievement of self integration. Constructivist adult ego development theory, especially the post-conventional one, emphasizes that an increase in integrative learning facilitates movement from self-complexity to stages of self-integration. Distinguished from Piaget’s emphasis on cognitive growth for developmental psycho-social progression, the post-piagetian theorists defined this as the need for balancing between accommodation

and assimilation (Cook-Greuter, 1999). Other related literature follows in this direction. The experiential learning theory of development (Kolb, 1984) proposes a positive role of integrative learning for integrative development, in line with constructivist development theory.

Comparing theoretical assumptions on the relationships between self-complexity, self-integration and integrative learning and empirical evidence, a significant gap is seen in the literature. Empirical research that actually focuses on studying the relationship among self-complexity and self-integration is inexistent in constructivist adult development literature. This is partly because the existing measures capture the two variables as individual stages and both part of the same underlying phenomenon of development (Johnson, 2000). In the self-concept structure research there are very few studies that show the two variables as unrelated (Campbell et al., 2003). That said, it is not safe to draw any conclusions based on these few studies. Their research questions were framed around the relationships among the various existing measures of complexity and unity of self-concept. As to the role of between integrative learning and self-integration, there are only two studies and the evidence indicates a positive relationship (Pazy, 1979; Bell, 2007).

### ***Plan of Dissertation***

In Chapter 2 I review the relevant literature on the concepts of self-integration, self-complexity and integrative learning, and discuss the theoretical and empirical evidence of

their relationship. This chapter ends with a summary of conclusions, and the study model and hypotheses resulting from the review. In Chapter 3 I describe in detail the sample and procedures, the methods used for the analysis of the quantitative data, as well as the operational definitions and measures chosen for the constructs. In Chapter 4 I report all findings of the quantitative analysis. In Chapter 5 I discuss the quantitative analysis findings, and contributions to the literature that is related to the study hypotheses. In Chapter 6 I expand the discussion on contributions from this study by offering implications for future research for the theory lines it draws from. I discuss its contribution for three specialized theories of adult development that this work is supporting - namely leadership development, professional development and personal development. Finally, in this chapter, the study limitations and its further contribution to organizational practice are also discussed.



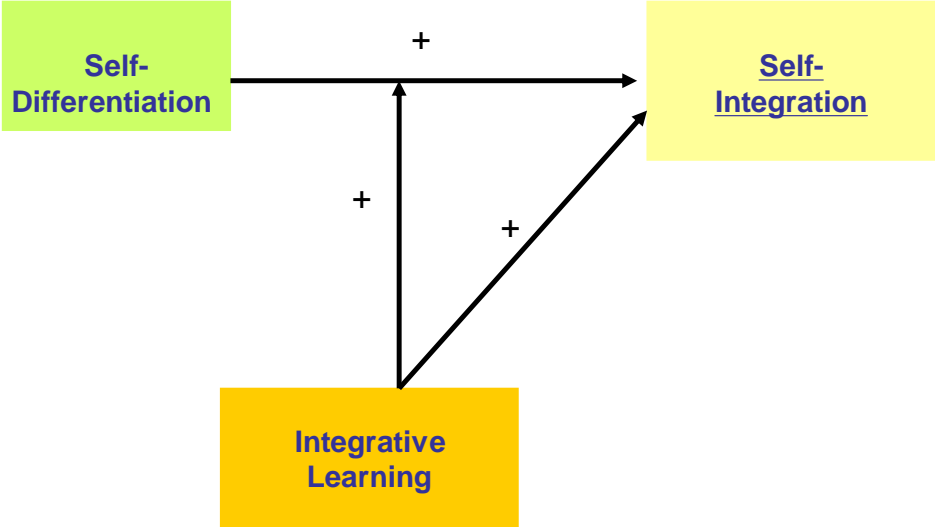
## **II. CHAPTER TWO: REVIEW OF THE RELEVANT LITERATURE**

The conceptual model of this research is summarized graphically in Figure 2.1. It explores the degree to which differentiation, as manifested in the construct of self-complexity, is positively related to self-integration. Additionally, it explores the degree to which integrative learning is positively related to self-integration, and if integrative learning moderates the (positive) relationship between self-differentiation and self-integration. This chapter reviews the literature that is closely related to this research problem.

The theory that frames and informs this research draws from four distinct theoretical lines: (1) the self-concept structure theory, (2) adult (lifespan) constructivist ego development theory, (3) experiential learning theory, and (4) intentional change / self-directed learning theory. Each of them will be discussed as it applies to my research question.

**Figure 2.1**

Figure 2.1 – Research Model



## 2.1. Self-concept Structure research

Self-concept research has exploded during the last twenty years in psychological and social psychological study. Its origins date back to symbolic interactionists with their theories on the self as an organizer of behavior, and Mead's ideas of the "looking glass self. Mead proposed that through "looking glass self" individuals perform different roles differently and, as a result, they dispose of many potential selves which they construe in response to roles, or expectations by the different group memberships a person has. As Markus writes "the construct of self-concept is implicit in the writings of the symbolic interactionists (Markus, 1984). Theory on the self-concept has focused on this content. It has been linked to motivation through the concept of self definition. For example, Stryker theorized that different individual identities seek continual validation and the behaviors that have meaning for the individual are aimed at confirming particular identities. As Markus writes "self-definitions are construed primarily as goals or ideals and are described as conceptions of the self as having a readiness to engage in certain classes of behavior." (Markus, 1984).

In self-concept research, self-concept *structure* is a relatively new field of research. It uses terminology that is similar to the differentiation – integration definitions in constructs from the constructivist adult development literature. Self-concept structure researchers focus on the underlying dynamics in the structure of the adult self-concept; the structure of self-concept refers to how content within the self-concept is organized.

This line of work is very heavily influenced by the work of Markus on concepts of self and schemata in social psychology (Markus, 1977, Markus et al. 1985; 1986 a, b), and her idea that individuals are free to create any variety of possible selves. According to Markus, a number of controversial issues in psychology were addressed successfully by the theory of ‘possible selves’, including whether the self is a distorter or reality, whether the self-concept is stable or malleable, and whether there is one ideal self or many selves (Markus, 1986a,b). Markus (1986a) writes that “possible selves represent individual’s ideas of what they might become and what are afraid of becoming, and what they hope for and would like to become’ and that ‘possible selves derive from representations of the self in the past and include representations of the self in the future’”. Besides the work of Markus, self-concept structure theory draws from research on consistency. This includes the psychology of personal constructs (Kelly, 1991), and neo-phenomenological theory on self-consistency (Lecky; 1945). It also includes research on cognitive structure and cognitive research on concepts (for example, Rosch et al., 1975; Medin, 1989; Zajonc, 1960).

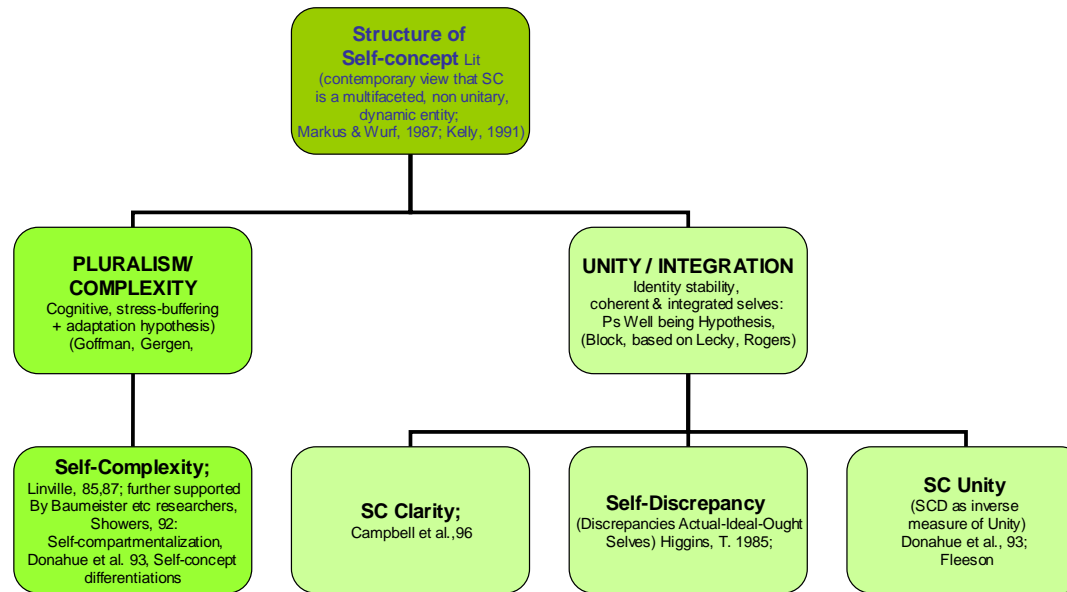
The theory assumes that self-complexity and self-integration (or self-unity, as the construct is alternatively called in some literature) are negatively related concepts. Therefore, it can be implied that high levels of self-integration should be seen with low levels of complexity. This theoretical view is based on the different basic assumptions of self-coherence and self-integration. Views such as James’, in 1890, which defined self-complexity as maladaptive behavior clinically treated, or the Block tradition, which saw complexity as the opposite of coherence and hence as the cause of psychological

problems such as depression, anxiety and physical symptoms (Block, 1961; James, 1902; Rogers, 1959). As a result, the self-concept structure researchers whose work informs this research problem are currently deeply fragmented into two main epistemological views on adult self-concept - namely self integration and self complexity research.

Self-integration is broadly defined by self-concept structure researchers as unity and consistency in the structure of self-concept. Self-complexity is defined as multiplicity, or differentiation in its structure. The researchers that argue on the benefit of self-integration suggest that self-concept unity and consistency enhance psychological health and adjustment. The research line that favors self-complexity take the opposite position, namely that multiplicity and differentiation in the self-concept structure enhance psychological well being and adjustment (Campbell et al., 2003). A summary of the research lines in the self-concept structure theory is presented graphically in Figure 2.2. It shows the alternative operational definitions in this literature for the constructs of differentiation and integration in two epistemological views. Self-integration is manifested as consistency (Higgins, 1985), or self-unity (Donahue et al., 1993), or clarity (Campbell, 1990; Campbell et al., 1996) in the structure of self-concept. Differentiation is manifested as self-complexity (Linville, 1985; 1987), self-compartmentalization (Showers, 1992), or self-differentiation (Donahue et al., 1993) in the structure of the adult self-concept.

Figure 2.2: Self-Concept Structure; summary of literature on self-complexity and Self-Integration

Figure 2.2



Developed by K.Akrivou, based on: Campbell et al. 2003;

As shown in the figure, researchers on unity of self-concept are Higgins (1985), Donahue et al. (1993), and Campbell (1990; Campbell et al., 1996). They are following classic work on the importance of self-unity in allowing continuity and psychological stability in changing life circumstances, phases and roles, such as Block's (1961) and Rogers' (1959). The proposed operational definitions and measures of self-concept unity researchers can indirectly be extended to this research, since the main focus of this work is unity and consistency in the structure of the self-concept, rather than self-integration per se. In order to define the relevance of each proposed operational definition one has to examine each operationalization and critically decide on its relevance to the concept of self-integration.

Higgins's self-discrepancy theory (Higgins, 1985; Higgins et al. 1987) focuses extensively on different "domains of self" (Higgins, 1985; Higgins et al. 1986; 1987). Specifically it focuses on the actual, ought and ideal self, as related to different kinds of self-discrepancies. Higgins in her theory has a broad operational definition and measurement of unity in a person's self concept(s) that allows for a detailed measurement of the degree of discrepancy/consistency between and among a person's actual, ideal and ought self concepts and their consequences for different kind of affect.

Besides the use for this very specialized operationalization of self-consistency, Higgins' measure is a good one for capturing self integration as self-ideal congruence. Her measure can be used to measure *congruence among a person's ideal- and actual self*

*concepts*. This is because, in her operationalization, Higgins (1985) is drawing from theories in psychology that focused on work, such as the “consistency” literature lens, studying the motivational consequences of consistency and inconsistency among a person’s real and ideal self-aspects (in Higgins et al. 1987), psychology of the self (Allport, 1955; Baumeister, 1986 a, b; James, 1890; Mead, 1934;) and psychodynamic theory (Adler, 1964; Erikson, 1963; Freud, 1961; Rogers, 1961;). Both proposed and described different kinds of self-concepts and the negative effect of conflict among them. For example, Rogers (1951, 1961) emphasized the criticality of the discrepancy between a person’s self-concept and the ideal-self concept as the source of vulnerability, and stressed the role of self awareness -through therapy and counseling for an increase in congruence between the real and ideal-self concepts.

Campbell (1990; Campbell et al., 1996) focused on self-concept clarity as the underlying structure of self-integration. Self-concept clarity is the extent to which the contents of self-concept are clearly and confidently defined, internally consistent and temporally stable (Campbell et al. 2003). She measured it through both unobtrusive measures, including temporal stability (1990) and self-report (Campbell et. al, 1996). The purpose was to investigate its relationship with measures of adjustment, such as self-esteem, neuroticism, negative affectivity, anxiety, and depression. In Campbell’s definition of the concept of self-integration, a focus on internal consistency and temporal stability of self-definition are salient.



Donahue et al. (1993) defines unity of self-concept as the degree to which a person is/is not differentiated among different social roles. If we extend this work to operationalize self-integration, then a focus on consistency of behavior across roles is salient. They offered a measure of self-concept unity, capturing the degree to which one has similar traits across roles, with self-complexity being captured as the degree to which someone has dissimilar traits across categories (roles). Therefore, their measure of self-integration is an inverse measure of unity, which by its very nature and method captures the variables as symmetrically opposite constructs.

The *complexity or multiplicity researchers* are impacted by post modern self-theorists (eg. Gergen, 1971; Goffman, 1959; Rosenberg, 1997). They offer that greater complexity (or pluralism) in the self-structure enhances psychological well-being, arguing that self-complexity allows the person to possess numerous specialized identities that allow them to show situational and contextual adaptability. They reason greater complexity allows for faster and better responses to changing circumstances and various audiences / social roles / groups they encounter. This line of study is one that can be used directly for the measurement of self-complexity in this study. Among the researchers whose work dealt with self-complexity, prominent are Linville, with her work on self-complexity (Linville, 1985), and Showers' (1992) research on compartmentalization. It is also important to mention the work of Donahue et al. Donahue's work on self-differentiation could also serve as an operational definition of self-complexity - although the work focuses on the benefits of self-integration for psychological adjustment.

Linville's work on self complexity (Linville, 1985, 1987) defines the construct as "*having more self-aspects and maintaining greater distinctions among self-aspects*" (Linville, 1987, p. 664), and "the numbers of self-aspects that a person utilizes to represent his/her self internally, and the degree of redundancy between these self-aspects" (Linville, 1982; 1985). Linville's conceptualization of self-complexity focuses on a person's ability to possess numerous specialized identities. Thus, this conceptualization assumes that the self-concept consists of multiple "self-aspects" or cognitive categories (Campbell et al, 2003; Campbell et al. 1991) and it focuses on self- identity complexity. Linville proposed that self-complexity is a necessary higher level mechanism of self-regulation and positive coping that keeps negative experiences and affect in some self-aspects and domains from "spill over" into global self-esteem and the affective experience of the person. Linville, in her conceptualization, hypothesized that high degrees of self-complexity buffer stress by preventing negative events that occur in one self-aspect from "spilling over" and negatively affecting other self-aspects. This hypothesis has been validated by various researchers like Dixon & Baumeister in 1991, Linville, 1987 and Smith & Cohen in 1993 (in Campbell et al. 2003).

Showers (1992) defines the construct of self-complexity as compartmentalization of a person's self-concept; compartmentalization refers to the degree to which a person separates positive or negative information and knowledge about the self into separate, uniformly valenced self-aspects. She hypothesized that there is an interaction between compartmentalization and the differential importance of a person's negative and positive self-aspects that affects psychological adjustment. Specifically, she hypothesized that

when greater importance is given to positive self-aspects, rather than to negative self-aspects, compartmentalization should result in higher levels of adjustment (Campbell et al. 2003). Showers uses a measure of fragmentation that requires first completion of Linville's trait sorting measure and subsequently processing it statistically in a different way.

Although this literature is accomplished on measures of complexity and integration in the adult self-concept, empirical research on their relationship has not progressed significantly. Few studies exist on this matter (Campbell et al., 2003). In addition, research on the relationship between the two constructs is limited by the high degree of fragmentation that exists among self-concept structure researchers. As a result, the few existing studies focus on (a) comparing between popular measures capturing the two conditions in the adult self-concept, and (b) comparing effects of each with measures of adjustment, in order to further add to theories showing which of the two constructs is a more desirable or, beneficial condition in the self-structure. Thus, although I am using this literature for operationally capturing some of my variables, it cannot be used to inform the discussion of how self-complexity is facilitating self-integration. This theory has not yet dealt with the more longitudinal nature of the research problem of this study. As to the question which is the focus of this study, i.e. the relationship between self-complexity and self-integration, there is not enough evidence to support an argument. Despite this limitation on how empirical data can be used to inform the hypotheses in this study, most of the cross-sectional studies do show that different measures of complexity and unity/integration of self-concept offered by this literature have different relationship

with measures of psychological adjustment and well being (for a review, see Campbell et al., 2003; Lutz and Ross, 2003).

Contrary to the above theoretical view of the constructs as negatively related, few empirical studies show no relationship between measures of unity and integration of self-concept and measures of complexity. For example, one study, using a sample of 260 college students, Lutz and Ross (2003) showed that the self-concept differentiation by Donahue et al. (inverse measure of self-integration measure) and Linville's self-complexity measures demonstrated opposite relationships with indices of psychological distress. Donahue's measure was positively related to depression, loneliness and dissociation, and negatively related to self-esteem. The opposite pattern of results was found in regards to Linville's operationalization of self-complexity. The results are not surprising if one takes into account that the operationalization of self-complexity offered by the Block tradition was found to cause psychological problems such as depression, anxiety and physical symptoms (Block, 1961; James, 1902; Rogers, 1959). Similarly, Donahue et al. conceptually defined self-integration as conceptually opposite to self-complexity. In the same study, the results indicated that each of the two aspects of self-concept contributed distinct and unique variance to the prediction of psychological maladjustment (Lutz and Ross, 2003). In a series of studies done by Campbell et al. (2003) it was also found that self-complexity and self-integration measures in adult self-concept are unrelated constructs. None of the studies directly compared Higgins's operational definition of self-discrepancy/self-consistency, or the score on self-ideal

congruence that can be extracted from her measure, and Linville's measure of degree of self-complexity.

These studies provide more quantitative justification for treating self-complexity and self-integration as theoretically distinct aspects of a person's self-identity structure, i.e. not *necessarily* related to one another, rather than drawing evidence to support the theoretical assumption on a negative relationship between them (Campbell et al., 2003). This view is in line with current views from clinical cognitive psychology, such as Dimaggio et al. (in press) and Powers (2007). In regards to this matter, Power mentions (2007) that "the self (is) as a symphony orchestra, when the different parts of the orchestra play in harmony with each other, then the overall experience is of an integrated whole..... Indeed, this same experience of integration can be apparent when one or more sections of the orchestra is silent or absent. Alternatively, there can be a discordant sense of disintegration if the different orchestral parts do not coordinate with each other, for example if each part were to play a different tune". This view favors indirectly the idea that self-complexity and self-integration have a dynamic and critical relationship to the overall psychological health and developmental level of the self.

## 2.2. Adult (Lifespan) Ego Development Theory

I chose to focus on adult development theories that see development as resulting from the ego. The ego is a fundamental psychological concept of personality organization in the psychodynamic research tradition, believed to be synthesizing the intra and outer personal reality and in general to be orchestrating how an individual perceives reality by coordinating affect, thought and action (Loevinger, 1976). Ego adult development theory is based on Fingarette's definition that the ego is the fundamental mechanism that strives for meaning and integration in humans (Fingarette, 1963).

Among ego development theories, I chose to focus my review of adult development theories on **constructivist theories of adult ego development**. These study the evolution in the individual's conceptual frames of reference from more simple, to superior forms of knowing. The theories opine that the fundamental human need for communication and meaning drives a person to form conceptual frames of reference that allow the clustering, analysis and subsequent integration into them of every phenomenon they encounter. In addition, the same drivers allow them to form defense mechanisms of "selective inattention". In Sullivan's (1953) words this is the filtering out of every difference that does not fit into an existing conceptual frame of reference (Cook-Greuter, 1999; Sullivan, 1953).

Constructivist theory of adult development is interested in the progression of a person's "ways of knowing" following specific stages. Development is seen as being unidirectional, i.e. progression starts from lower to higher stages, and without skipping any stages. These stages represent hierarchical integrations of increasing complexity, cognitive differentiation and integration (Basseches, 1984; Kegan, 1982, 1994; Kohlberg, 1984; Piaget, 1952). Each stage constitutes a different way of how people understand reality and make meaning, or a different epistemology, worldview, or "way of knowing";

Developmental progression towards self-integration is seen as a progressive transformation of character structures towards psychosocial and cognitive maturation. Constructivist theory of adult ego development sees self-integration as an advanced stage of character and identity maturation, related to integrative and complex meaning making abilities. According to Loevinger (1976) "this formulation suggests both the importance of the cognitive element and the huge influence of Jean Piaget, ... felt not only through his seminal volume on *The Moral Judgment of the Child* but even more through his studies of cognitive development and the espousal of structuralism as a point of view".

All constructivist theorists focus on understanding specific developments in a person's epistemology and meaning, and the growth in both the self and the psychosocial-cognitive interpretation of reality. For constructivist theorists, two universal characteristics seem to be (a) the capacity for symbolic representation of reality, and (b) the hierarchical ordering of concepts. They posit that as human beings become more evolved and differentiated during lifespan they can concurrently process and integrate

into a coherent system of meaning more elements from more diverse sources, and at higher orders of synthesis. All constructivist adult development theories, agree on a sequence for adult psychosocial and cognitive maturation. They start from acquisition of more simple forms/skills of meaning making, move to an increase on their complexity in meaning making, through the (conventional) adaptation to social demands and roles, and finally towards superior self-maturation stages that allow for creativity, freedom, authenticity, self-actualization and impact to society.

Two historically consecutive research paths are present among constructivist theorists and they constitute complementary, yet distinct conceptions of self-integration. The first emphasizes conventional development. The second emphasizes post-conventional adult development. *Conventional ego development theories*, known also as Piagetian, describe the human psychosocial and mental development that occurs as a result of cultural conditioning. They focuses on development in adult meaning making which is required for responding to expectations posed by roles that individuals have in modern societies and an effort to match externally imposed role related requirements with a person's internal vision of self-identity and ideal self. These theories focus on self-actualization as the end of the developmental continuum. *Post-conventional ego development theories*, in addition, study progression from a conventional to a higher kind of meaning making, which allows adults to question cultural conditioning and also to drive the status quo forward. They focus on the (rarer) developmental progression towards deliberately and consciously examining assumptions of self-identity and



phenomena in the social world which were taken for granted, and exploring fundamental questions about identity, knowing and reality (Cook-Greuter, 1999).

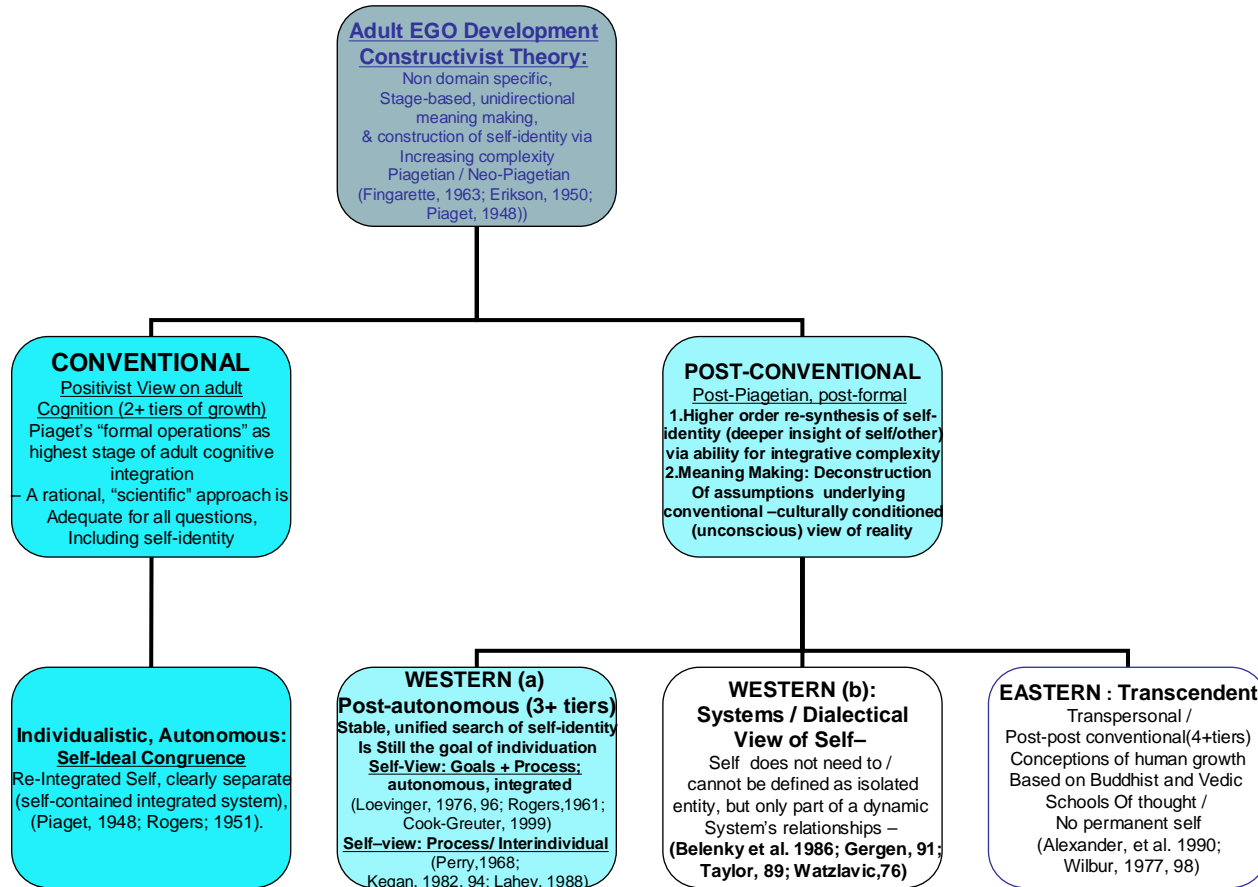
A summary of constructivist adult ego development theory is presented graphically in Figure 2.3. This figure summarizes the main theoretical distinctions between the conventional kind of self-integration, as manifested in the work of Piaget, and the early work of Rogers, and the post-conventional kind of self-integration - especially the post-autonomous ego development theory. The post-conventional view of self-integration is manifested in the work of Loevinger, and the mature work of Rogers. Their work incorporated post-conventionality elements into the conventionality definitions of self-integration, without seeing them as two separate constructs. The distinctions are also manifested in more recent theories, building on the work of Perry (1968) and Loevinger (1966; 1976) which suggested through their formulations of conventional and post-conventional integration that these are two distinct variables (for example the work of Cook-Greuter, 1999; Kegan, 1982; 1994; Lahey, 1988;).

Figure 2.3 also shows two other lines of work in the post-conventional literature. These are the dialectical and systems view of self adult development theory, and the post-post conventional (or trans-personal) theory. The first is restricted to a uniquely systems view of the self – such as Belenky's (Belenky et al., 1986) theory. The second explores transpersonal and ego transcending perspectives of evolution in a person's meaning making beyond even the post-conventional view of self-integration, with most prominent the work of Wilber (1984, 1997) and Alexander (Alexander, et al., 1990). These two

branches of post-conventional theory are influenced from eastern (Buddhist and Vedic) philosophies that favor the view that it is not possible to define the self. It is believed that everything is interconnected, thus there is no self outside what is. These lines of work are not part of my review, as their view of the self and the progression in adult meaning making is not related to the research problem I am exploring in this study.

**Figure 2.3**

**Figure 2.3:** Adult Ego Development Stage Theory; Literature on Self-Integration construct, following increasing self-complexity.



Developed by K. Akrivou, based on: Cook-Greuter, S.R., 1999; Lahey, L. L, 1986)

What differs between the conventional and post-conventional constructivist development theorists is their view on self-integration. The conventional view on self-integration sees the key processes stimulated by the congruence between real and ideal self-aspects. In the conventional view, goal achievement is seen as paramount. The post-conventional view is seen as a process view of self-integration. It emphasizes a more fluid and dynamic self-identity, with the experience of creativity, individuality and freedom.

### **Conventional view of self-integration**

The conventional view of self-integration is based on Piaget's influence from *The Moral Judgment of the Child* (1948). Piaget was among the first who theorized that people in their lives do not merely react to genetic and environmental stimuli, but actively construct their meaning. He (1952) described four stages of increasing differentiation and integration in the formation of adult cognition, seeing the development of the individual mind and its parallels to the development of social systems. These based on age categories. They are, 0 to 2 years old - sensorimotor (archaic, archaic-magic); 2 to 7 years old - preoperational (egocentrism, perspectivism, realism, and reciprocity); 7 to 11 years old - concrete operational thinking. The highest stage starting from age 11 was called formal operational thinking. In the Piagetian formal operations stage adults think and feel their identity as separate and independent - they feel responsible and autonomous in their choice of action.

The Piagetian view of self-integration deals with the form most commonly found in adolescents and college age students. It focuses on the formation of an autonomous and independent self. The Piagetian view emphasizes a stage of mental reasoning on moral situations that is characterized by the congruence between the real or, social self and the ideal self. It describes the integrated self as a free of conflicts in the ego sphere, and the ability of a person to act in the world based on their ideals and values - or in psychological terms to harmonize between their ideal and real self. This conventional view of self-integration is called the “modernity” view of self-integration (Kegan, 1994; Taylor, 1989), because it trusts that a rational, scientific approach is adequate to answer all the questions on the self. Furthermore, it supposes that the person is able to control and drive his/her life towards congruence between their real and ideal self, thus achieving self-actualization. Such a conception of self-integration has been reviewed by post-conventional theorists as favoring a view of the integrated person as “a clearly separate self-contained system and other human beings as such systems in their own right” (Cook-Greuter, 1999). Piaget, himself, also saw his formal operations stage as a prototype for the mature functioning of modern society in his times and place.

### **Post-conventional view of self-integration**

The post-conventional, or post-piagetian view, of self-integration has emerged as a lens for the psychology of mature adulthood since the eighties. It is also known as post piagetian, or post formal (Loevinger, 1996; Kegan, 1982, 1994; Commons, 1984). Post-

conventional theories emphasize two distinct ideas. One is process-oriented and contextual forms of knowing. They see the person in a self-identity stage that allows them orientation in “becoming” rather than a fixated identity, experienced as “being”. The other idea is the ability of a person to move beyond the passive towards an increasingly more active interpretation of reality and culture: “another way of looking at post-conventional ego development is to suggest that it is characterized by an increasing awareness of the constructed nature of knowledge and .....(the) deconstruction of the assumptions of conventional views of reality.... In the most evolved ego stages..., the formerly important search for an even-more objective view of reality – including the search of an objective self-identity- may be superseded by the futility of such goal.” (Cook-Greuter, 1999).

The post conventional view of self-integration attempts to capture what is seen by empirical research on adults that display higher order abilities of synthesis and integrative meaning making. *The self as process* refers to a dynamic and fluid self-identity, ability for living moment-by-moment authentically and an ability to deeply be “*what one truly is*” (Rogers, et al. 1954; Rogers, 1961) in all its complexity - beyond purely rational perspective on what identity is and how to maintain self-ideal congruence. The process view of self-integration is the ability to transcend the need for an objective self-identity, which is rationally defined and felt as an end goal state.

Loevinger’s ego development theory (Loevinger, 1966; 1976) explained the construct of the self-integration as an advanced stage of maturation of character structure.

Per Loevinger, the new element of the self-integration stage, compared to previous stages of development is consolidation of a sense of identity as a whole. She distinguishes the self-integrated person, from one who is ruled by a “conformist ego”. By conformist ego, she means concerned with “shoulds” and rules, self-protective and opportunistic, with a pleasing social personality characterized by superficial niceness and need to deceive others (Loevinger, 1976). Self-integration is characterized by the ability of the person to reconcile intra-psychic conflicts. An individual who is self-integrated cherishes individuality and unity. The individual will have an integrated sense of their unique identity, in which “one’s precious life’s work” is regarded as an inevitably simultaneous expression of self, principle and one’s humanity - as well as having a sense of self as part of flow of the human condition” (Loevinger, 1976). Loevinger, in her theory (1966; 1976), also explains that the autonomous ego is a more differentiated and pluralistic internally. It is characterized by respecting of and giving voice to various opposing inner needs, rather than trying to “govern” them or to subordinate them to any form of conscience. It is able to accept that behavior is psychologically defined by different needs and allows a vivid communication of different feelings and needs. In terms of cognitive style, the person becomes able to tolerate ambiguity and subjectivity of different demands. The person applies a broader scope to internal conflicts and their projection to external conflicts. This definition is based on Loevinger’s conception of the ego itself as mechanism of unity of personality and individuality, and as guiding the person towards a whole attitude of life (i.e. being “in the world” and open to the moment as it happens).

Loevinger's theory is heavily influenced by the psychoanalytic paradigm of self-psychology, in the sense that it is focused more on intra-psychic maturation and seeing all external conflicts as a projection of intra-psychic conflicts. Although she noted in her theory of ego stages that "conceptual complexity is an outstanding sign of both the Autonomous and Integrated stages" she was primarily concerned with how individuals approach inner conflicts throughout the developmental progression, thus stressing the ability to resolve intra-psychic conflicts as the key feature of the integrated ego. Having the ability and the courage to cope with and accept inner conflict, as opposed to projecting it onto the environment, is the essential characteristic of self-identity integration (1976, p:23). The achievement of self-integration was seen by Loevinger as a stage in which the person was liberated from oppressive demands of conscience and achieving autonomy, while being able to recognize that emotional interdependence is inevitable. Thus, in this self-integrated stage, the person "would often cherish personal ties as his most precious values". In her own words the definition of Loevinger is abstract (1976). Researchers are challenged by the fact that neither in her theory, nor in her writings did she clearly distinguished between the Autonomous and the Integrated stages. This was due to the fact that empirical data drove her theory, and there was very little empirical data on individuals who reached Loevinger's integrated stage (for detail, read Cook-Greuter, 1999). More recently, there are further meta-analyses of Loevinger's data from SCT integrated stage completions, and new theoretical perspectives that are building off from Loevinger to further clarify her notion of self-integration (Cook-Greuter, 1976).



Perry emphasized the ability of commitment and orientation in a relative world. Humanistic psychology influenced Perry's scheme on ethical and intellectual development (Perry, 1999), in conceiving self-integration as commitment to a person's ideal self. In Perry's definition of ethical and intellectual development, his view on self-integration (Perry, 1999) emphasizes an increase in the person's ability for complex, moral and integrative judgment. Perry describes self-integration with the construct of "commitment" following multiplicity and relativism - specifically, position 7 is described as "initial commitment", position 8 as "orientation in implications of commitment" and position 9 as "developing commitment(s)". The word commitment signifies the "integrative, affirmative functions of a person, as distinct from (a) commitment to an unquestionable or unexamined belief, plan, or value, and (b) commitment to negativistic alienation or dissociation. It can also be defined as "an affirmation of personal values or choice in relativism (i.e. previous positions),...a conscious act or realization of identity and responsibility, and a process of orientation of self in a relative world". Commitment is described as a sense of being "in" one's life, due to a person's deep sense and acceptance of identity. It results in fully enjoying and accepting one's purpose and being deeply engaged in the world. Also, "commitment" entails the ability for "balance in the tensions of qualitative polarities of style, especially alteration between reflection and action, as well as realizing and balancing feelings of tentativeness and finality, expansion and narrowing, freedom and constraint, action and reflection".

Kegan's subject-object theory focuses on subject/object evolution in cognitive structures of knowing. Thus, Kegan defines that what is being developed is development

of structures of knowing, in such a way that allows what is being seen as part of the “subject” in a prior development stage to become an outside “object” in a latter stage (Johnson, 2000). The term object refers to “that which (some notion) has made separate or distinct from the ‘subject’” (Kegan, 1981; Lahey, 1986). What is becoming increasingly complex and more differentiated in developmental progression is the “structures of knowing”. In each stage of development the structure of knowing that was in a prior stage part of what the subject identified with, becomes a more differentiated object. Therefore, a more advanced subject/object relation emerges. In Kegan’s theory on subject-object development (Kegan, 1994) an increase in complexity is seen as a precursor for achieving self-integration in higher stages of adult development because increase in complexity in structures of knowing (regarding both the self and other “objects” outside the self) allows the person to become less embedded, or egocentric, and able to take broader, more complex and more integrated perspectives in the “object world” (Johnson, 2000).

Kegan is distinguishing between the goal and the process view of self-integration. The reaching of an enduring objective self-identity is the fourth order of consciousness in his model (i.e. the ability for self-authorship), and is followed by its transcendences. In Kegan’s fifth order of consciousness in his model of development, the person is reaching a more fluid, transcendent, relational and process-oriented self view. He describes (1994) this as the inter-individual stage. This involves the “subject” of the previous phase of self-integration, thus the search for an objective and higher order self-identity becoming now the “object” of the structures of knowing. According to this theorist, in this

advanced stage of self-integration, the person focuses more on the integration of the self in relationship to others. The person observes and “laughs at” her/his own need for completeness and wholeness as a sign of inner defenses that often are actually taking the person away from substantially relating to others and other viewpoints. Kegan’s notion of advanced self-integration as the ability for being “dialogical and post-ideological” constitute additional theoretical views on self-integration that have not been found in the earlier adult development theorists.

**Distinguishing between the conventional and post-conventional self-integration and operationalization.**

*Work on distinguishing two views, or variables, of self-integration has been mainly theoretical and relatively recent.* It is still arguable if theory sees the two views of self-integration as related or entirely independent variables. It can only be inferred that among the theorists that proposed the post-conventional view, that older theorists on self integration see the two views on self-integration as closely related. They were not able to clearly distinguish them as separate constructs in their theory. Loevinger, has often, herself, said that her “definition of self-integration” is dense and abstract. That is does not facilitate neither a comprehensive understanding, nor clear criteria for measurement of the construct (Loevinger, 1976; Loevinger et al., 1998). This theoretical confusion on the meaning of the variable of self-integration is also noted by other researchers who observed that “Loevinger’s integrated stage did not seem to be a transformation of the previous stages, but merely an elaboration or original combination

of material from lower stages....This is also evident from examples, given as representative of the integrated stage...” (Cook-Greuter, 1999).

The important theoretical work from contemporary post-conventional researchers of self-integration, such as Kegan, Lahey, Johnson, and Cook-Greuter provide sound theoretical evidence that the conventional and post-conventional view of self-integration should be studied as two distinct and unrelated constructs (for example, read Cook-Greuter, 1999; Kegan, 1994; Lahey, 1986; ). Yet, the distinctions between the conventional and the post-conventional kind of self integration proposed in constructivist adult development theory that captures them as two separate variables are abstract. They do not substantially help with deciding on the appropriate measures for each variable. The following section is an attempt to inform as to the main distinctions between the conventional and the post-conventional view of self-integration, when looking to the broader literature of adult development and learning.

The theorist that has best captured both the conventional and the post-conventional aspects of self-integration is Rogers. His work is a guide for how to operationally define and capture each of these two constructs. In Rogers’s earlier theory on selfhood (Rogers, 1952), he defined conventional self-integration, as congruence with a person’s real-social and inner (or ideal) self. The notion of congruence between one’s self-concept and one’s ideal self-concept was central to client-centered theory of personality and personality change. Rogers (1961) distinguished between the “as of now self” and the self “a person would like to be”, i.e. the ideal self. In Roger’s ego-ideal

congruence view of self-integration, he emphasized an allowance for a person's purely internal locus for evaluation of choices and decisions (or evaluative judgments). This was distinguished from a person looking to others for approval and disapproval, or for standards to live by.

The mature work of Rogers is a post-conventional definition of self-integration. He drew from his early work (which stressed the striving for connection to the inner self), in order to emphasize the self as process. This allowed for the experience of selfhood and authenticity. According to Rogers, the achievement of self-ideal congruence is not an end in integrative development. It is, instead., another beginning in discovering the authentic self, "the person who emerges", the experience of "the knowing and being of who one truly is" (Rogers, 1961). His construct of the self as process emphasizes a moment by moment exhibiting of authenticity, coherence and individuality. In Rogers process type definition of self-integration, it is implied that the experience of the self as process may in fact be an entirely new experience. This is a discontinuous shift of self-consciousness from its conventional definition.

As an effort to capture in less abstract terms the main distinctions between the definitions of self-integration, and in order to decide on appropriate measures for capturing both the conventional and post-conventional component of self-integration, I identified the five main components for the construct as manifested in adult development literature.

The first component is the ability for **congruence with a person's ideal self**, values, and vision.

### 1. Self-ideal congruence

This component is the main component of conventional self-integration, based on the work of Piaget and captured in the earlier work of Rogers (1951). In James work it is described as “character” or “the mental and moral attitude in which when it came upon him he felt himself most deeply and intensively active and alive, ....a voice inside saying...this is a real me,...a sort of deep enthusiastic bliss, of bitter willingness to do and suffer anything... and which authenticates itself to me as the deepest principle of all active and theoretical determination which I possess...” (in, Blasi and Glodis, 2005). To use Loevinger's (1976) words for an alternative definition - it is about having an “integrated sense of unique identity, in which ‘one's precious life's work’ is regarded as inevitable simultaneous expression of self, principle and one's humanity”. In Experiential Learning Theory, this is expressed by the words integration and integrity, as a "merging of identities into a coherent, constructive whole, signifying a self-integration of purpose, goals, ideas and communication”.

Self-ideal congruence is a key constituent of self-integration in entering higher development stages of meaning making. This level of cognitive and psychosocial maturity is distinguished from the simply integrated “conformist ego” – which is concerned with “shoulds” and rules, self-protective and opportunistic, with a pleasing social personality characterized by superficial niceness and need to deceive others

(Loevinger, 1976). This conformist ego is an absolute and narrow self-definition, characterized by belief in right vs. wrong, or we vs. they kinds of dualities. This results in morally condemning all others who do not follow the person's own set of beliefs (Perry, 2002).

Kegan (1994) captures this component of self-integration in his fourth order of consciousness in his model. It involves the ability for self-authorship, characterized by striving for identity, individuation and autonomy. The value of self-actualization and reaching wholeness is this form of identity consolidation.

The key motivating mechanism for reaching self-ideal congruence is striving for goals related to self-actualization and self-completion. The limitation that is seen in constructivist adult development theory related to this sort of self-actualization, is that the person is mainly motivated by the need to see him/herself as a “perfect, finished product” (Kegan, 1994). Therefore, the person is not yet able to form an entirely open, un-defensive and interactive way of being in the social reality.

In the reviewed theories, the following component was also found that conceptualized self-integration as a deep and authentic orientation into the present – that is a **process-based engagement** in meaning making and a person's social presence.

## 2. Life coherence, purpose and meaning

Meaning has been defined broadly as “shared mental representations of possible relationships among things, events and relationships” (Baumeister, 1991). The construct of meaning and purpose in life has been a rich area of research and empirical validation in psychology (Allport, 1961; Antonovsky, 1988, 1993; Crumbaugh et al. 1964; Frankl, 1984; King et al. 2006) which involves both a global experience of meaning (Reker and Wong, 1988) and meaning as a daily life experience (in King et al. 2006). The cognitive-affective benefits of meaning for motivation and behavior have been studied by different lines of research in psychology (Baumeister, 1991; Csikszentmihalyi, 1990; Fredrickson, 1998, 2001, 2002; King et al., 2006).

The notion of meaning and purpose in life linked to self-integration involves two forms of meaning. One is the global experience of meaning resulting from a sense of identity coherence and integration. This function is close to the definition of Reker and Wong (1988) of the construct of meaning. The other is meaning in life as an ongoing daily experience that allows the self-integrated person to feel quality in her/his everyday existence. Perry describes this as “being fully present in one’s life” (Perry, 2002). Both of these forms of meaning are part of the self-integrated person’s experience; Baumeister’s explanation (1991) of the role of meaning in the self helps us to better understand this. He is arguing that the experience of meaning in life is contingent upon fulfilling four psychological needs: purpose, value, efficacy and self-worth. These four needs articulate the values the self-integrated person is seen as expressing and striving for in her/his daily existence.



In an interesting paradox, the notion of meaning and purpose in adult development theories involve the experience of meaning, which the person feels in an ongoing search for meaning. Thus, meaning does not constitute a goal to achieve. Rather, it is an inner trait. This paradox will be better explained when this component is combined with the next component - cognitive complexity (which is maintaining a sense of “self as a learner, and a continuous process”). It is interesting to note this paradox in the definition of this element because the ability for dealing with such paradoxes is the essence of cognitive complexity. It characterizes the achievement of self-integration in the theories described here.

Kegan’s explanation on the experience of meaning illustrates this point; in his theory he argues that the experience of meaning is related to one’s ability for maintaining self-identity coherence while questioning one’s own ideologies. This form of character maturation requires advanced conceptual complexity and the ability to distance oneself from one’s own need for completion. Kolb explains this as resulting from the ability for integrative knowing, which involves the ability to integrate “value and fact, meaning and relevance” and the art of respecting while transforming the status-quo that the self-integrated person disposes.

A third component - viewing **oneself as a process and as a learner** is an essential element of the self-integrated person. It is seen as linked to existential freedom and openness and the reduction of existential anxiety.

### 3. Experiencing the self-as process, or the self as learner

This element involves the person's ability to focus on "the self who emerges" rather than the self who is. It is characterized by being open to continuous learning and discovery of unknown elements of self (Rogers, 1961), through one's work and relationships with others. Kegan (1984) captures this component in his fifth order of consciousness, as being able to be open to the experience of the self in the process, allowing oneself to evolve towards a more trans-ideological and a more open and fluid, or relational way of being. He emphasizes the transformation of a person's consciousness from one mainly being concerned for one's own self-actualization (in the fourth order of consciousness) to one being concerned for relational and contextual learning and being (Kegan, 1990). Loevinger describes this feature in poetic terms when she says that it is the ability to "see oneself as part of the flow of the human condition" (Loevinger, 1976).

The way this component is envisioned by the theories is influenced by existential psychology's conception of how the awareness of one's being and ability to free oneself from existential anxiety related to acquisition of power, status and money. All of which alienate a person from one's self, nature, and other human beings (May, 1969). The definition of "self as a process" in these theories is also close to Erich Fromm's work on the difference between having versus being (Fromm, 1976). He relates the "having" mode to lower stages of development - its basis being the "acquisitive society". The

“having” mode is related to self-closeness, egocentrism and insecurity. Fromm’s “being” mode is seen as related to openness to others and psychological safety. This allows the person to exercise the will to give, share and sacrifice - and be an active, rather than a passive member of society.

This brings us to the fourth and fifth main components for the construct of both the conventional and post-conventional self-integration, as manifested in the adult development literature reviewed. These are **proactive adaptation and responsibility**, and **dialogical integration and transcendence of conflict**, respectively.

#### 4. Proactive adaptation and (social) responsibility

This ability involves holding and being able to resolve the paradox between respecting and accepting the status quo and the values of dominant groups, while being able to cherish one’s difference and individuality (Loevinger, 1976). This allows the individual to add to and transform the status quo by not looking to others for approval and disapproval and standards to live by (Rogers, 1961). Both Rogers (1961) and Loevinger (1976) note that this is the direct consequence of truly experiencing and expressing one’s true and authentic self. It is part of having an internal locus for one’s choices and values, as in the self-integrated person. Perry, echoing them, summarizes this feature as responsibility and self-orientation while accepting that this is a relative world. Kegan stresses that the cognitive maturity and readiness for being trans-ideological and dialectical allows the person to continuously adapt. The person adapts by

facilitating the generation of contexts of conversation in which opposing ideas and ideologies are seen as complementary and legitimate. Kegan sees this feature as the main characteristic of the effective leaders of the 21<sup>st</sup> century.

### 5. Dialogical integration and transcendence of conflict

The notion of how the person approaches and resolves internal and/or external conflicts is essential to all of these theories. The paradox expressed by this feature is the ability to accept and allow conflict to exist, while being able to transcend it and elevate it into meaningful solutions. This elevation into meaningful solutions allows a dialogical integration of different needs and parts. In addition, this component describes a person's ability to fully live his/her relational and inter-dependent self-identity (Chen et al., 2006).

In Loevinger's theory the ability to integrate intra-psychic conflict allows the person to be open and broad in regards to how others' values, beliefs and ideologies in the external world are approached. This is similar to Rogers' to how external conflict is approached via connecting to one's true self and being authentic.

Perry refers to how both intra-individual and external conflicts are in fact conflicts related to "qualitative polarities of style" - especially, from the effort of balancing "between reflection and action, as well as realizing and balancing feelings of tentativeness and finality, expansion and narrowing, freedom and constraint". Also,

Perry (2002) defines that the very essence of developing commitments while accepting the relativity of the world allows an open and conversational attitude towards conflict.

Kegan's approach to this element stresses the importance of both personal and social learning through a conversational and trans-ideological perspective. He sees conflict as a signal for one's over-identification with one single system when there is no absolute truth. The trans-ideological perspective in Kegan's theory is related to a person's ability for continuously testing her/his formulations, paradoxes, contradictions and oppositeness. Kegan adds that this involves a focus on relationships of parts rather than the parts on their own. In his book (1994) Kegan uses as examples contemporary issues in the fields of leadership theory, feminist scholarship and ethnic cultural and territorial conflicts, in order to illustrate an alternative approach in how to handle long established conflicts.

A summary of the above analysis of the conventional and post-conventional components of self-integration based on the work of five adult development theorists' definitions of self-integration is graphically summarized in Table 2.1.

<b>TABLE 2.1: The Construct of Self-Integration in Development and Learning Theories and its constituents</b>			<b>Constituent 1: SELF-IDEAL CONGRUENCE</b>	<b>Constituent 2: SELF-INTEGRATING PROCESS</b>			
<b>Theorists</b>	<b>Term used for SELF-INTEGRATION</b>	<b>Definition of Self- Integration in this theory</b>		<b>Feature 2.1: Deep experience of meaning- purpose &amp; feeling</b>	<b>Feature 2.2: Self-as- Process, Self as Learner</b>	<b>Feature 2.3: Proactive Adaptation &amp; Responsibility</b>	<b>Feature 2.4: Dialogical Integration &amp; Transcendence of Conflict (within self and in social world)</b>
<b>Rogers, C.</b>	Selfhood, True Self	Becoming a Person: The knowing and being of who one truly is; above and beyond the horizontal multiplicity and vertical complexity.	Getting behind the mask, "Be the self one truly is", self-authenticity.	Full experience of self, the experiencing of deep feeling, discovery of unknown elements of self	Full experience of self, the experiencing of deep feeling, discovery of unknown elements of self	Locus for evaluation for choices and decisions, or evaluative judgments lies within the person. Less and less one looks to others for approval and disapproval, for standards to live by.	Emphasis on resolution of intra-psychoic conflict due to achievement of self-authenticity
<b>Loevinger, J.</b>	Integrated Ego (Level VI)	Ego maturity: Integrated sense of unique identity, in which "one's precious life work" is regarded as unique, simultaneous expression of self, principle and one's humanity.	Integrated and unique identity; "one's precious life's work" is regarded as inevitable simultaneous expression of self, principle and one's humanity.	Resolution of intra-psychoic conflicts and character maturation: deep experience of meaning and purpose through "precious life work" and its contribution to humanity.	Self as part of the flow of human condition.	Cherishing individuality, related to character maturation. Locus for choices and values lies internally.	Broad and open attitude to others with other beliefs, values, ideologies. Ability of the person to reconcile conflicts (intra-psychoic and in society).

Perry, W. G.	Commitment (Position 7: initial commitment, Position 8: orientation in implications of commitment, Position 9: developing commitment(s))	Commitment; it signifies the integrative, affirmative functions of a person, as distinct from 1. commitment to an unquestionable or unexamined belief, plan, or value, and 2) commitment to negativistic alienation or dissociation. It can be defined also as "an affirmation of personal values or choice in Relativism (i.e. previous positions). A conscious act or realization of identity and responsibility. A process of orientation of self in a relative world"	Self-authenticity due to commitments expressing one's integrated identity. Expression of identity, sensed in both the content of one's commitment, as well as the personal style of one's commitment.	A sense of being fully present "in" one's life, due to character maturation and cognitive complexity.	Continuously working on commitments in terms of personal growth. Refining balances in the tensions of qualitative polarities of style, especially alteration of reflection and action.	Responsibility, self-orientation and commitment in a relative world.	Ability for balance in the tensions of qualitative polarities of style, especially alteration between reflection and action, as well as realizing and balancing feelings of tentativeness and finality, expansion and narrowing, freedom and constraint, action and reflection.
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Kegan, R.	Two forms of self-integration: <b>Self as Subject</b> (4th order): Self-authorship (form of self-integration in modern era); <b>Self as Object (5th Order): Dialectical, trans-ideological.</b>	Self-integration in 4th Order: 1. soundness of and adherence to moral principle and character, 2. the state of being whole, entire, undiminished, 3. sound, unimpaired or perfect condition (based on the Random House Dictionary of the English Language, 1966). Self-Integration in fifth order: Balancing between identity and purposeful action AND the ability for "laughing at one's ideologies and own need for completion" that allows building contexts for dialogical solutions that allow social and collective learning.	Self-as-Subject (4th order): self-authorship; identity, autonomy, individuation, <b>AND</b> Self-as-Object (5th order); Dialectical, post-ideological, relational. Cognitive complexity allows person to respond to mental demands that require building contexts for dialogical solutions.	1. Self-Transformation: continuous re-creation of meaning: Self as "incomplete project", not pretending wholeness or completeness, dialogical, meaning in relationships. 2. Trans-ideological experiencing: questioning any ideology, including own ones as sign of over identification with an "absolute" truth. Ability for purposeful action, while "laughing at own ideologies and pretension of wholeness.		Dialectical, Post-ideological, and trans-ideological, questioning any ideology and invested in commonalities rather than ideological differences.	Conflict as a signal for over identification with a single system. Resolution of conflict involves: 1. Interpenetration of Self and Other; conflict with others is seen as part of own inner contradictions. Viewing relationship as more important than its parts; 2. Dialectical, trans-ideological, post-ideological: Testing formulation, paradox, contradiction, oppositeness.
Kolb, D. A.	Integration: Integrative Knowing, Integrity	Merging of identities into a coherent, constructive whole, integration involves resolving the dialectics between value and fact, meaning and relevance that constitutes integrity the master virtue. Integrative knowing: Essentially eclectic, if by the term meant not consistent with current forms. It stands with one foot on the shore of the conventions of social knowledge and one foot in the canoe of an emergent future.	Integration, Integrity and Integrative Learning: Unity of purpose, goals, ideas and communication.	Integrative Knowing: Rich life structures and contribution to social knowledge, by contributing to evolution of status-quo.	Self as Learner, Self as Process	Self Direction, & Proactive Adaptation: Integration, integrity, integrative knowing are emerging through "the learning process by which intellectual, ethical, moral and ethical standards are created, not some evaluation based on current world view and moral standards	

**The relationship between self-complexity, integrative learning and self-integration in adult constructivist ego development theory.**

The relationship between self-complexity and self-integration is seen *as the major developmental phenomenon underlying the whole process of adult development*. Thus, a positive relationship between self-complexity and self-integration is assumed. An increase in complexity of self is an underlying phenomenon which occurs throughout a person's developmental progression in adult development theories. Self-complexity is seen as a pre-cursor to self-integration. It is viewed as playing a motivational function in the self. Self-integration is seen coming about after an increase in self-complexity. Its most encompassing definition as a developmental phenomenon originates from Werner's (1948) orthogenic principle, stating that "growth proceeds from a state of relative globality to one of greater complexity. It is also defined by Mahler's 1968 use of the term to refer to a child's ability to see herself/himself as complex internally and distinct from the others (Johnson, 2000). Based on the Piagetian assumptions of stage-like development assuming that all humans like all biological systems organize basic components into higher order systems (Piaget, 1962). This emphasizes the increase in self-complexity as a catalyst in the adult developmental progression. Post-conventional models of development further study the pattern of alternating stages of differentiation and integration towards greater complexity "that can accommodate the ever-expanding universe of the self." (Cook-Greuter, 1999). For example, Kegan sees the relationship between complexity and integration as the most central tenet of development of self in



the highest developmental stages; “it is the reconstructivist phenomenon by which subject/object development occurs” (Johnson, 2000).

Despite the theoretical assumption on a clearly positive relationship between self-complexity and self-integration, there are no studies that test this hypothesis. This is because that the established measures of self-integration in the adult ego development theory, such as Loevinger’s test (the Washington University Sentence Completion Test) and Kegan’s subject-object interview, measure self-complexity and self-integration as part of the same phenomenon or as consecutive stages (Johnson, 2000). The established measures cannot capture the relationship between the two variables. There is a need to study this relationship using measures for the two variables outside the existing literature.

As to the role of integrative learning for self-integration, it is mainly post-conventional theorists that emphasize that an increase in integrative learning facilitates movement from self-complexity to stages of self-integration. Distinguished from Piaget’s emphasis on cognitive growth for developmental psycho-social progression, the post-piagetian theorists defined this as the need for balancing between accommodation and assimilation. Perry, for example wrote that the integration of antithetical learning processes of accommodation and assimilation is facilitating developmental growth to commitment after stages of relativism and self-multiplicity (Perry, 1999). Assimilation was seen as critical for the development of the higher cognitive abstraction associated with the highest stages, yet as a finite way of knowing. As expressed nicely by post-constructivist theory researchers, “while the layers of cognitive abstraction can be

logically extended to the nth degree or ad infinitum (ad absurdum), there is no additional benefit in meaning beyond a certain point, as cognitive complexity alone does not account for deeper insight into the human condition. As Fischer (1984) remarked when discussing ever higher levels of abstraction “*abstractions are ... so far removed from actions in the real world that further developmental levels might well be not merely useless, but maladaptive...*” (in Cook-Greuter, 1999). In addition, accommodation is seen as critically related to being able to live “in the moment” and have a direct deep insight in relationships, and the experience of the self as process, while authentically linking one’s commitments with impact through authentic action in the real world.

Limited data exists in constructive adult development theory that provides evidence on the relationship between complexity and integration of self, which are by nature longitudinal processes in the self. This is because most research that is accumulated in this literature is data from cross-sectional studies, used to inform theory on this matter indirectly. It is not easy to capture the relationship in existing literature without longitudinal designs. This is especially true when research is focused on theory building regarding the degree to which an increase in self-complexity allows the achievement of the kind of integration related to the higher end of adult development. Besides the lack of many longitudinal research findings, independent measurement of the construct is problematic, as it is also in various other lines in psychoanalytic and self psychology (Johnson, 2000). Existing measures are insufficient. They capture the two constructs as stages - thus mutually exclusive. For example the measures offered by Loevinger (1976) and Loevinger et al. (1998). Alternatively, the measures only have face

validity. For example, the measures offered by Kegan (1982) and Lahey et al. (1988). Consequently, there is a gap in empirical research in the adult constructivist ego development literature focusing exclusively on the relationship between complexity and integration of self (Johnson, 2000). The cross-sectional samples show that among the large numbers of adults tested, only a small minority are found to be in Loevinger's integrated stage (Loevinger, 1976).

There are only a few existing longitudinal studies, that can be used to directly draw evidence that is appropriate for documenting theory applied to longitudinal processes of change in the self. These studies do not contradict current theory on a positive relationship between the constructs. But they do open up a controversy. The studies show that, of adults who are able to reach stages of increased self-complexity, only a small minority reach conventional integration. And an even smaller one reaches stages of post-conventional integration. Specifically, a series of studies by Kegan and his associates showed that, among adults who exhibited a significant increase in self-complexity, not more than 5% were able to progress developmentally from the middle to the highest stages (Kegan, 1994). A longitudinal series of studies published by Kegan (Kegan, 1994) show that, among adults who were able to progress developmentally in middle stages of adult development, only a minority were able to continue progression to the highest stages of self-integration. In a series of 12 studies with 282 individuals from the middle class and fairly well-educated, done by Lahey et al. (Lahey et al., 1986), only 6% were found to be between the fourth and fifth order in Kegan's model. 0% were found to have achieved self-integration in the fifth order of his model. In three studies

along this line, summarizing the randomly selected individuals with widespread educations, only 3% were found to be in transition towards the fifth order. Again, 0% were found to have achieved the fifth order. Finally, a study with 60 highly educated individuals by Bar-Yam (Kegan, 1994) showed that 10% were transitioning from the fourth to the fifth order, while 0% were found to have achieved self-integration in Kegan's model of development. In contrast, it was found that the majority of adults were able to progress to the fourth order, which was characterized by increase in complexity – 34% in the first series of studies, 18% in the second line of studies and 42% in the Bar-Yam study.

It can be argued that the theoretical assumption on achievement of self-integration may have been rather an “idealized” adult development schema, rather than one which is truly possible - or desirable. Contrary to what may be initially surmised by the data, this gap between the theory on self-integration and its empirical validation simply reveals that more research is needed in order to explore variables that the theory proposes as facilitating the achievement of self-integration. It is not sufficient to simply adopt Loevinger's position that “it is rare because it is the hardest to achieve” (Loevinger, 1976) in her explanation of why the description of this stage is less clear than the other stages.

### ***2.3 Experiential Learning Theory***

Experiential Learning Theory (Kolb, 1984) is based upon what Dewey called a “theory of experience.” It draws from the work of Kurt Lewin, Jean Piaget, William James, Carl Jung, Paulo Freire and Carl Rogers. This review will focus solely on its development proposition, called Experiential Learning Theory of Development (Kolb, 1984). The theory offers a multi-linear model of adult development dealing with the achievement of self-integration, based on a holistic perspective of how experience is internalized and transformed, via learning, in the process of human development (Kolb, 1984). Drawing from the Jungian view of human development (that adult development constitutes the movement from a specialized to a holistic integrated way of dealing with experience and the self) it specifies in detail which experiential learning processes and dynamics are catalyzing developmental progression and psycho-social and cognitive growth as a movement away from specialization, and towards integration.

Experiential Learning Theory is focusing on which learning styles are a person’s preferred mode of learning from experience. This is determined by an individual’s specialized or preferred way of resolving the dual dialectics between thinking vs. feeling, and action vs. reflection – where one mode is favored over the other. Its argument on development is that learning styles are nonetheless specialized and finite ways of learning. Indeed, the theory examines how learning shapes and guides developmental progression in adult life. In sharp contrast with the classical Piagetians’ view that cognitive developmental stages evolve from an internal momentum and logic (with

minimal influence from the environment), ELT posits that it is the process of learning from experience that actualizes and shapes developmental potentialities. The process of learning does this by being “the vehicle for human development via interactions between individuals with their biological potentialities and the society with its symbols, tools and other cultural artifacts” (Kolb, 1984). Thus ELT is in line with both neo-piagetian and post-piagetian adult development literature and their increasing emphases on the interaction between person and the social environment that allows developmental psychosocial and cognitive progression.

Asserting that humans are above all “a learning species” in his 1984 book, Kolb saw the developmental progression as the integration among the four modes of learning from experience. He felt that progression along a single dimension can occur with relative independence from others dimensions *only* through the early stages of development (Kolb, 1984). Thus, in his theory, the way learning shapes development can be described by integrative complexity in the four learning modes. Quoting Kolb (1984) “affective complexity in concrete experience results in higher order sentiments, perceptual complexity in reflective observation results in higher-order observations, symbolic complexity in abstract conceptualization results in higher-order concepts, and behavioral complexity in active experimentation results in higher-order actions”. Along these line, human development is seen as a movement through three broad phases, or stages. Each of the stages is characterized by a different way of meaning making and consciousness, namely *acquisition, specialization and integration*. ELT specifies that these follow the rough chronological ordering of ages at which developmental

achievements become possible in the conditions of western contemporary cultures.

Figure 2.4 shows graphically the basic ideas of the Experiential Learning Theory of Development.

Figure 2.4 – Self-Integration in Experiential Learning Theory of Development (Kolb, 1984)

Figure 1 The experiential learning theory of development

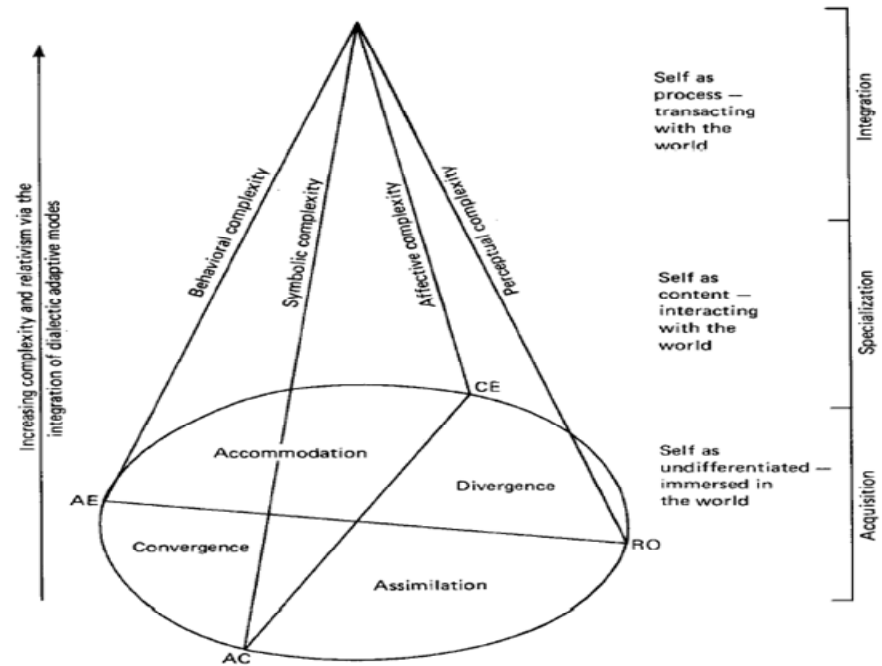


Figure 2.4



Kolb explains that following the acquisition phase (which represents the move from adolescence to adulthood) the specialization stage marks the tendency to match self-characteristics with environmental demands which occur either through socialization (environments pressure on the individual to change personal characteristics to fit in), or self-selection (a person's tendency for choosing to belong in groups/environments where there is a closer match with the personal characteristics). In this specialization stage, the person favors the pursuit of individual goals and learning through specialization and increase of the adaptive competence to specifically respond to the demands of chosen roles and career(s). During this stage, the self is defined primarily in terms of content (what one does, what one possesses) and interaction with the world. That is, the person acts on the world and the world acts on the person. The integration stage allows self-direction, freedom and a dialectic mode of adaptation to the world, based on Jung's concepts of fulfillment, or individuation. It is seen as allowing a "learning process that has previously been blocked by the repression of the non specialized adaptive modes is now experienced deeply being the essence of the self" (Kolb, 1984).

In Kolb's theory of development each phase or level of development corresponds to an entirely different "way of knowing". This theory distinguishes three ways of knowing, or levels of consciousness, namely the *registrative, interpretative and integrative consciousness* (Kolb, 1984). The description of three distinct levels of consciousness, each corresponding to a development phase and being an entirely new way of meaning making and hierarchically superior from the previous, is congruent with

an emphasis on both meaning making and psychosocial maturation of constructivist theory of adult ego development, as well as its view of stages as hierarchical and unidirectional.

*Integrative consciousness*, according to this theory, is characterized by breaking away from the self-fulfilling characteristic of interpretative consciousnesses. It allows highly integrated forms of affective, perceptual, symbolic and behavioral complexity. According to Kolb, "... (while) interpretative consciousness is primarily analytic and evaluative; experiences can be treated singly and in isolation, ... integrative consciousness is primarily synthetic placing isolating experiences in a context that serves to redefine them by the resulting figure ground contrasts. Another feature of integrative consciousness is its scope. Its concern is more strategic than tactical, and as a result, issues in integrative consciousness are defined broadly in time and space. Finally, integrative consciousness creates integrity by centering and carrying forward the flow of experience. This centering of experience is created by a continuous learning process fueled by successive resolutions of the dialectic between apprehension and comprehension, and intension and extension". (Kolb, 1984). Thus, based on this theory, self-integration constitutes an entirely transformed ability, or mature way of knowing, for an individual in the integrative phase of development. This phase is governed by a consciousness that is integrative in its structure.

The net effect of these shifts in a person's way of knowing and meaning making perspective is "increasing experience of the self as process" (Kolb, 1984). In the

definition of self-integration of the self-as-process, Kolb is congruent with the adult ego lifespan post-conventional ego development theory. This emphasizes an “awakening”, a high level re-synthesis of identity. This superior way of knowing allows deep relationships with the world and transformation of both the individual and the world. It is experienced as “unity of purpose, goals, ideas and communication”, and as being “a process by which intellectual, moral and ethical standards are created, not some evaluation based on current forms” (Kolb, 1984). In this theory, the process view of self-integration is seen as significant for society, as it allows personal freedom and authenticity.

Self-integration is specifically used as a construct in the experiential theory of development to mark the stage of integrity - “the sophisticated, integrated process of learning, of knowing” that characterizes the ability for “resolving the dialectics between value and fact, meaning and relevance, (...) that constitutes integrity the master virtue” (Kolb, 1984). In defining self-integration as integrity, Kolb moves beyond a “trait” type construct definition. In his words “ *(Integrity) is not primarily a set of character traits such as honesty, consistency, or morality. These traits are only probable behavioral derivations of the integrated judgments that flow from integrative learning. One needs to reflect on the ‘immoral’ behavior of men like Copernicus, and Galileo to realize that integrity is the learning process by which intellectual, moral and ethical standards are created, not some evaluations based on moral standards and world views.....For creators precede their creations in time and must create with no fixed absolutes to guide them*”.

This leads to Loevinger’s examples of individuals in the self-integrated stage (for

example, see Cook-Greuter, 1999). Additionally, he specifically the self-integration as the only space where true personal freedom is possible - where the person moves from reacting to the demands of the circumstance to becoming. He writes “ (Self-Integration is) freedom from the dictates of immediate circumstance and the potential for creative response” As such, “integrative knowing is essentially eclectic, if by the term is meant, not consistent with current forms. It stands with one foot on the shore of the conventions of social knowledge and one foot in the canoe of an emergent future – a most uncomfortable and taxing position, one that positively demands commitment to either forging ahead or jumping back to safety” (Kolb, 1984)

The relationship between self-complexity and self-integration is an underlying key dynamic in terms of the direction and content of integrative development in the experiential learning theory of development. Integrative development process is “marked by increasing complexity and relativism in dealing with the world and one’s experience, and then by higher level integrations of the dialectic conflicts among the four primary learning modes” (Kolb, 1984). Thus, in this theory, development is also seen as occurring through a process of increasing differentiation and hierarchic integration. Self complexity is defined as differentiation, or the ability for adaptation, in order to be able to hold and respond to numerous, specialized identities. It is described as having two aspects “an increasing complexity of units and decreasing interdependence of parts. The course of learning and development is to refine, discriminate and elaborate the categories of experience and variety of behavior while at same time increasing the independence of functioning among these separate parts.” (Kolb, 1984).

In Experiential Learning Theory of development, it is integrative learning that allows the shifts from one to a superior level of consciousness, and according to Kolb, integrative learning occurs when two or more elementary forms of learning combine to produce a higher order integration of the elementary differentiations around their common learning mode(s). Kolb posits that development of integrative learning “as a cycle or learning spiral where the learner ‘touches all bases’ – experiencing, reflecting, thinking and acting (Kolb, 1984). ELT posits that the development in integrative learning results from the development in learning sophistication (Kolb, 1984), which is the process of increasing integration of the dual dialectic of conceptualization/experiencing and acting/reflecting (Boyatzis, Kolb & Mainemelis, 2002).

This closely follows the constructivist theories of development. For example, Perry (Perry, 1999) posited that developmental progression is a process of sense making, which “...will consist of some balance between two processes: (1) *assimilation* of the emerging forms of the experience to the forms of the expectancies the person brought with him (by means of selection, simplification, or distortion) and, (2) *accommodation* of the forms of the expectancies to the forms emerging in the experience (by means of recombination and transformations which result in new forms of expectancy).

The operational definition of integrative learning has proposed two alternative views. One is integrative learning as adaptive flexibility. The other is integrative learning as balanced learning.

### Integrative Learning as Adaptive Flexibility

In his 1984 book, Kolb described adaptive flexibility to explain the choices individuals make in different environments to grasp experience and transform it to knowledge. Adaptive flexibility is the ability for contextual adaptability, or the ability for responding to the learning needs of different contexts and situations. It captures the dynamic interplay between learning preferences and environmental conditions, as well as, the developmental nature of person-environment interactions (Bell, 2007). In different environments a person chooses how to grasp experience and transform it into knowledge (Kolb, 1984). In its original conception (Kolb and Wolfe, 1981; Kolb, 1984), adaptive flexibility was conceived as essential for the achievement of self-integration and integrative development. It allowed a dynamic interplay between learning preferences and environmental conditions, thereby bringing about “an increasing freedom from the dictates of immediate circumstances and the potential for creative response....” The definition of adaptive flexibility, is congruent with supporting literature on self-integration, which favors a process view of self-integration. It delineates learning sophistication and maturity, as it allows being grounded in one’s own learning preferences. Yet at the same time it allows for openness, and freedom for choice and authentic engaging into the experience of the “here and now”.

In ELT, the level of adaptive flexibility for learning is seen as an indicator of the integrative development of the individual. If a person shows *systematic variability* in

their response to different environmental needs and demands, then a higher level of integrative development can be inferred.

The cumulative results of the original validation study for the measure of adaptive flexibility indicated that the degree of variation in adaptive flexibility correlated moderately with other measures of integrative development on a consistent basis (Bell, 2007). The relationship between Loevinger's Sentence Completion Test, used as a measure of adult development stage and the construct of adaptive flexibility in the ASI, has been investigated empirically by Kolb (Kolb and Wolfe, 1981). There was a significant positive relationship between adaptive flexibility and the higher levels of ego development, as measured by Loevinger's sentence completion test. Individuals with high adaptive flexibility were found to be capable of self-direction, experiencing rich and meaningful life structures. They were also able to manage constructively conflicts in their life (Kolb, 1984). As presented in detail by Bell (2007) similar findings were obtained by other researchers in studies with smaller sample sizes. Perlmutter found in a 1990 study that the level of ego development had a positive correlation with total adaptive flexibility in a sample of 51 medical professionals. Thompson found in a 1999 study that self-directed learners had higher levels of adaptive flexibility compared to non self-directed learners in a small sample of professionals from various fields (Bell, 2007).

Integrative development is a variable that is not only shown by research as an antecedent of self-integration, but is also a sound measure for quantitative empirical research. As Kolb noted (1985), "integrative development and its attendant adaptive

flexibility comes increasing difficulty in predicting human behavior. It is easy to predict behavior consequences in a low-level system (say, turning on a light switch) but far more difficult to predict behavior of higher level systems capable of hierarchic integration (as with a computer). This problem is confounded when the attempt is made to characterize individuals as whole persons at a given stage of development. Development theorists have recognized this problem and attempted to deal with it in a number of ways – for example, by ad hoc concepts, as in Piaget’s’ concept of horizontal decalage, or by simply averaging this variability and thus ignoring it. Another approach to these measurement problems is to use the level of adaptive flexibility itself as an indicator of the level of integrative development”.

#### Integrative Learning as Balanced Learning

This is an alternative operationalization which has not been tested enough, neither in studies showing its relationships with other measures of integrative development, or with adaptive flexibility. It is the ability to not be highly specialized in one learning style. But balance between the dialectics involved in learning from experience. A balanced learning style was identified by Kolb (1984) and Mainemelis, Boyatzis and Kolb (2002) as the person’s ability for integrating abstract conceptualization (AC) and Concrete Experience (CE) and Active Experimentation (AE) and Reflective Observation (RO), in the ways they learn and interact with experience. The assumption is that the more balanced a person is in their dialectic learning preference, the more she/he will experience an attraction to both poles involved in each dialectic. This will allow for a wider “learning space” for flexible adaptation. The ability for balanced learning allows



“viewing predicaments through dialectically opposed lenses of four basic structures and then ‘acting sensibly’ ” (Kolb, 1984).

Evidence that adaptive flexibility and balanced learning are distinct theoretically but related forms of integrative learning are given by Kolb et al. in a 2002 study, researching “whether the individuals with balanced learning styles were more sophisticated in the development in learning than individuals with specialized learning styles.” (Kolb, Boyatzis, Mainemelis, 2002). The 2002 study showed that those individuals who have learning styles that allow them to balance between experiencing and conceptualizing respond more flexibly to learning situations that require combination and flexibility in different modes of learning. When comparing the two measures they were found highly correlated; specifically, it was reported in this study that the LSI and the ASI correlations for the four modes and two dimensions ranged from .37 to .53 (power > 99% at alpha = .05, one tailed). These findings show some support for the hypothesis behind their design that “they are theoretically commensurate, while methodologically diverse”.

The review of the literature shows that adaptive flexibility was originally a conceptualized measure to capture integrative learning. As such, there is more theory on its effect for the achievement of self-integration. It has been more often used in research in relationship with measures of integrative development, and that is a more established measure of integrative learning in the research community (Bell, 2007). Because of this,

adaptive flexibility remains the best operational definition for capturing integrative learning.

#### ***2. 4. Intentional Change Theory***

Intentional Change Theory (Boyatzis, 2001; Boyatzis & McKee, 2005; Boyatzis, 2006; Boyatzis and McKee, 2008) is a theoretical framework that explains thoroughly the dynamics of intentional change in multiple fractals of change. ICT focuses on empirical research on change as a complex system. It draws from complexity theory (for more detail, read Boyatzis, 2006; Boyatzis, 2008). According to ICT, the main propositions related to sustainable change are: (1) sustainable, intentional change is on the whole discontinuous, (2) intentional change follows the described process at expanding fractals of human organization, starting from the individual, till fractals of change related to macro-level change (3) change is a complex, iterative system. It occurs through a series of five discoveries or emergence conditions, (4) it is driven by the interplay of the positive and negative emotional attractors.

As explained, ICT studies change in different fractals, starting with the individual self-processes as the smallest fractal of change. In regards to the intra-personal intentional change dynamics, the theoretical framework currently offered by the theory evolved after many years of empirical research. It examines adult sustainable change and development and the role of intentionality as a catalyst for the ability of self-direction. Indeed, earlier work that evolved into this theory was called self-directed learning theory

(Boyatzis & Kolb, 1969; Kolb & al., 1968; Kolb and Boyatzis, 1970). Regarding the individual level change, ICT describes the essential components and process of desirable, sustainable change in one's behavior, thoughts, feelings, and perceptions. The "change" may be in a person's actions, habits or competencies. It may be in their dreams or aspirations. It may be in the way they feel in certain situations or around certain people. It may be a change in how they look at events at work or in life. It is "desired" in that the person wishes it so or would like it to occur. It is "sustainable" in that it endures, i.e. lasts a relatively long time. As such different processes are delineated that are all seen as important for change and development to occur in a sustainable manner (Boyatzis, 2006).

The constructs of the Ideal Self and the Positive Emotional Attractor are central to the theory (Boyatzis, 2006; 2008). In this theory, a person's salience and/or significance of his/her Ideal Self (Boyatzis and Akrivou, 2006) creates a comprehensive context within which a person can formulate why he/she wants to adapt, evolve, or maintain the current desired state. Also, the Ideal Self performs the function of a reservoir of trait-type positive affect, allowing the person to insist on goals, despite obstacles, and to maintain hope (Boyatzis & Akrivou, 2006). Intentional Change Theory offers a new understanding on the role of positive and negative emotion in the process of intentional change, focusing on how positive and negative emotion guides the change process through the arousal of two emotional attractors, the Positive Emotional Attractor, and the Negative Emotional Attractor (Howard, 2006).

Figure 2.5 describes the dynamics of intentional change, involving the constructs of the Ideal Self and the Positive Emotional Attractor. The Positive Emotional Attractor assists the intentional change process by triggering cognitive and physiological responses that arouse the Parasympathetic Nervous System (PSNS) and neuronal pathways predominantly in the left prefrontal cortex (Boyatzis, 2006). The Positive Emotional Attractor enhance an individual's motivation and effort to establish congruence with his/her ideal self, vision and dream via connection to a positive internal locus of control, i.e. positive self-regulation behaviors (Boyatzis and Akrivou, 2006) such as hope, optimism, flexibility, creative thinking and relatedness.

Figure 2.5

Figure 2.5: Discovery 1 of Boyatzis' Intentional Change Theory (1970, 1999,2000,2005)



Work on the individual level fractal of change within ICT draws from many years of empirical research on adult self-directed change. The older theoretical framework from which ICT evolved, the Self-directed Learning Theory (Boyatzis & Kolb, 1969; Kolb & al., 1968; Kolb and Boyatzis, 1970;) was based on Rogers (1951, 1961) emphasis on the criticality of the discrepancy between a person's self-concept and their ideal-self concept as a source of vulnerability. The reduction of this discrepancy was seen as a direction for behavior change interventions; it was proposed that an increase in self awareness can be utilized as a mechanism for increasing the degree of congruence in the actual and ideal concepts of self. One of Self-directed Learning Theory's main hypotheses was that self-directed change lies in the self-regulation mechanisms that motivate dissonance-reduction. This motivation is caused by experienced discrepancy between a person's real and ideal self images, goals and ideals, in line with Festinger's (1957) theory on cognitive dissonance. In studies of successful self-directed change efforts, change was indeed proved to be a function of a person's ability to maintain awareness of the dissonance between a person's ideal and current self (Boyatzis & Kolb, 1969; Winter et al. 1968; Kolb & Boyatzis, 1970). This dissonance reduction hypothesis focuses on one's perception of threat and the need to set and closely monitor achievement goals and to develop realistic and goal oriented learning plans. The latter is called Negative Emotional Attractor in ICT (Boyatzis, 2006; Howard, 2006).

The conceptualization of the Ideal Self and the Positive Emotional Attractor in this theory is in line with the conventional adult ego development definition of self-integration.

## ***2.5. Conclusions, Research Questions and Hypotheses***

Following the review of the literature the general model of this study presented in the beginning of the chapter can be further analyzed, as follows:

Based on the review of constructivist adult development theories, the operational definition I am using for self-integration draws from constructivist ego development theory. In their conception, self-integration emphasizes changes in a person's epistemology and meaning making that underlies psycho-social and cognitive maturation components in adulthood (Cook-Greuter, 1999). Accordingly, self-integration is defined as *the ability of a person to subjectively answer the fundamental identity question "who am I?" with a high degree of integrity and authenticity*. Following constructivist adult development theory, two dependent variable(s) are used to measure self-integration; capturing the two views on self-integration in this literature. The first is *self-ideal congruence* - the extent to which a person's real self-image is in harmony with their ideals. This captures the conventional, or piagetian conceptions of self-integration (Piaget, 1948). The second is *self-integrating process* - referring to the ability to experience the self as process, a dynamic and fluid self-identity, allowing authenticity and deeply being "what one truly is" (Rogers, 1961), meaning, openness, relatedness and adding value to the world by impacting the status quo. This captures the post-conventional, or post-Piagetian, view of self-integration (Kegan, 1994; Lahey, 1986; Lahey et al., 1988; Loevinger, 1976).



Table 2.2 summarizes the main variables of this study, and their operational definitions based on the theory lines I am drawing from. Based on constructivist adult development, and experiential learning theory, self-integration is defined as two distinct variables. The first variable is capturing the conventional, and the second variable is capturing the post-conventional component of self-integration. The conventional view of self-integration is operationally defined as self-ideal congruence (Rogers, 1951). It is measured in this study via a test offered by Higgins' (1985; 1987) and on its definition in intentional change theory (Boyatzis, 2006; Boyatzis and Akrivou, 2006). The post-conventional view of self-integration is defined as the self-integrating process. It is measured by a newly developed measure, capturing the breadth of the post-conventional adult development theory on the construct, presented in the review of the literature. The construct of differentiation is operationally defined as self-complexity, measured by Linville's test (1987). The construct of integrative learning is operationally defined as adaptive flexibility as measured by Kolb (1984) in his experiential learning theory of development.

**Table 2.2**

TABLE 2.2 - Study's Theoretical Framework Relationship differentiation - integration		Operational Definition	
Constructivist Adult Ego Development Theory (piagetian and post-piagetian theory)	Experiential Learning Theory Of Development	Self-Concept Structure, Experiential Learning Theory & Intentional Change Theories	
<b>Post -Conventional Integration</b> Process View (creativity, fluidity, transformation in a person's meaning making ability: challenging cultural assumptions, accommodation + assimilation)	<b>Stage 3: Integration</b>  Self as Process Transacting with the world via Integrative learning	Independent Variables	Dependent Variables
<b>Conventional Integration</b> "Formal operations" - ground level kind of integration: Goal View (rationality / Congruence real-ideal, assimilation)		(2) Adaptive Flexibility (Kolb, 1984)	1. Self-Integrating Process (newly developed in this study)  2. Self-Ideal Congruence (Higgins; 1985, 1987 Boyatzis, 2006; Boyatzis & Kolb, 1969; Boyatzis & Akrivou, 2006)
<b>Relativism / Multiplicity</b> Expansion of permanent / separate self: Increasing complexity (Max subject- object separation)	<b>Stage 2: Specialization</b> Self as content, interacting with the world- specialized learning	(1) Self Complexity (Linville, 1985, 1987)	
<b>Self- Absolutism:</b> Unconscious / Symbiotic union	<b>Stage 1: Acquisition</b> Self as undifferentiated, Immersed In the world		

The following research questions and hypotheses are being explored in this study, following the review of the literature:

Research Question 1: What is the relationship between self-complexity and self-integration?

*Hypothesis 1:* Self-complexity is positively associated with self-ideal congruence.

*Hypothesis 2:* Self-complexity is positively associated with self-integrating process.

The relationship between self-complexity and self-integration is seen *as the major developmental phenomenon underlying the whole process of adult development*. This theory agrees, as presented in the previous hypothesis on a sequence for adult psychosocial and cognitive maturation, starting from acquisition of more simple forms / skills of meaning making, followed by an increase in the complexity of meaning making, through the (conventional) adaptation to social demands and roles, towards superior self-maturation stages that allow for creativity, freedom, authenticity, self-actualization and impact to society. Thus, a positive relationship between self-complexity and self-integration is assumed. An increase in complexity of self is an underlying phenomenon which occurs throughout a person's developmental progression in adult development theories.

It is not clear if this assumption on a positive relationship refers to both the conventional (self-ideal congruence) and the post-conventional (self-integrating process) view of self-integration, as there is very little empirical data to be used for theory building.

It is not easy to capture the relationship between complexity and integration in the literature on constructive adult development, without longitudinal designs. This is especially the case when research is intended to add to theory on their relationship for the higher end of adult development. Yet, most empirical research done is via cross-sectional studies. Independent measurement is problematic. Existing measures either capture the two constructs as stages, being mutually exclusive (for example the measures offered by Loevinger (1976) and Loevinger et al. (1998)), or only have face validity (for example, the measures by Kegan (1982) and Lahey et al. (1988)). This results in a gap in empirical research on adult constructivist ego development, as the literature focuses exclusively on the relationship between complexity and integration of self (Johnson, 2000). The cross-sectional samples show that among the large numbers of adults tested, only a small minority is found to be in Loevinger's integrated stage. The few longitudinal empirical studies in the literature show a direct longitudinal developmental relationship among the constructs. Data shows that among the adults who are able to progress developmentally in stages of increased self-complexity, only a small minority are able to move developmentally to self-integration. This finding causes an interesting gap between theory and empirical evidence in this line of research.

The review of the literature on self-concept structure research revealed that this literature has some good measures to capture the constructs of complexity and integration. The best operational definition of self-integration, as defined in this study, is found included in Higgins's measure of self-discrepancy. An excellent operational definition of self-complexity is found in Linville's measure. On the contrary, this literature is not useful in informing as to the directionality of the relationship between complexity and integration. Besides theoretical assumption on the two constructs being negatively related conditions in the adult self-concept, empirical research on their relationship is very limited and shows the two constructs as unrelated (Campbell et al., 2003). None of the studies so far have made a comparison between the Higgins and the Linville measures for the constructs that are chosen as appropriate ones for this work.

Research question 2: What is the relationship between integrative learning and self-integration?

*Hypothesis 3:* Adaptive flexibility is positively associated with self-ideal congruence.

*Hypothesis 4:* Adaptive flexibility is positively associated with self-integrating process.

Post-conventional theorists argue that an increase in integrative learning facilitates movement from self-complexity to stages of self-integration. While assimilation was seen as critical for the development of the higher cognitive abstraction associated with the highest stages, following Piaget's theory, it was theorized as a finite way of knowing. For the post-conventional view of self-integration, especially, because

“while the layers of cognitive abstraction can be logically extended to the nth degree or ad infinitum (ad absurdum), there is no additional benefit in meaning beyond a certain point, as cognitive complexity alone does not account for deeper insight into the human condition.” (in Cook-Greuter, 1999).

The same view on the role of integrative learning as the key variable facilitating integrative development was the main theoretical premise of Experiential Learning Theory of Development (Kolb, 1984). Experiential Learning Theory explains in very detailed terms how an increase in integrative learning allows for the development of integrative consciousness. It particularly emphasizes the positive relationship between integrative learning and the post-conventional view of self-integration, i.e. experiencing authenticity and the self as a dynamic, fluid, creative process. One study in Experiential Learning Theory has shown evidence that integrative learning, operationally defined as adaptive flexibility, positively predicts the progression to higher psychosocial development stages as defined by Loewinger (Kolb, 1984).

Research Question 3: Is integrative learning is a moderating variable, in the relationship between self-complexity and self-integration?

*Hypothesis 5*: Adaptive flexibility is a moderating variable in the relationship between self-complexity and self-ideal congruence (positive association).

*Hypothesis 6*: Adaptive flexibility is a moderating variable in the relationship between self-complexity and integrative complexity (positive association).

Although it is hypothesized that integrative learning is a moderating variable between complexity and integration of self, the review of the literature does not present clear evidence to support if integrative learning is a moderator in the (positive) relationship between complexity and integration. However, constructivist adult development theory may *imply* that especially in high end development processes this holds true. Post-conventional models of development further study the pattern of alternating stages of differentiation and integration towards greater complexity “that can accommodate the ever-expanding universe of the self. “ (Cook-Greuter, 1999). The theory that directly offers refers to the moderating role of integrative learning in the relationship complexity – integration is Experiential learning theory (Kolb, 1984); it posits that integrative development occurs *through* increasing complexity and relativism, via the integration of dialectic adaptive learning modes. The above presentation of the study hypotheses is summarized in Figure 2.6.

Figure 2.6 – Research Model with study hypotheses

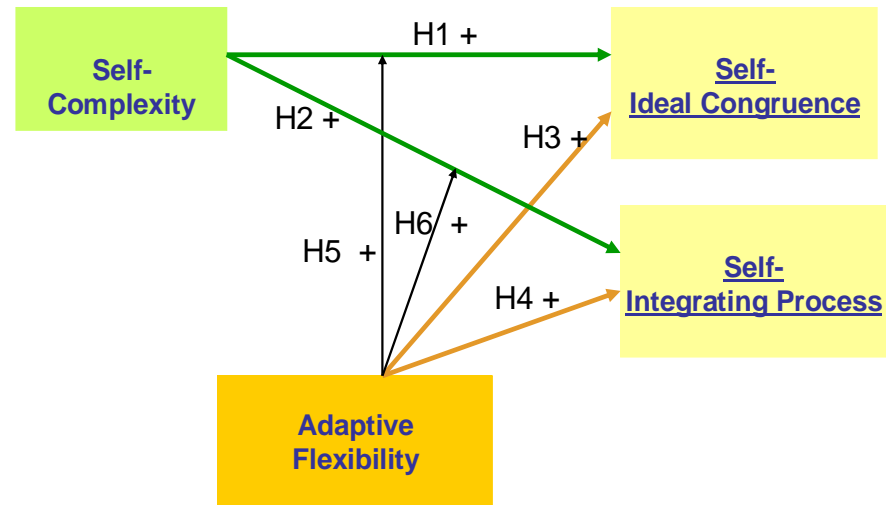


Figure 2.6



### **III. CHAPTER THREE - METHODS**

This section informs on the sample, design and procedures of the study, as well as the operational definitions for its dependent and independent variables, the respective measures, their psychometric qualities and scoring.

#### ***Sample***

Data was collected from 198 individuals. Three quarters of the sample consisted of middle and senior level managers in three large multinational companies and a medium sized organization, based in the Midwest United States. The remaining one quarter of the sample were individuals in managerial or professional careers in multinational or professional service firms, and most of them were alumni in graduate degree professional programs in a research university in the Midwestern United States.

Participants were recruited via either the executive education group of a business school in the Midwestern United States, or academic and business contacts that had some sort of cooperation with the same university during the last five years. These individuals were initially briefed on the study and asked to play the role of senior organizational representative, providing the researcher access to a broader population of colleagues and subordinates in the same organization. Subsequently interest for participation in the study among the potential participants was explored. Letters were given, or sent online explaining the study objectives and clarifying that participation in the study was voluntary and would not affect the employment status of the individual (manager) in

his/her organization. This letter(s) was (were) required by the University's Institutional Review Board; a sample of this letter is attached in Appendix 3. Few customizations of this letter to accurately reflect each case / context were made.

### ***Design and Procedures***

The data collection took place through a web-based survey, in order to increase anonymity and confidentiality, as the nature of the survey required describing private and public self-identity aspects. The survey completion time was between 35 to 45 minutes, thus it was a relatively long survey. In order to ensure low percentage of missing data, the survey required completion in one setting. A set of psychological and survey instruments were used, specifically consisting of the computer version of two established psychological tests (involving asking participants to describe themselves by generating, or sorting traits in groups), a Likert scale brief questionnaire, a task of rank-ordering one's personal learning preferences, and demographic questions. The content of the entire web-survey is attached in Appendix 2.

To check the appropriateness of the computer version of two tasks (requiring participants to describe themselves by either generating, or sorting traits in groups), and their similarity to their paper-pencil version, a *pre-test phase* took place. General results of the pre-test, showed the same results and appropriateness of the web-based version of the two tasks with the initial paper version, despite very few differences. The pretest showed the appropriateness of the computer version of the tests.

Prior to participating in the study online consent was required, following the Institutional Review Board guidelines for protection of human subjects (the information on the consent form is also attached in Appendix 2). To participate in the study, participants agreed to a consent form by clicking a checkbox. The completion time for both studies could not be pre-determined exactly, as it depended on a number of variables, mainly the speed of response, the number of different self-aspects each person generates in the psychological tests, and the individual's fluency in English.

### ***Measures***

This section informs on the operationalization of variables of the study and the measures chosen their psychometric properties, as well as the statistical procedures for calculating the final score.

## **1. Independent Variables: Self-complexity, & integrative learning.**

### **1.1. Self Complexity**

Self-complexity is operationally defined in this study, as having multiple self-aspects and variety within each self-aspect (Linville, 1985). The measurement of this variable was based on Linville's measure of self-complexity (Linville, 1985, 1987). The measure is patterned after one developed by Scott, 1969 and Scott et al., 1979 (in Linville, 1985).

The original measure requires a person to sort traits into groups that describe “an aspect of yourself in your life”. Participants are instructed to form as many groups as are meaningful to them and can use the traits in more than one group. Also, they are free to decide which of the total number of traits they will use, thus they do not have to use every trait in the list. An online version of this task was developed based on the published detail of Linville’s measure and formula for statistical analysis, below:

Statistical Analysis: Based on participants’ responses to q-sort task, the H statistic is derived. The H statistic is developed by statisticians (Linville, 1985; in Lutz, C. et al, 2003; Scott, et al., 1979) and adopted by Linville as an index of self-complexity (1985, 1987), or self-complexity score (SC). It represents the number of independent attributes, implicit in a person’s traits sort – in this study the traits describe different aspects of self. The formula for this statistic is as follows:

$$SC= H = \text{Log}^2 ni * (ni * \text{log}^2 ni) / n.$$

In this equation, n represents the number of possible adjectives that the participant could have selected (in this case, 33), and ni is equal to the number of adjectives that appear in a particular group combination (e.g. the number of adjectives that appear in only one sub-self, those that appear in two sub selves, etc.). Conceptually, the H statistic represents the numbers and distinctiveness of selves (can be roles, but not necessarily) that a person comes up with to mentally represent him/herself.

The SC score can be interpreted as the minimal number of independent binary attributes underlying a person's feature sort about the self. The greater the number of self-aspects, and the less redundant the features used in creating these self-aspects, the greater the SC score. Thus, high SC results from having a large number of self-aspects that are non-redundant in terms of the features that describe them (Linville, 1987). The maximum value of the SC scores is  $\text{Log}_2 33 = 5.04$ , while the lowest score is 1.

## **1.2 Integrative Learning**

Following the theory that “integrative experiential learning is a process of constructing knowledge that involves a creative tension among the four learning modes, in response to contextual demands” (Kolb & Kolb, 2005), integrative learning is operationally defined as adaptive flexibility. The construct of adaptive flexibility describes the dynamic interplay between learning preferences and environmental conditions. It measures the degree to which and adult adapts to the different contexts and situations they experience via the integration of the dual dialectics of conceptualizing / experiencing and acting / reflecting.

Literature on adaptive flexibility (Kolb, 1984; Boyatzis and Kolb, 1993) defined four types of situations that require adaptive flexibility. Valuing situations “press” for a combination of the learning modes of Concrete Experience and Reflective Observation. Thinking situations “press” for the combination of the learning modes of Abstract Conceptualization and Reflective Observation. Deciding situations “press” for Abstract

Conceptualization and Active Experimentation, and Acting situations “press” for the combination of the learning modes of Concrete Experience and Active Experimentation. Based on this, adaptive flexibility is the extent to which the person uses each of the above four learning processes or modes (CE, AC, AE, RO) in order to respond to the four situational type presses (Valuing, Thinking, Deciding and Acting). The instrument capturing this operationalization of adaptive flexibility is the Adaptive Style Inventory.

The operationalization of adaptive flexibility in this study requires combining the scores of two instruments, namely the Learning Style Inventory and the Adaptive Style Inventory. Both instruments will be described here:

*The Learning Style Inventory or LSI* (Kolb, 1984, 1999, Kolb & Kolb, 2005) is a forced choice ranking method to scale an individual’s learning mode preferences. Individuals are asked to complete 12 sentences that describe learning, each with four endings. The chosen rank orders the descriptors indicating the individual’s preference on the four different learning modes: concrete experience (CE), abstract conceptualization (AC), reflective observation (RO), and active experimentation (AE).

Statistical Analysis: The inventory yields six scores, CE, RO, AC, AE, plus two combination scores, AC-CE and AE-RO. The CE, RO, AC, AE scores indicate the participants learning orientation along one of four types of learning styles: diverging style, assimilating style, converging style, and accommodating style. The combination

score indicates the extent to which an individual prefers abstractness to concreteness (AC-CE) and action over reflection (AE-RO) (Kolb, 1984).

#### Psychometric Properties of the LSI:

Very good internal and external validity evidence as well as the test-retest reliability of the instrument LSI version 3.1 was reported in the technical specifications manual of the LSI 3.1 version (Kolb and Kolb, 2005). These will not be repeated here, as they come from a series of different recent studies and they are very detailed. This latest version of the LSI has successfully addressed weaknesses in the past versions in regards to internal consistency of the scales, as well as the test-retest reliability of the instrument and successfully addressed and criticism in the ELT literature which has focused on the psychometric properties of the LSI and the test-retest reliability of the tool till its 1985 version 2. More detail on the psychometric properties of the tool and the research addressing is offered in detail by Kolb and Kolb (2005) in Kolb's Learning Style Inventory Technical Specifications. Also, a useful paper on the internal validity and reliability of the instrument is done by Kayes (2005).

The online version of the LSI 3.1 version (Kolb and Kolb, 2005) which was used in this study is distributed on-line via the Hay Group Transforming Learning website.

*The Adaptive Style Inventory* (Kolb, 1984; Boyatzis and Kolb, 1993) is a 48-item, self-report instrument that utilizes a paired comparison method to rank learning preferences for the four learning modes in eight personalized learning contexts.

Individuals are asked to think of personal examples for each of the learning situations.

The ASI scoring is described by Mainemelis et al. (2002)<sup>3</sup>.

### Psychometric Properties of the ASI:

Boyatzis and Mainemelis reported the following Cronbach alphas for the ASI scales (N=936): AC = .67, CE = .72, AE = .57, AC-CE = .78, AE – RO= .63. The scale reliabilities are lower in the ASI than in the Learning Style Inventory because the ASI is designed to measure contextual variability (Mainemelis, Boyatzis and Kolb, 2002). Also, the ASI is a tool designed for construct validation of the construct of adaptive flexibility in Experiential Learning Theory and not an outcome measure. As Mainemelis et al. noted (2002) “construct validation is not focused on an outcome criterion but on the theory or construct that the test measures. Here the emphasis is on the pattern of

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<sup>3</sup> Based on this reference, the formulae for the two adaptive flexibility measures are based on the vectors for each of the eight items of the ASI. There are two possible vectors per dimension for each item. For example, the AC/CE vectors for item 1 are:

If AC > CE, Vector AC/Item 1 = 1, Vector CE / Item 1 = 0  
If AC = CE, Vector AC/Item 1 = Vector CE/Item 1 = 1  
If AC < CE, Vector AC/Item 1 = 0, Vector CE / Item 1 = 1

The valence of individuals' preference for each mode is given by summing the vectors of the eight items:

SUM (Vectors AC) = Vector AC/Item 1+...+ Vector AC/Item 8  
SUM (Vectors CE) = Vector CE/Item 1+...+ Vector CE/Item 8  
SUM (Vectors AE) = Vector AE/Item 1+...+ Vector AE/Item 8  
SUM (Vectors RO) = Vector RO/Item 1+...+ Vector RO/Item 8

The formulae for adaptive flexibility in the two ASI dimensions are the following (note that due to subtraction the scoring is inverse: i.e. the lower the score, the higher the adaptive flexibility):

Adaptive flexibility in AC / CE = ABS [SUM (Vectors AC) – SUM (Vectors CE) ]

Adaptive flexibility in AE/RO = ABS [ SUM (Vectors AE) – SUM (Vectors RO)]

These scores have a minimum value = 0, maximum = 8.



convergent and discriminant theoretical predictions made by the theory...” The same authors cite Seltiz who comments on this topic: “... Even if each of the correlations proved to be quite low, their cumulative effects would be to support the validity of the test and the underlying theory.”

An online form of the ASI is used in this study. The online ASI comprises 8 items. It is also a self-report instrument that asks the individual to rank learning preferences that correspond to the four learning modes in eight sentence stems. These eight situations describe four learning contexts: valuing (e.g. “when I want to know someone better”), thinking (e.g. “when I analyze something), deciding (e.g. “when deciding between two alternatives”) and acting (e.g. “when I start to do something new”). Each sentence compares each learning mode with the other three. Individuals are asked to rank the learning preferences available for each of the eight items, from the one that best describes them to the one that least describes them. This online version of the test is distributed via the Hay Group Transforming Learning website and is combined with the LSI 3.1 version (Kolb and Kolb, 2005).

This new online ASI is an effort to improve the psychometric properties of the instrument, as recent research on the ASI shows that although it provides a basis for support for the construct validity of the instrument, yet the internal reliability of scores from it are not so well-established and are not based on extensive research. Thorough review of the studies using the ASI, accompanied by a thorough description of the

accumulated evidence regarding the ASI internal validity and reliability is done by Bell (2003).

Adaptive flexibility in this test is calculated based on the new measurement developed by Kolb, as the absolute amount of change a person showed (in the ASI) from their preferred learning mode (as measured by the LSI).

Statistical analysis for adaptive flexibility:

AFLEXTOT is a measure of the degree to which a person changes their total 12 item LSI scores (in any direction) in response to the different situations described in the 8 ASI items. AFLEXOT is the sum of these changes on the four learning modes --CETOT, ROTOT, ACTOT & AETOT.

1. To calculate these variables, first calculate the total scores for the four learning modes in the LSI, namely LSICE, LSIRO, LSIAC, LSIAE
2. Then proceed to the ASI scores. It is first necessary to create **FLEXTOT variables; directional variability scores for each mode on the 8 ASI items result in 32 FLEX variables based on the following formulas:**

- CEFLEX **ni** = (12 \*ce **yi**) – LSI CE
- ROFLEX **ni** = (12 \* ro **yi**) – LSI RO
- ACFLEX **ni** = (12 \* ac **yi**) – LSI AC
- AEFLEX **ni** = (12 \*ae **yi**) – LSI AE

3. Next calculate the absolute values for these 32 FLEX variables--, and the eight AFLEX mode score--

ABS CEFLEX $ni$ , ABS ROFLEX $ni$ , ABS ACFLEX $ni$ , ABS  
AEFLEX $ni$  And,

CEAFLEX $n$  =  $\Sigma$  ABS CEFLEX $ni$ , ROAFLEX $n$  =  $\Sigma$  ABS ROFLEX $ni$ ,  
ROAFLEX $n$  =  $\Sigma$  ABS ACFLEX $ni$ , ROAFLEX $n$  =  $\Sigma$  ABS AEFLEX $ni$

4. The sum of the 8 AFLEXCE scores results in 4 scores, AFLEXCE and so on for RO, AC and AE:

AFLEXCE =  $\Sigma$  CEAFLEX $n$   
AFLEXRO =  $\Sigma$  ROAFLEX $n$   
AFLEXAC =  $\Sigma$  ACAFLEX $n$   
AFLEXAE =  $\Sigma$  AEAFLEX $n$

5. The sum of 4 AFLEX scores is AFLEX total

AFLEXtotal modes =  $\Sigma$  (AFLEXCE + AFLEXRO + AFLEXAC + AFLEXRO)

Where,

$ni$  = each of the respondent's scores representing directional variability for the 8 ASI items by learning mode,

$n$  = the AFLEX mode item scores (here 8)

And,

ce  $yi$  = the respondent's overall ce score in each of the 8 ASI items

ro  $yi$  = the respondent's ro score in each of the 8 ASI items

( $ni=n13, \dots, n20$ )

ac  $yi$  = the respondent's ac score in each of the 8 ASI items

( $ni=n13, \dots, n20$ )

ae  $yi$  = the respondent's ae score in each of the 8 ASI items

( $ni=n13, \dots, n20$ )

## 2. Dependent Variable: Self Integration

The operational definition I am using for self-integration in this thesis is the ability of a person to subjectively answer the fundamental identity question “who am I?” with a high degree of integrity and authenticity, that is, motivated intrinsically. This operational definition is operationally defined as two variable(s) to capture self-integration, as an effort for capturing two complementary components, or views of the construct found in the related literature, namely: (1) self-ideal congruence, the extent to which a person’s real self image in harmony with their ideals; and (2) self-integrating process, referring to the ability for experiencing the self as process, a dynamic and fluid self-identity, and an ability for authenticity, resulting from being “what one truly is” (Rogers, et al. 1954; Rogers, 1961)

## **2.1 Self-Ideal Congruence**

The Higgins Selves Questionnaire (Higgins, 1985; Higgins et al. 1987) from the self-concept structure research tradition in social psychology is used to capture the degree of congruence between one’s actual, and ideal self.

Higgins’s original measure is a task designed to measure self-discrepancies, among the Actual -Ideal - Ought selves. The task asks respondents to generate and list 10 traits or attributes for each of a number of different self-states. It is administered in two sections; the first section involves the respondent’s own standpoint and the second involving the standpoint of a significant other (mother, father, sibling, spouse, close

friend, son/daughter). An online exact version of the first section only of this task was created for this study.

Statistical Analysis: Higgins uses the test to capture the degree and different kinds of self-discrepancies among a person's actual, ideal and ought self-concepts, as follows: "A two-stage process is used to quantify the discrepancy between any two self-concepts (e.g. "actual/own", versus "ought-own"). First, the attributes in each self-concept were compared to the attributes in the other self-concept to determine which attributes matched (i.e., both self-concepts listed the same attribute, where synonyms were considered to be the same attribute), and which attributes mismatched (i.e., an attribute in one self-concept was the opposite, or an antonym of an attribute in the other self-concept). Synonyms and antonyms were operationally defined in terms of Roget's Thesaurus. The percentage of non matches did not vary among the different kinds of discrepancies,  $F < 1$ . Second, the self-concept discrepancy score for the two self-concepts was calculated by subtracting the total number of matches from the total number of mismatches. Thus, self-concept discrepancy scores could theoretically range from +10 to -10. "(Higgins, 1985; 1987).

Using sub-scores of the Higgins task, this study captures self-ideal congruence, by the match between each participant's self-reported "actual own" versus the "ideal own" self-concepts. Specifically, based on the Higgins scoring instructions, the attributes in each self-concept are compared to the attributes in the other self-concept to determine which attributes match. As Higgins proposes matches are considered either when both self-concepts listed the same attributes, or synonyms between a person's actual and ideal

lists. Synonyms are operationally defined in Roget's Thesaurus. Two expert scorers – one Faculty and one graduate student in the Department of English at CASE - defined the synonyms for all respondents.

## **2.2 Self-Integrating Process**

Self-integrating process refers to the ability for experiencing the self as process, a dynamic and fluid self-identity, and ability for authenticity, resulting from being “what one truly is” (Rogers, et al. 1954; Rogers, 1961).

After studying the related literature, I designed a ten item questionnaire. Different versions for the items were considered and the questionnaire was finalized through the process of using as expert panel, my dissertation committee, all experts in this literature. This questionnaire is trying to capture the breadth in the post-conventional view of self-integration found in the literature, as there was no existing measure found for this construct that fits the methods of this study. The items are developed to capture the following features of self-integrating process found in the literature, namely: (1) Life coherence, purpose and meaning, (2) Experiencing the self-as process, or the self-as learner, (3) Proactive adaptation and responsibility, (4) Dialogical integration and transcendence of conflict. I decided to capture most of the above components in the theory, as I wanted to include the real breadth of the post-conventional view of self-integration.

Each participant is asked to assess the degree of agreement with the following ten statements, using a five point Likert scale ranging from 1 (Totally Disagree) to 5 (Totally Agree):

1. My life's work is a deep expression of my principles, values, and identity.
2. In all my roles and relationships I am able to be authentic and express my true inner self.
3. My daily life lacks a sense of deep purpose and meaning. (Reversed)
4. When it comes to life satisfaction, the journey is as important as the destination.
5. I feel like I am the creator of my own life story.
6. My life's situation requires me to conform to convention, rather than express my basic conviction. (Reversed)
7. I am committed to making the world a better place.
8. When I am in conflict with someone else, I feel it is important to assertively state my own position. (Reversed)
9. When I am in conflict with someone else, I recognize that there are "two sides of the coin."
10. When I am in conflict with someone else, I can still laugh at my need to be always right.

It is expected that the ten items may load on more than two factors, since the items express various themes in the post-conventional literature on self-integration. Therefore, factor analysis and reliability statistics need to be conducted prior to all the

data analysis related to hypothesis testing of this variable in the study. These will define which among the ten items will be averaged in order to get an average score for Self-integrating process.

### Control Variables

Following the most frequent controls in the literature on self-integration, I will control for age, education, and gender in this study. Although it would be of interest, to also include race as a control variable, this is not possible, as the sample of this study is predominantly white.



#### **IV. CHAPTER FOUR – RESULTS**

This section presents the quantitative results of the study. Specifically the following results cover (1) a description of the sample and data, (2) reliability and factor analyses for the newly developed scale, capturing one of the two dependent variables, (3) descriptive statistics, and the correlational analyses among the basic variables, (4) controls, (5) regression analyses testing the study hypotheses, and (6) further analyses of results based on age and gender.

##### ***Description of the sample and data.***

Table 4.1 presents the summarized general demographic information of the sample. Out of 198 valid questionnaires, in 188 the section with the demographic information was fully completed.

**TABLE 4.1 – Demographics**

<b>Age</b>			<b>Gender</b>		<b>Education</b>			
	Freq.	Percent		Freq.	Percent		Freq.	Percent
<b>19-24, &amp; 25-34</b>	(22 + 28) =	(11.7% + 14.9 %) =	<b>Male (1)</b>	82	<b>43.6%</b>	<b>Secondary</b>	38	<b>20.2%</b>
Young career	50	<b>26.6 %</b>						
<b>35-44</b>	66	<b>35.1%</b>	<b>Female (2)</b>	106	<b>56.4%</b>	<b>University</b>	74	<b>39.4%</b>
Mid-life career								
<b>45-54, &amp; 54+</b>	(52+ 20)=	(27.7% + 10.6%) =						
Mature career	72	<b>38.3%</b>				<b>Masters Degree</b>	64	<b>34%</b>
						<b>Doctoral Degree</b>	12	<b>6.4%</b>

Sample Size =198  
(Missing Demographic information in 10 questionnaires)

The sample was fairly well balanced in terms of gender, with 43.6 percent males (82 participants), and 56.4 percent females (106 individuals). In terms of education, it was a fairly well educated sample – as expected, given the fact that mainly this study recruited participants who work mainly in medium and higher rank management roles in global and/or complex industries. Accordingly, 38 individuals had secondary degrees (20.2 percent), 74 hold a University degree (39.4 percent), 64 have earned a Masters degree (34 percent) and 12 individuals had a doctoral degree (6.4 percent). Eighty five percent of the sample was Caucasians.

There was an excellent representation from all age groups in this study. From the overall 188 study participants with fully completed demographic information section, 22 were in the 19-24 age group, 28 were aged among 25-34, 66 individuals were in the “middle age-mid career” group, aged between 35 and 44 years, 52 individuals are aged among 45-54 age group, and 20 individuals were above 55 years old. Grouped in the three most well represented age groups in the literature on adult professional development the distribution of the study participants is as follows: Young professionals (aged between 19-34 years) represent the 26.6 percent of the sample, mid-career professionals (aged between 35-44 years) are the 35.1 percent of the sample, and mature professionals (aged above 45) represent the 38.3 percent of the sample.

***Reliability and Factor Analyses for the second measure of Self-Integration (Self Integrating Process).***

Prior to the calculation of descriptive statistics and bi-variate correlations, analyses were conducted in order to explore which of the ten items used in the questionnaire should be averaged representing the second measure of integration (self-integrating process). As this measure has not been used before the objective of this analysis is to conclude with the optimum solution capturing the essence of the construct in constructivist adult development theory, while aiming for a solution that guarantees reliability and internal consistency. As explained the ten items initially designed were exploring two main themes, one aiming in capturing the broad constructivist definition on the process view of self-integration and the second a more specialized reference on how process self-integrative persons handle conflict. The first theme was expressed in the questionnaire items 1 to 7; it was a collection of statements capturing the common themes in the definition of *the self as process* in the broader adult development literature reviewed in chapter 2. The second theme expressed by the questionnaire items 8 – 10 was an attempt to capture a very specialized feature regarding how the process-self handles conflict; this theme was strongly expressed in Kegan's theoretical framework on high end developmental progression (for example, Kegan, 1994). Accordingly, a clean two factor solution, comprising all the ten items and giving a good reliability result would be the optimum solution hoped to get from the exploratory factor analyses procedure. If this would not be possible, it would be then desirable to try to get to a single factor solution, with fewer items (thus, capturing the main essence of the construct in the post-conventional ego development literature).

A Summary of these analyses are presented in the Tables 4.2 (a), 4.2 (b), 4.2 (c) and 4.2 (d). For the factor analysis, the method chosen was the principal component as the extraction method, and Promax with Kaiser Normalization.

**TABLES 4.2 – Reliability / Factor Analysis Statistics for Self-Integrating Process**

**TABLES 4.2 (a) and 4.2 (b): Reliability and Factor Analysis Results for Self-Integrating Process 10 items**

**Table 4.2 (a)**

**Reliability Statistics**

Cronbach's Alpha	N of Items
.656	10

**Table 4.2 (b)**

**Component Matrix<sup>a</sup>**

	Component		
	1	2	3
SI1	.662	-.232	-.228
SI2	.618	-.319	
SI3	.556	-.524	
SI4	.644	.383	-.106
SI5	.557	.223	.466
SI6	.457	-.454	.421
SI7	.736	.112	-.193
SI8	-.215		.700
SI9	.430	.649	
SI10	.297	.386	.353

Extraction Method: Principal Component Analysis.

a. 3 components extracted.

**Pattern Matrix<sup>a</sup>**

a. Rotation converged in 5 iterations.

**TABLES 4.2 (c ), 4.2 (d): Reliability and Factor Analysis Results for Self-integrating Process Single Factor Solution finally preferred**

**Reliability Statistics - Table 4.2 (c)**

Cronbach's Alpha	N of Items
.697	5

**Component Matrix and Goodness of fit test – Table 4.2 (d)**

**Component Matrix** <sup>a</sup>

	Component
	1
SI1	.689
SI2	.606
SI4	.719
SI5	.602
SI7	.759

Extraction Method: Principal Component Analysis.

a. 1 components extracted.

**Rotated Component Matrix**

a. Only one component was extracted.  
The solution cannot be rotated.

**Goodness-of-fit Test**

Chi-Square	df	Sig.
16.214	5	.006

*Tables 4.2(a) and 4.2(b) refer to the initial analyses, comprising all the 10 items of the questionnaire.* The reliability analysis for the 10 items showed a worrisome reliability, with alpha at .65. Factor analysis confirmed fears for items loading in more than two factors; a three factor solution was given, with eigenvalues being for the first factor at 2.9, for the second factor at 1.4 and for the third factor at 1.1, dropping at .9 subsequently. As summarized in Table 4.2 (b) factor analysis items 1, 2, 3, 4, 5 and 7 loaded together as the first principal component, items 9 and 10 loaded on the second component, and item 8 was loading on the third one, while item 6 showed double loadings between the first and the third factor (Table 4.2 (b)). Based on both the reliability and factor analyses, this solution was rejected as a non reliable measure. Yet, in this initial solution, the first factor seemed to be a good start for further analysis, as it contained the most common themes of self-integrating process in the constructivist literature (thus it was a conceptually clean basis for the construct). Opposite, the themes on how integrated adults handle conflict were split between the second and third component and were rejected from further analyses.

As a second step, the six items that showed clear loadings on the first component in the initial EFA (namely items 1, 2, 3, 4, 5, and 7) were factor analyzed again on their own and together with item 6 which had double loadings; it was hoped to get to a single factor clean solution, after the elimination of the more problematic items (namely, items 6, 8, 9, 10). Unfortunately, the analyses showed in every case a two factor solution, which made no sense at all conceptually. Further exploration was conducted aiming in exploring solutions that satisfy the conceptual and scale reliability and consistency



criteria set. Two five items options were good final solutions; the first solution one was items 1, 2, 4, 5, and 7 and the second one was the grouping of items 1, 2, 3, 4, 7. The first combination of items was preferred in terms of content as item three was conceptually mixing the self-integration with the experience of meaning in life (which is an independent scale in psychology on its own). Also, this combination of items was preferred because its reliability (very close to .7) was good for a newly developed measure. *Tables 4.2(c) and 4. 2(d)* show analyses for this finally preferred solution, with reliability at .697. This chosen solution (comprising items 1, 2, 4, 5, and 7) showed eigenvalue for the first factor at 2.29, and at .89 for the second factor.

All subsequent analyses that include the second dependent variable of self-integration, i.e. *Self-Integrating Process*, refer to this as the measure of self-integration: This is the saved unrotated principal component from items 1, 2, 4, 5, 7 factor score. The items represent well the essence of the construct, i.e. items that are found as the most common themes of the definition of self-integration in constructivist theories in the adult ego development literature.

These are the following statements:

1. My life's work is a deep expression of my principles, values, and identity.
2. In all my roles and relationships I am able to be authentic and express my true inner self.
3. When it comes to life satisfaction, the journey is as important as the destination.

4. I feel like I am the creator of my own life story.
5. I am committed to making the world a better place.

***Descriptive Statistics and Bivariate correlations.***

**Table 4.3** presents descriptive statistics and bivariate correlations for all study variables. Correlations between Self Complexity and both dependent variables, namely *Self-Ideal Congruence*, and *Self-Integrating Process*, are significant in .216 ( $p < .01$ ) and .15 ( $p < .05$ ), showing to the confirmation of related hypotheses. The correlation between Adaptive Flexibility (AFLEX Total) and the second measure of integration, namely Self-Integrating Process, is significant at .255 ( $p < .01$ ). The correlation between Adaptive Flexibility and Self-Ideal Congruence is not statistically significant (-.08), showing that the role of integrative learning for the goal view of self-integration is not important.

**TABLE 4.3**  
**Descriptive Statistics and Correlations**

VARIABLES	1	2	3	4	5	6	7	8	9	10
<i>Correlations</i>										
1. Self-Ideal CONGRUENCE										
2. Self-Integrating PROCESS	.102									
3. Self Complexity	<b>.216**</b>	<b>.15*</b>								
4. Adaptive Flexibility (AFLEXtotal)	-.08	<b>.255**</b>	-.02							
5. AFLEX AE mode	-.07	.1	-.09	<b>.7**</b>						
6. AFLEX CE mode	-.027	<b>.29**</b>	.08	<b>.6**</b>	<b>.15*</b>					
7. AFLEX AC mode	-.03	.09	-.03	<b>.61**</b>	<b>.28**</b>	<b>.23**</b>				
8. AFLEX RO mode	-.06	.1	.01	<b>.45**</b>	<b>.15*</b>	.13	-.03			
<u>Controls</u>										
9. Education	-.02	-.007	<b>.2**</b>	<b>-.2**</b>	<b>-.18*</b>	<b>-.23**</b>	-.04	-.04		
10. Age Group5	.02	<b>.17*</b>	.1	.08	.06	-.04	.1	.08	<b>.24**</b>	
11. Gender	.008	.14	.07	<b>.15*</b>	<b>.2**</b>	.07	-.13	-.07	-.12	-.005
<i>Descriptive Statistics</i>										
N	197	198	198	187	188	187	188			
Minimum	.00	1.2	.6	96	32	.00	36			
Maximum	10	5	4.8	556	252	15	170			
Mean	2.4	3.8	2.5	367.8	103.8	82.6	88.04			
s.d.	2.3	.69	.9	68.6	34.2	27.7	23.3			
Skewness	1	-1	.1	-.5	.17	-.05	.17			
Kurtosis	.5	1.7	-.5	1.6	1.5	-.08	.09			
* Correlation is significant at the 0.05 level (2 tailed tests)										
** Correlation is significant at the 0.01 level (2 tailed tests)										

Correlational analysis between the study dependent variables and controls showed a significant correlation between *Age* and *Self-Integrating Process* at .17 ( $p < .05$ ). As to correlations between the study independent variables and controls there was a significant positive correlation between education and self-complexity at .2 ( $p < .01$ ), a negative correlation of -.2 ( $p < .01$ ) between *education* and *adaptive flexibility*, and a significant positive correlation between *gender* and *adaptive flexibility* at .15 ( $p < .05$ ).

Since the adaptive flexibility score is the sum of the adaptive flexibility scores of each of the four learning modes (AC, CE, AE, and RO) correlations included the AFLEX results of each mode. It was found that *AFLEXCE* correlates significantly with *Self-Integrating Process* at .29 ( $p < .01$ ); this correlation reveals that adaptive flexibility at the concrete experience, is the mode of adaptive flexibility that contributes in mostly to the correlation between *total Adaptive flexibility* and *Self-Integrating Process*. This was not a surprising finding, as it follows theory on this issue.

Looking to the correlations between the four AFLEX modes scores and the total AFLEX variable, all four modes showed strong correlations, as expected given that AFLEX is calculated by summing up the four AFLEX modes scores. In the Concreteness-Abstractness dimension, *AFLEXCE* and *AFLEXAC* correlated with AFLEX total at .6 and the second at .614, respectively ( $p < .01$ ). In the Active-Reflective dimension, *AFLEXAE* and *AFLEXRO* correlated with *AFLEX total* at .7 and .45 respectively ( $p < .01$ ). Few more significant correlations were found regarding the four AFLEX modes and control variables of the study. Education showed a strong significant

negative correlation with *AFLEXCE* at  $-.23$  ( $p < .01$ ) and a moderate negative correlation with *AFLEXAE* at  $-.18$  ( $p < .05$ ). These show that in this sample the less educated participants are more adaptive in the concrete and the active dimensions of flexibility. *Gender* showed a strong positive correlation with *AFLEXAE*, at  $.2$  ( $p < .01$ ), showing that females were more adaptive in the active dimension of AFLEX.

The descriptive statistics show generally normality in most of the study variables. The first dependent variable (Self-Ideal Congruence) with mean 2.48, minimum and maximum values at 0 and 10, standard deviation of 2.3 and skewness at 1.0, is skewed to the left. It was decided to use this variable for the regression analysis as it is and not standardize it trying to correct the skewness issue, as this variable (and the variable of self-complexity) in this study are resulting from counting and the quality of the data may be altered and not improved, once transformed from a Poisson, to a normal distribution.

### ***Controls***

**Table 4.4** presents the detailed results for the control variables, i.e. education, age, and gender that the study controls for, based on the standard practice in studies exploring adult development theory.

**TABLE 4.4 – CONTROLS**

Independent Variables	Dependent Variables							
	Self-Ideal Congruence				Self-Integrating Process			
	Beta	S.E	t	P	Beta	S.E	t	P
<b>Controls</b>	Overall Sig. = .95 N= 197				Overall Sig. = .013 Adj. R square =.04 (R Sq. Change= .057, Sig= .01) N=197			
1 Age Group (5)	.03	.15	.4	.65	.2	.06	2.6	.008
2 Gender	.008	.34	.1	.91	.1	.1	2.2	.03
3 Education	-.07	.2	-.4	.64	-.03	.08	-.46	.6
<b><u>Controls and Predictors</u></b>	Overall Sig. = .023 Adj. R square = .04 (R sq. change = .067, sig.= .002) N=187				Overall Sig. =.000 Adj. R square = .108 (R sq. change = .076, sig.= .001) N=187			
1 Age Group (5)	.09	.15	1.2	.2	.17	.07	2.4	.01
2 Gender	.004	.3	.05	.9	.21	.001	3	.1
3 Education	-.12	.21	-1.5	.1	.19	.06	2.6	.7
4 Self-Complexity	.24	.18	3.3	.001	.1	.1	1.6	.01
5 Adaptive Flexibility (AFLEX Total)	-.1	.003	-1.5	.1	.02	.08	.3	.003

This analysis shows no impact of the control variable for the relationships involving the first measure of integration (Self-Ideal Congruence). On the contrary, age has a strong impact, and gender has some degree of impact in the study relationships regarding the second measure of integration (Self-Integrating Process). Specifically, in the regression exploring the relationship between the controls and Self-Integrating process alone (without the predictors), the relationship between age and self-integrating process has beta at .2 ( $p=.008$ ), while the beta referring to gender and self-integrating process is at .1 ( $p=.03$ ). The overall adjusted R square value for the regression involving only the controls and the study dependent variables is at .04.

When introducing the study dependent variables together with the controls (in the lower section of table 4.4), we get a stronger overall model; the R square change is at .076, significance level at .001, and the adjusted R square value at .108. In this model the p values are for age .01 (beta=.17), for self-complexity .015 (beta at .17) and for adaptive flexibility at .003 (beta = .2) respectively. In this regression, only age appears having a significant effect in the model, while gender and education do not (p values are at .1 and .7, respectively).

As a result of the above, it was decided that it is interesting to further explore patterns of relationships in the results as impacted primarily by age as an independent variable in the study model. Also, it was decided to further explore the impact of gender in the study variables, by splitting the file between males and females and then running the regressions. This additional exploration of the role of age and of gender in the study

variables will be reported after the general patterns of the results, in the end of this section.

### ***General Results testing the study hypotheses***

**Table 4.5** presents the results from regression analysis, therefore testing hypotheses 1-6 in the three research questions of the study. Research question 1 explores the role of self complexity in self-integration; Hypothesis 1 predicts that an increase in self-complexity is positively related to an increase in Self-Ideal Congruence, and Hypothesis 2 predicts that an increase in self-complexity is positively associated with an increase in Self-Integrating process. Research question 2 explores the role of integrative learning for self-integration. Hypothesis 3 predicts that an increase in adaptive flexibility is positively associated with an increase in self-ideal congruence, and Hypothesis 4 predicts that an increase in adaptive flexibility is positively associated with an increase in Self-Integrating process. Research question 3 explores the role of the interaction between self-complexity and integrative learning for self-integration. Hypothesis 5 predicts that adaptive flexibility positively moderates the relationship between self-complexity and Self-Ideal Congruence and Hypothesis 6 predicts that adaptive flexibility positively moderates the relationship between self-complexity and Self-integrating process.

The results are presented in Table 4.5. Prior to reporting the following results, an analysis of outliers was conducted, showing no impact of outliers in the overall patterns of results that are presented here.



**TABLE 4.5 – Determinants of Self-Integration**

Independent Variables	Dependent Variables							
	1. Self-Ideal CONGRUENCE				2. Self-Integrating PROCESS			
<i>Research Question 1: Relationship between Self Complexity and Self Integration</i>								
	Hypothesis 1				Hypothesis 2			
	Beta	S.E.	t	sig	Beta	S.E.	t	sig
1. Self-Complexity	.2	.17	3.08	.002	.15	.07	2.2	.03
	P= .002 (adj. R sq=.042) N=197				P=.03 (Adj. R sq=.02) N= 197			
<i>Research Question 2 : Relationship between Integrative Learning and Self-Integration</i>								
	Hypothesis 3				Hypothesis 4			
	Beta	S.E.	t	sig	Beta	S.E.	t	sig
1. Adaptive Flexibility (AFLEX total)	-.08	.002	-1.1	.25	.25	.001	3.5	.000
	P=.25 N=187				P=.000 (adj. R sq=.06) N= 187			
<i>Research Question 3: Integrative Learning as Moderator in the Relationship between Self Complexity and Self Integration.</i>								
	Hypothesis 5				Hypothesis 6			
	Beta	S.E.	t	sig	Beta	S.E.	t	sig
1. Z Self-complexity	.1	.07	1.5	.1	.06	.07	.9	.36
2. Z Adaptive Flexibility (AFLEX total)	-.07	.07	-1	.3	.26	.07	3.6	.000
3. Interaction Self Complexity * AFLEXtotal	-.03	.08	-.4	.67	-.01	.08	-.2	.85
	P=.27 N=187				P=.004 (adj. R sq=.05) N=187			

### **Question 1- The role of self-complexity for self-integration.**

#### **Self-complexity is positively related to Self-Ideal Congruence (Hypothesis 1)**

There is a positive significant relationship between Self-complexity and Self-Ideal Congruence. Beta and adjusted R square are at .2 and at .042 ( $p=.002$ ). Standard error is at .17 and t value is at 3.08 ( $N=197$ ). *Hypothesis 1 is supported.*

#### **Self-complexity is positively related to Self-Integrating Process (Hypothesis 2)**

There is a positive significant relationship between self-complexity and Self-Integrating Process. Beta is at .15, adjusted R square is at .02 ( $p=.03$ ). Standard error is at .07, t value is at 2.2. *Hypothesis 2 is supported.*

### **Question 2 - The role of integrative learning for self-integration**

#### **Adaptive flexibility is positively associated with Self-Ideal Congruence (Hypothesis 3)**

The relationship between adaptive flexibility and Self-Ideal congruence is not significant ( $P=.25$ ). *Hypothesis 3 is not supported.*

**Adaptive Flexibility is positively associated with Self-Integrating process**

**(Hypothesis 4)**

There is a positive significant relationship between adaptive flexibility and Self-Integrating process (N=187). Beta is at .25, and adjusted R square is at .06 (p=.000).

Standard error is at .001 and t value is at 3.5. *Hypothesis 4 is supported.*

**Question 3 – Integrative learning as moderating variable in the relationship between self-complexity and self-integration**

**The interaction between self-complexity and integrative learning is positively associated with Self-Ideal Congruence (Hypothesis 5)**

The relationship between the interaction of self-complexity with adaptive flexibility and Self-Integrating process is not significant (P=.67). *Hypothesis 5 is not supported.*

**The interaction between self-complexity and integrative learning is positively associated with Self-Integrating Process (Hypothesis 6)**

The relationship between the interaction of self-complexity with adaptive flexibility and Self-Integrating process is not significant (p=.85). *Hypothesis 6 is not supported.*

*Further exploration of the impact of age and gender in the study model and hypotheses*

**Table 4.6 and Figure 4.1** explore the role of age as an independent variable in the model (N=198), with the use of AMOS structural equation modeling technique. It is shown that age is an independent predictor, having a moderately significant positive role in the second variable of integration (Self-Integrating Process); its beta is at .146 ( $p=.016$ ), as shown in Table 4.6. This table also includes the p values and betas for all the relationships between the predictors and the two measures of self-integration that are already reported in detail previously (in table 4.5). The Chi Square value for this model is at 1.06, the NFI value is at .97, the IFI value is at .99, the CFI value is at .99, while the value for the RMSEA is at .01. Previous models explored interaction effects among age and the independent variables, but the Chi square values, as well as the values for NFI, IFI, CFI and RMSEA were not as good as this model. Figure 4.1 is a graphic representation of table 4.6 in AMOS.

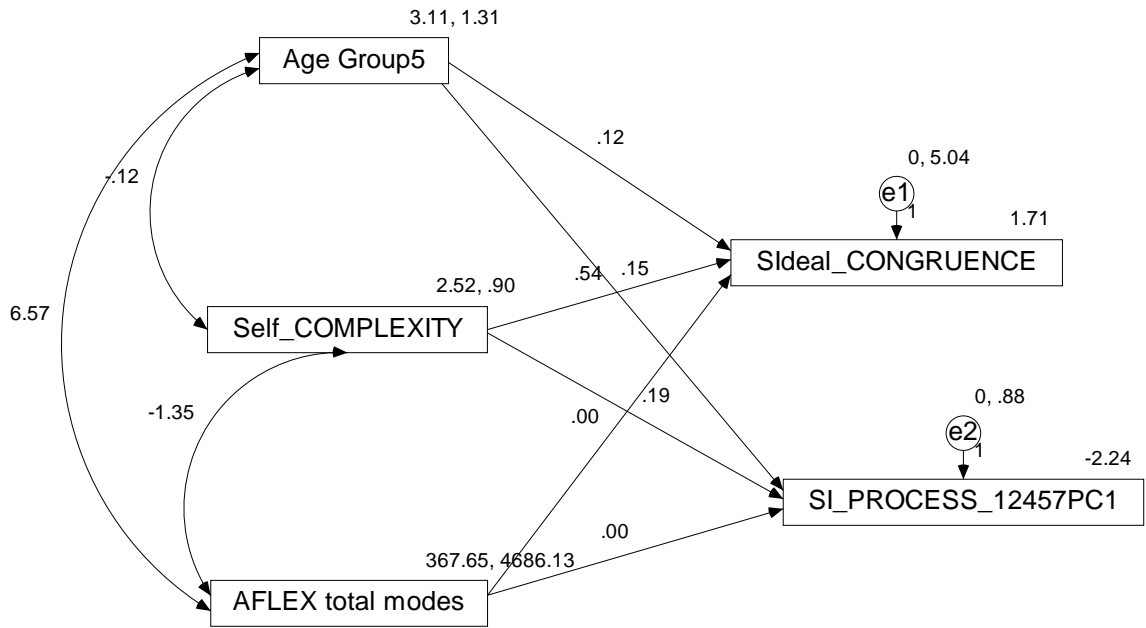
**TABLE 4.6 – Results with Age entered in the research model as an independent variable (Structural Equation Modeling)**

Dependent Variables		Predictors	Estimate	S.E.	C.R.	P
Self_IntegratingPROCESS	<---	AgeGroup5	.146	.06	2.4	.016
S_Ideal Congruence	<---	H_SelfComplexity	.54	.170	3.107	.002
Self_IntegratingPROCESS	<---	H_SelfComplexity	.18	.07	2.613	.008
Self_IntegratingPROCESS	<---	AFLEX TotsumAFLEXAcCeAeRo	.004	.001	3.5	***
S_Ideal Congruence	<---	AgeGroup5	.12	.14	.8	.408
S_Ideal Congruence	<---	AFLEX TotsumAFLEXAcCeAeRo	-.003	.002	-1.1	.27

**N=198**  
**Chi Square = 1.06, p = .303**

**NFI = .97**  
**IFI = .99**  
**CFI = .99**  
**RMSEA = .01**

**FIGURE 4.1 – Fully Saturated model with age included as an independent variable  
(AMOS Structural Equation Modeling)**



Results were further explored in terms of gender; this analysis is summarized in Table 4.7 in the next page, as follows:

For males (N=82) significant relationships, confirming the study hypotheses were found in regards to the second measure of integration. Specifically:

- (1) Self – Complexity showed a moderate positive relationship to Self-Integrating Process, with standardized coefficient (Beta) at .24 and adjusted R square at .045 (p = .03).
- (2) Adaptive Flexibility showed a strong positive relationship to Self-Integrating Process, with standardized coefficient (Beta) at .31 and adjusted R square at .09 (p= .004).

For females (N=106) a significant relationship confirming the study hypothesis, and one in the opposite direction of what was hypothesize were found in regards to the first measure of integration. Specifically:

- (1) Self – Complexity showed a strong positive relationship to Self-Ideal Congruence, with standardized coefficient (Beta) at .29. and adjusted R square at .08 (p = .002).
- (2) Adaptive flexibility showed a moderate *negative* relationship to Self-Ideal Congruence (thus, in the opposite direction of what was hypothesized), with standardized coefficient (Beta) at -.18 and adjusted R square at .026 (p= .05).

**TABLE 4.7 - Further exploration of results based on GENDER**

		Dependent Variables							
		Self-Ideal Congruence				Self-Integrating Process			
		Beta	S.E.	t	P	Beta	S.E.	t	P
<b>GENDER</b>									
<b>MALES</b> (N=82)	<u>Res Q. 1</u> Self-Complexity	1.8	.27	1.6	.1	.24	.1	2.1	.03
		Adj R <sup>2</sup> = .02 N=82				Adj R <sup>2</sup> = .045 N=82			
	<u>Res Q. 2</u> Adaptive Flexibility	.004	.004	.03	.9	.31	.001	2.9	.004
		Adj R <sup>2</sup> = -.01 N= 82				Adj R <sup>2</sup> = .09 N=82			
	<u>Res Q. 3</u> Interaction Self-Complexity * Adaptive Flexibility	.06	.14	.5	.5	.04	.1	.4	.7
		Adj R <sup>2</sup> = .05 N= 82				Adj R <sup>2</sup> = .01 N= 82			
<b>FEMALES</b> (N=106)	<u>Res Q. 1</u> Self-Complexity	.3	.23	3.1	.002	.06	.1	.7	.4
		Adj R <sup>2</sup> = .08 N=106				Adj R <sup>2</sup> = -.005 N= 106			
	<u>Res Q. 2</u> 2. Adaptive Flexibility	-.18	.003	-1.9	.05	.15	.002	1.6	.1
		Adj R <sup>2</sup> = .026 N=106				Adj R <sup>2</sup> = .01 N= 106			
	<u>Res Q. 3</u> 3. Interaction Self-Complexity * Adaptive Flexibility	-.02	.12	-.2	.73	.02	.13	.18	.8
		Adj R <sup>2</sup> = .008 N= 106				Adj R <sup>2</sup> = -.001 N= 106			



## V. CHAPTER FIVE – DISCUSSION

The findings of the quantitative analysis will be interpreted in this section with reference to the theory that was relevant to each hypothesis. Also a general discussion related to how the overall theoretical framework proposed and operationally tested in this study supports its related literature will follow.

### **Research Question One: The Role of Self-Complexity for Self-Integration**

**The more complex a person is, the more integrated – yet, self-complexity alone is not sufficient for integration!**

Adding empirical evidence to the constructivist adult ego development literature, the findings confirming hypotheses 1 and 2, and validate the hypothesized positive relationship between self-complexity and self-integration. **Self complexity is positively related to both measures of integration, namely self-ideal congruence and self-integrating process.** The confirmation of these study hypotheses is an important finding, because it contests the “common sense” view that the more complex, the less integrated a person is, which has been an assumption in various lines of the epistemology of the self.

*Self complexity facilitates the achievement of self-integration.* The study findings support the theory on a (positive) relationship between complexity and integration of self for the process of adult psychosocial and cognitive maturation. An increase in self-

complexity is found to have a significant relationship with the ability of the person to achieve a higher order synthesis of identity, as manifested in the constructivist notion of self-integration. Mental and psychosocial growth is the progressive and continuous acquisition of subtler distinctions among categories and concepts and their ordering into hierarchical systems of meaning. Following the development of language in childhood this evolution in the meaning making abilities of an adult occurs via the experience of increasing multiplicity and relativism in a person's self-identity, which is an increase in self-complexity.

This positive relationship can be explained thusly - an increase in self-complexity facilitates an increase in self-awareness (deepening and broadening self awareness to highly differentiated, dissimilar, or opposing aspects of a person's self-concept). This is seen by constructivist developmental theories as allowing the integration of affect, intuition and rational thought. The increase in the ability of the person to *experience different selves* in turn facilitates the further growth of a person's ability to distinguish between the self and the world as it is *opening up developmental processes of dialectical forms of knowing*. This results in a completeness, clarity and ability for commitments beyond relativism that a person who is both complex and self-integrated brings in society. "Nothing can be sole and whole that has not been rent", as Yeats writes; constructivist developmental theorists posit that the more evolved and internally differentiated individuals become, the more elements from more diverse sources and at higher order of synthesis they can simultaneously process and integrate into a coherent system of meaning.

This study focused on exploring the relationship between complexity and integration in the higher end of the developmental continuum. To my knowledge it is among the first quantitative studies validating the theory that for higher stages of development an increase on self-complexity facilitates the achievement of (conventional) adaptation, towards superior self-maturation stages that allow for creativity, freedom, authenticity, and self-actualization. As explained in the review of the literature, existing empirical evidence on this matter in the constructivist adult development literature comes mainly from cross-sectional studies, and little more recent longitudinal research. It may be implied by this finding that an increase in a person's experiencing multiple selves is not by itself the end of the adult development continuum. It is, rather, the beginning of higher development of the person's meaning making and psychosocial maturation abilities. Of course this sort of explanation is theoretical only, as this is not a longitudinal study. Yet, the positive relationship between self-complexity and self-integration for both hypothesis 1 (referring to the conventional kind of self-integration) and hypothesis 2 (referring to the post-conventional kind of integration) can be interpreted as convergent the other studies in the literature of ego development presented in chapter two of this document, testing the core stage ego development theorem that the relationship between complexity and integration is *a developmental phenomenon underlying the whole process of adult development*. This is based on the Piagetian assumption that, via an increase in self-complexity, all humans organize basic components into higher order systems. Thus an increase in self-complexity is an

underlying mechanism for adult psychosocial and cognitive maturation, starting from acquisition of more simple forms/skills of meaning making.

An exploration of results based on age showed that age is an independent predictor that is positively related to self-integration. This finding is not surprising as it is aligned with constructivist theory of adult development. Constructivist theory states that stages of development are linear and progressive in nature, and that self-integration processes in adulthood are representing the higher ends of the developmental continuum. Also, as presented in the review of the literature, this finding is congruent with post-conventional theory of adult development (for example, Kegan, 1994). Post-conventional theory states that the first kind of integration is a conventional one, while the post-conventional kind of self-integration comes about in more mature stages of adulthood. A more interesting pattern regarding the relationship between complexity and integration was found after an exploration of results based on the participant's gender. Specifically, for females self-complexity was positively related to the first measure of integration and unrelated to the second. For males it was positively related to the second measure of integration and unrelated to the first. This shows that an increase in complexity facilitates self-integration processes differently in women and men. For females an increase in self-complexity is a mechanism facilitating congruence between their real and ideal selves. For males it is a mechanism facilitating a process kind of self-integration, characterized by fluidity, authenticity of self-expression, creativity and impact to the status quo. This result made me wonder if it truly revealed an overall different kind of integration among females and males, or if it was a reflection of the fact

that the sample of this study was focused on women (and men) that are in middle and senior management careers in international, and very competitive industries that are expecting women to “pass a serious test” by proving their competence and readiness from middle to higher status roles. This may encourage the use of complexity of self for a conventional, goal kind of integration (as manifested in the first study dependent variable). Also women in management careers in international and highly complex and competitive organizational cultures may be strongly discouraged from being authentic, and displaying freedom, creativity and self-authorship (as manifested in the second study variable) as this could be easily be misinterpreted as “non competence”. There is a body of research and literature on the reasons for the slow progression of women upwards in academia and industry that supports this rationale (Valian, 1999). On the contrary, as men move towards middle and senior roles in the management hierarchy they may be expected or even rewarded when they display authenticity, voice and freedom, as manifested in the positive significant relationship between self complexity and the process kind of self integration (second measure of integration) in this study. This is an interesting area for further research and exploration. Also, as few women reach higher status roles we still do not have enough data on higher end integration processes for women in the literature and such a direction for future research may be a good contribution to the literature on the progression of women in higher status roles.

*Self-complexity may be important, but it is not sufficient for the achievement of self-integration!* The magnitude of the effects found showed small effect sizes. The overall effect of self-complexity in the first measure of self-integration (adjusted R

square), namely self-ideal congruence, is 4 percent, while the overall effect of self-complexity in the second measure of self-integration (adjusted R square), namely self-integrating process, is 2 percent. Although it was hoped to find a greater direct effect of complexity in the overall increase of self-integration, the (smaller) significant effect sizes found cannot be discredited, and this is often the case in personality research (Mischel, 1984). Besides, this finding contributes to an explanation of the empirical research outcomes on the achievement of self-integration. Studies show that, among adults who display an increase in self-complexity, a very small minority among them are able to achieve self-integration (Kegan, 1994; Loevinger, 1976;), indicating that besides self-complexity there are other variables that are also critical for the achievement of high end integration in the self. As discussed in chapter two, in a series of studies published by Kegan (Kegan, 1994) the percentage of adults found to be able to progress from self-complexity to self-integration was disproportionately lower compared with the percentage of adults that reach self-complexity. Thus, a possible explanation, based on the results of this study is that although self-complexity is essential for development, it is not adequate or sufficient in and of itself. *It is important to add here that additional research needs to be done to explore other essential variables for the achievement of self-integration.*

It could be argued that because correlation does not imply causality, it is possible that self-complexity is caused by self-integration, as opposed to the opposite directionality implied in the research conceptual model. It is true that this research cannot prove the direction of causality between the two variables. However, assuming that an

increase in a person's self-integration (as manifested in each of the two dependent variables) causes an increase in a person's self-complexity would contradict the adult ego development literature. It was shown in chapter 2 that in the reviewed literature there is no theory agreement or arguments to support a discussion on the opposite direction of causality. In this case a different line of reasoning and theory line could be taken to explain this view.

As a means to contribute to the few existing studies in the self-concept structure literature showing that there is no relationship between constructs of complexity and unity/integration in the structure of adult self-concept (Campbell et al., 2003) (as operationalized by different measures for the constructs in this literature) the support for hypothesis 1 shows a significant positive relationship between complexity and integration, as manifested by Higgins' operational definition of self-ideal congruence and Linville's one of self-complexity. As additional information adding to empirical data in this literature, it is found that age is an independent variable, positively associated with self-integration. Some of the empirical studies in the self-concept structure literature that found the two variables as unrelated based a large proportion of their sample size on college age students. The study findings showing distinct patterns of relationships between the males and the females who participated may be useful in informing self-concept structure research. There was a significant positive relationship between complexity and the first measure of integration only for females, while for the males the two variables were unrelated. Males showed instead a significant positive relationship between complexity and the second measure of integration. These results may be

interpreted as showing that age, and less gender, should be used as part of the study design or control, and should be considered to inform the discussion and conclusions of studies on the relationship between measures of complexity with measures of unity/integration among adult self concept structure researcher.

**Findings on a positive relationship between complexity and integration disconfirming the assumption among self-concept structure researchers on the two variables as opposite ends in a continuum.**

Constructivist adult development theory and self-concept structure research are two theories that have not been closely related so far. Yet, they are research lines which are related, as both are interested in the relationship between the constructs of differentiation and integration and have theory on this relationship as central to the research problems they are investigating.

To my knowledge, this research is the first empirical study that proposed and explored theoretical and empirical connections between the two theories. The operational testing of the study's theoretical framework used Linville's measure of self-complexity to measure the construct of differentiation and Higgins's self-ideal congruence score (which is only a part of the overall scoring of her measure of self-discrepancy) to capture the first variable of self-integration. This methodological and theoretical "blending" creates a path for expanding research that relates self-concept structure theory and constructivist adult ego development theory, which can be beneficial and informative of both theory building and the operational definition of the two constructs in the adult self-concept literature.



The positive relationship found between the constructs, with the use of measures from the self-concept literature, provides additional empirical evidence that questions and topples a theoretical assumption that the two variables are, by definition, antithetical or unrelated conditions in the adult self-concept, and that they should be defined as opposite ends of the continuum. It is not intended by this study to claim a specialized view of the self-concept structure as defined in the literature review. However, the findings supporting hypothesis 1 and 2 in this study may contribute to further theoretical and empirical research in the self-concept structure theory, in a variety of ways.

Firstly, if the findings of the study are used to question a long established theoretical assumption (i.e., seeing the two variables as antithetical and negatively related), then it should be asked if some of the measures that define the constructs as opposite conditions need to be critically compared with measures that allow the possibility to explore which is the relationship between complexity and unity in the self-concept, as opposed to assume that these variables should be negatively related. A direct implication of this would be the facilitation of research focusing on further exploring this relationship and the enrichment of related theory in this literature on the dynamic nature of the adult self-concept (Markus, 1977; Markus & Wurff, 1986). Certain measures may be less appropriate for use for this kind of research compared to other measures. An example of such (less flexible) measure is the self concept differentiation measure, by Donahue (1993). Its use in research may be appropriate for investigating the nature of intra-individual personality variability (Baird et al., 2006). But it may not be the best

measure to choose for examining the impact of seemingly opposed self-concept conditions for theory relating to the beneficial aspects of dynamic self-concept conditions for the person.

So far the theories in this literature that view complexity and integration in the adult self-concept as antithetical conditions, or negatively related variables (Campbell, 2003) have drawn from research that only focus on the impact of each variable for adjustment and psychological well being. This study is useful in informing self-concept structure researchers on another possible direction for research, focusing on longitudinal phenomena between complexity and unity in the self-concept that have beneficial effects on the self as a result of a positive association. That is, beneficial results compared to the benefits found, thus far, when each construct is present only at the expense of the other. This research direction can be useful in bridging self-concept research with current research in other fields in psychology, namely clinical research - especially work involving cognitive (Kihlstrom & Cantor, 1984), meta-cognitive (Dimaggio et al., in press), and psychoanalytic (Kohut, 1977) theories interested in the restoration of the self.

Another path of reasoning for informing self-concept structure theory is that it may be a seemingly antithetical condition between self-complexity and self-ideal congruence. This is only speculative. This study was cross-sectional, and cannot be taken to prove longitudinal phenomena. Yet, reasoning based on this study would be as follows: an increase in self-complexity raises a person's expectancy of congruence between his/her real and ideal self-aspects. This is because some of the person's multiple

selves are closer to a person's ideal self. The higher the expectancy of congruence, the more positive affectivity mechanism intervenes. This sets the person working in the direction of true congruence, as hope that congruence is possible is raised. Thus, achievement of congruence between a person's actual and ideal self-concepts is finally achieved through self-complexity. This line of reasoning could inform on the need to develop longitudinal research designs into the self-concept structure research, in order to explore the true relationship between *seemingly* antithetical conditions of adult self-concept. Also, the findings may be taken to explain that when a person has achieved a certain degree of self-integration (equal to bringing about congruence between one's actual and ideal self-concepts) the increase or not in self-complexity will not have any dramatic effect in shifting the person's overall degree of self-integration.

### **Research Question Two: The role of integrative learning for self-integration**

#### **Integrative learning is important for process self-integration, but not for conventional self-integration.**

By showing support for the study hypothesis (Hypothesis 4) that an increase in integrative learning is positively associated with an increase in self-integrating process (the variable capturing the post-conventional view of self-integration) the study adds to theory and research on the important role of integrative learning for the post-conventional definition of self-integration. This finding makes sense when examining the post-conventional adult development theorists' process-kind definition of self-integration (Loevinger, 1996; Kegan, 1982, 1994; Commons, 1984). Post-conventionality

emphasizes (a) process-oriented, and contextual forms of knowing, and (b) the ability of a person to move beyond the passive to increasingly more active interpretation of reality and culture, or “by an increasing awareness of the constructed nature of knowledge and .....(the) deconstruction of the assumptions of conventional views of reality...” (Cook-Greuter, 1999).

In its original conception (Kolb and Wolfe, 1981; Kolb, 1984), adaptive flexibility (the measure of integrative learning in this study) was conceived as the construct that facilitates the achievement of the process view of self-integration. It could do so by allowing a dynamic interplay between learning preferences and environmental conditions. The construct of adaptive flexibility captures the person’s ability to deeply benefit from the developmental nature of person-environment interactions, by allowing one to be able to entirely engage in the moment to moment process of interacting and relating. The construct has been described as choices individuals make in different environments to grasp experience and transform it into knowledge. The hypothesized role of adaptive flexibility was seen in ELT exactly as allowing “an increasing freedom from the dictates of immediate circumstances and the potential for creative response” (Kolb, 1984), which implies a connection with the process view of self-integration. The theory on the construct and its role in ELT is very harmonious with process self-integration, as it is defined in post-conventional constructivist adult development theory. Adaptive flexibility measures the *systematic* variability in a person’s use of grasping and transforming modes of learning, in response to changes in environmental conditions.

As Kolb wrote “if people show systematic variability in their response to different environmental demands, we can infer a higher level of integrative development. . . . Variability alone is not necessarily adaptive; it must be systematic variation in response to varying environmental demands.” (Kolb, 1984). An interesting finding, outside of the study hypotheses, that supports this definition of adaptive flexibility as *systematic* variability (and not just variability) is the fact that there was no relationship found between the measure of self-complexity and the measure of adaptive flexibility in this study. This further supports the claim in experiential learning theory that a higher degree of integrative learning infers higher integrative development. The person is not just competent for varying their learning style. The person exhibits a higher inner value and principle of why and for what they are adapting their experiential learning preference. The integrative learner *chooses* to adapt, in order to respond to, or in conversation with, specific situational constraints.

In addition to the findings relating positively adaptive flexibility and the second variable of integration, findings of this study also showed that, among the four modes, it is adaptive flexibility in a person’s ability for learning via concrete experience (AFLEX CE) that is the mode of learning with the strongest impact on a person’s ability for achieving self-integration (as manifested by the post-conventional definition). It is further evidence for why adaptive flexibility facilitates this post-piagetian kind of self-integration, by adding insight that adaptive flexibility and the mobility it provides to “be present in the moment” and relate to context are the primary vehicles of integrative

development. As experience accumulates (and the depth of personal, interpersonal and social problems a person needs to understand and solve increases), it becomes more difficult to add new perspectives via the use of assimilation only. The problem with assimilation is that besides its obvious *beneficial effect in organizing thought and meaning, it creates a risk for the person for classifying entirely new realities into already known schemas*, whether or not they truly fit into these schemas. There is a risk that, above a certain level, assimilation alone actually limits perception and prevents novel response to challenges posed by external realities. Being in the moment, thus being able to combine the openness to feeling and context accommodation adds to a higher capacity for assimilation seen accompanying the formal operations meaning making phase. The conventional kind of integration means increasing a person's ability to accept and integrate perspectives and information that is able to contradict the already assimilated information on the self (and other), and then create new solutions which result from new ways of meaning making.

Contrary to what was proposed by Hypothesis 3, the general pattern of the results found that adaptive flexibility (the measure of integrative learning) is *unrelated* to the first measure of self-integration, capturing the conventional kind of self-integration. This shows that the conventional view of self-integration is very distinct from the post-conventional one. Each is facilitated by distinct self-processes. It would be very meaningful to clearly distinguish between the two in all related research linking integrative learning with self-integration. This finding is supporting the latest theory on the constructivist adult development, which states that it would be more useful to

distinguish two measures of self-integration, i.e. a conventional and post-conventional kind of integration, and refer to and measure them as distinct variables (Cook-Greuter, 1999).

Conventional integration is indeed discussed by Piaget (1962) as motivated by rational self-motivation processes, for which goal achievement is an essential variable. In this case, an increase in adaptive flexibility may in fact “distract” the person from goal achievement. In addition, in his conceptualization of conventional integration as the stage of “formal operations”, Piaget directly emphasized the role of cognitive development. Additionally, he proposed an increase in assimilation as a critical variable for its achievement (in, Cook-Greuter, 1999).

This finding informs Experiential Learning Theory that adaptive flexibility is not accountable for any form of integrative development. It is specifically related to a process kind of self-integration, as assumed in the theory and in line with the post-conventional conception of the variable of self-integration.

### **Research Question Three: The role of integrative learning as a moderating process between complexity and integration**

The study results do not support the hypothesis that the interaction between complexity and integrative learning are positively associated with conventional self-integration (Hypothesis 5) and with post-conventional self integration (Hypothesis 6).

This can be explained using the same rationale that was used to discuss the rejection of Hypothesis 3, in the previous section. The rejection of both hypotheses was not a big surprise, as it was found after the review of the relevant literature in chapter two that the constructivist adult development literature did not show sufficient evidence to base these hypotheses. The main source of evidence found for Hypotheses 5 and 6 was based on the experiential learning theory, and it is mainly theoretical with no empirical evidence associated (the few existing studies discussed show a direct effect between adaptive flexibility and measures of integrative development, but the interaction effect hypothesis is not tested before).

The study findings will be useful in adding valuable empirical data, informing ELT on this matter. Overall results regarding the role of integrative learning for integrative development in both research questions 2 and 3 show the need for establishing a clearer distinction on the role of adaptive flexibility as facilitating post-conventional and not conventional integration. This link in how it presently appears in Kolb's (1984) book discusses that a process kind of integration is facilitated by adaptive flexibility. Also the reference to a process kind of self-integration as the one facilitated by an increase in integrative learning appears in the very description of how adaptive flexibility facilitates the experience of the self as process, i.e. via increasing the person's ability for *systematic* variability resulting in a creative, dynamic and authentic transaction between the person and the "here and now" context. As post-conventional theory distinguishing between conventional and post-conventional integration and empirical research like this



study offer more direct arguments on the distinction between the two views of self-integration theory and research in ELT should be further informed.

### ***General Discussion***

#### **Self-Integration; not one, but two constructs, essentially distinct**

Besides discussion of the results as they apply to each hypothesis, the overall theoretical model and its operational definition offered by the study extends theory on the construct of self-integration. It is a means to integrate important recent work among constructivist adult development research (Cook-Greuter; 1999; Johnson, 2000 ; Kegan, 1994; Lahey, 1986; Loevinger, 1976, Loevinger et al., 1998) on the distinction between the conventional and the post-conventional view of self integration, as two distinct variables. This is shown by the fact that distinct patterns of relationships were found between the study independent variables and the controls for each of the two measures of integration. Specifically: (1) the first measure of integration (capturing its conventional component in the adult development literature) was found to have a significant positive relationship with self-complexity and no other variable in this study, while (2) positive and significant direct effects were found between *both* self-complexity and integrative learning with the second measure of integration, while age, was *also* found to be a significant positive predictor of this second measure of integration (capturing its post-conventional component in the literature). Thus, the second measure of integration is related positively to three of the study variables.

These distinct patterns differentiating the two variables of self-integration support that, indeed, the distinction between conventional and post-conventional self-integration is not only theoretically sound, but also empirically strong. Following closely the constructivist adult ego development theory, this is one of the first empirical explorations of self-integration, operationalized as two separate and complementary variables, rather than one single construct. Prior work on distinguishing the two views (or variables) of self-integration has been mainly theoretical, due to the fact that the theory on self-integration as two separate constructs is relatively recent (Cook-Greuter, 1999; Kegan, 1994; Lahey, 1986; Lahey et al., 1988). Older theories, and the scoring criteria for self-integration in the constructivist literature of adult ego development, such as the Loevinger and colleagues measures (Loevinger, 1976; Loevinger et al., 1988), only measure it as a single construct. This has been criticized by scorers and researchers as conceptually confusing, and as not supporting further theory on self-integration. For example it was written that “Loevinger’s integrated stage did not seem to be a transformation of the previous stages, but merely an elaboration or original combination of material from lower stages....This is also evident from examples, given as representative of the integrated stage...” (for a detailed critique, see Cook-Greuter, 1999). The findings of this study validate the theory on using the two variables to define and measure self-integration. It found them as distinct and separate constructs. Results of this study, including the discussed analysis between complexity and the two measures of integration for males and for females, confirm the distinction of a conventional and a post-conventional view of self-integration as two separate and unrelated constructs.

Although it is impossible to extend this cross-sectional study to infer a longitudinal sequence between the study variables, findings of this study can be used to guide researchers in generating longitudinal hypotheses on the relationship complexity and integration. In such a spirit and path of reasoning it should be tested if conventional self-integration is indeed an earlier form of self-integration, preceding the experience of a developmentally more mature, higher level kind of integration. This will be discussed in the following section.

**Facilitating generation of hypotheses on developmental sequence between complexity, the conventional and the post-conventional integration.**

As noted earlier, it is impossible to draw conclusions for longitudinal phenomena from this cross-sectional study. Thus this section should only be taken as a broad discussion of how the findings of this study can guide constructivist adult development researchers in generating longitudinal hypotheses on the relationship between self complexity, conventional and post-conventional self-integration.

Constructivist adult development theory proposes a progressive path for adult cognitive and psychosocial development. Development is viewed as progressing from a *pre-conventional* (egocentric, undifferentiated, narcissistic) kind of meaning making about the self and the self in relationship to the social world, to a *conventional* (adaptive, highly differentiated, goal and ideal self oriented, culture-bound, socio-centric), and then towards an even more mature, *post-conventional* (relational, reflexive, introspective,

culture-transforming, universal, dialectical, inter-connected, integrative) (Wilber 1995). The hypotheses and the two measures of self-integration explored by this study emphasized the two variables of self-integration as entirely independent variables. There was a lack in theory to permit additional predictions about a hypothetical relationship between the two views of integration. Subsequent to the examination of the findings an interesting direction as an alternative to explore was found. This was an alternative to the hierarchical model of progression from complexity, to conventional integration and only then to post-conventional integration. This alternative theoretical model would show self-ideal congruence as a mediating variable between self-complexity and self-integrative process, as opposed to being an entirely independent variable. In addition, integrative learning would be related to only the variable expressing post-conventional integration, and this would be more congruent with Kolb's (1984) theory. It would imply that integrative learning facilitates gradual transformation of a person's way of being, from being goal driven, to being process driven (Kolb, 1984).

The fact that there was no correlation found between the two variables of integration was a discouraging finding. It showed that there should be another explanation supporting a hierarchical model, without claiming that self-ideal congruence should then be positively related to self-integrating process. Looking back to post-conventional theory, I was again struck by how sharp the distinction is between conventional integration, in Piaget's theory, and the post-conventional theorists that focused extensively on the higher end adult development, such as Kegan (1994), Lahey et al. (1988), Cook-Greuter (1999) and Johnson (2000). This led to the reasoning that *if it is*

*possible to claim a longitudinal pattern among the variables of the study, this would support a hierarchical and discontinuous model of development.*

The conventional view of self-integration is the establishment of *an objective* self-identity and autonomy, via the achievement of congruence with a person's ideal self-image and values. An excellent example is the Piagetian formal operations stage. It is seen as a stage where adults think and feel their identity as *separate* and independent. They feel responsible and autonomous in their choices of action. Formal operational thought is often perceived as inappropriately detached from feelings, overly abstract, or "too much in the head" (Cook-Greuter, 2000). This is congruent with what is proposed by this research. That is, conventional integration being mainly characterized by goal achievement as paramount and fundamental self-identity motivational mechanism. In this stage, how the person's level, or ability to form meaning making is still centered on experiencing self-actualization as a *separate* and independent sense of self. Thus, conventional self-integration is still conditional on managing or regulating one's identity vis-à-vis the context, rather than the *complete* freedom of being and transacting with context moment by moment.

On the contrary, the "post-conventionality" stage of self-integration is seen as bringing about further transformation of the meaning making abilities. This allows for the person to be entirely open and authentic and to be able to see the social reality as culturally conditioned. They will thus, not be afraid to challenge social reality and transform it (Kegan, 1994; Cook-Greuter, 1999). Post-conventional integration is seen as

related to perceiving social reality as culturally conditioned and constructed, and a freedom to challenge, question and impact its transformation (Cook-Greuter, 1993). Secondly, it is the moving away from a *permanent* (and goal dependent) self-identity, to more fluid and process based experience of self (Cook-Greuter, 1993) and the self as defined by context and relationships (Kegan, 1994). Thus, at the post-conventional self-integration stage, the person does not seem at all motivated by any of the self-identity congruence needs of that are typical of conventional integration. In fact, theory shows he/she is disengaged from a goal view of reality. The discontinuity in the overall smooth pattern of differentiation-integration then would be that once the conventional integration is achieved, entirely different self-processes and mechanisms stimulate further progression to post-conventional integration.

Perhaps, the degree to which *once a certain degree of self-integration is achieved* (i.e. once the person achieves congruence between his/her real and ideal self) self-complexity loses its *distinctive power* in facilitating further high-end development to post-conventional integration can be tested in a longitudinal design. Then, it can be also tested to see if at this stage new variables (such as integrative learning) become much more important than self complexity for the transition from conventional goal-based integration to post-conventional process based forms of meaning making and experiencing the self. The finding of this study show evidence supporting that self-complexity loses significance when its effects are compared to the conventional to the post-conventional variable of integration. Also, qualitative study designs can explore hypotheses as to why the role of self complexity becomes less important of a predictor

for the post- conventional integration. Post conventional theory has some suggestions on this matter. It is posited that the transformation of meaning making of the person who is moving towards post-conventional (process-based) integration mainly consists of the awakening to the discovery that reality is socially constructed and conditioned by culture to such a degree that the experience of *complete* freedom and fluidity is not possible. This is also linked to the need to move away from the taking of language for granted to interpret and experience reality (Cook – Greuter, 1999). Indeed, it is language that is closely linked to the increase in self-complexity, as self-categorizations are above all constructs in the mind (of self and other), rather than a mere reflection of a person's dynamic and fluid direct experience. Such views are the ones that also are expressed by the eastern theories of self-integration (which were not included in its definition in this study), which see that in a theoretical post-post conventional stage, there is no notion of self anymore, and that as a person's attention to inner life and spirituality are heightened. The person can then be able to see everything in nature and the social world as interconnected (Alexander et al., 1990; Wilber, 1998; Wilber et al., 1986); these are the notions of self-transcendence and selflessness described by Alexander and Wilber and their colleagues.

## **VI. CHAPTER SIX – CONCLUSIONS & IMPLICATIONS FOR THEORY AND PRACTICE**

This study makes several contributions to its related social psychology theory lines, and to organizational behavior theory on adult development, change and learning. It also contributes to theory in the areas of leadership development, professional development and personal development. This section summarizes these theoretical contributions, the related implications for future research, and the study contributions in organizational practice.

### ***Implications for Theory***

#### **1. Constructivist adult development theory**

The aim of this study was to propose a scholarly theoretical framework, and its operational testing, based on constructivist adult ego development theory on the relationships between self-complexity, self-integration, and integrative learning. By offering strong evidence that self-complexity and self-integration are positively related and that integrative learning facilitates the post-conventional kind of self-integration, its primary contribution is that it adds empirical evidence on the measurement, and antecedents of self-integration in constructivist adult ego development theory.



The theoretical framework, proposed and tested in the study, as one of the first empirical explorations of self-integration (measuring it as two separate variables) capturing the latest work on adult ego development research and theory is an important contribution of this study. All prior work on distinguishing two variables of self-integration has been mainly theoretical. Besides, older theories in this literature were viewing self-integration as one single construct. The operational definition of self-integration has been lacking clarity, due to the fact that the theory on self-integration as two separate constructs is relatively recent (Cook-Greuter, 1999; Kegan, 1994; Lahey, 1986; Lahey et al., 1988). Another factor lending to this lack of clarity is the fact that most empirical research done in the constructivist literature of adult ego development is based on the use of established measures that do not differentiate in the scoring criteria the two variables (for example, Loevinger et al., 1988). The findings of this study show that, indeed, the two variables of self-integration are independent constructs. As direct implication, the study opens the ground for further research involving each of the two views of self integration as distinct. Future research on self-integration in constructivist adult development theory should explore antecedents of self-integration between the self-integrated stages and the ones that are seen preceding these.

Despite being a cross-sectional study of findings, this study can be used for the generation and testing of hypotheses in longitudinal research in adult development. Especially, hypotheses testing the high-end development proposed in the latest work of post-constructive development theorists (the work of Kegan (1994), Lahey et al. (1988), and Cook-Greuter (1999)). Constructivist adult development theory proposes a

progresses path for adult cognitive and psychosocial development, from a *preconventional* (egocentric, undifferentiated, narcissistic) kind of meaning making about the self and the self in relationship to the social world, to a *conventional* (adaptive, highly differentiated, culture-bound, sociocentric) to a more mature *postconventional* (relational, reflexive, introspective, culture-transforming, universal, inter-connected, integrative) (Wilber 1995). The hypotheses that can be tested only via longitudinal research regard a hierarchical developmental sequence from an increase in complexity of self in the stage of conventional adaptation, to conventional integration and a further development to post-conventional integration - with a discontinuous rather than linear pattern of development after the person reaches conventional integration. In addition, this study informs future research efforts that instead of exploring hypotheses involving the self-integrated stage in theories that do not differentiate it into two distinct views (such as Loevinger's (1976) scale and the one revised by Loevinger and colleagues (Loevinger et al. 1998)), it may be more rigorous and useful to utilize theories that offer transitions – and measures for capturing both the conventional and the post-conventional view of self-integration. An example of such theory is Kegan's (1994). A good measure is the subject-object interview (Lahey, 1986; Lahey et al. 1988).

## **2. Theories of experiential learning, self-concept structure and intentional change.**

### Contributions for experiential learning theory of development

The constructivist adult development and experiential learning theories have salient theoretical connections and a very complementary focus. Learning is an essential

mechanism for human development. Simultaneously, human development constitutes a core purpose for human learning. As shown in the review of the literature, constructivist adult development theorists have directly (or indirectly) delineated the important role of integrative learning for the progression to higher stages of psychosocial development, especially its links with the process view of self-integration. Equally, focusing on the role of integrative learning for integrative development, Experiential Learning Theory draws heavily from constructivist adult development theory. As presented in the review of the literature section, ELT proposes specific stages of growth and transformation in a person's ability for learning that allows for progressive psychosocial and cognitive growth until the achievement of integrative consciousness. This is congruent with psychosocial and cognitive development stages.

Although the epistemological connections between the two theories are solid and unquestionably established, there is a gap in the research that supports and further documents the theoretical connections. Existing measures in constructivist adult development theory do not measure the kind of learning processes evolved in development. In the experiential learning literature there are only very few studies so far that provide empirical research that adaptive flexibility is positively related to measures of integrative development (for review, see Kolb, 1984; Bell, 2007). This study adds to experiential learning theory of development on the role of adaptive flexibility for integrative development, as well as the construct of self-integration in this theory. It contributes, by adding to the few existing research studies (Pazy, 1979; in Bell, 2007) establishing theoretical and empirical connections between the two theories.

### Contributions for adult self-concept structure research

Constructivist adult development theory and self-concept structure research are two theories that have not been closely related in the past. This research adds to establishing theoretical and empirical connections between the two theories. It shows that such connection may be beneficial for the research problems explored among the self-concept structure researchers.

As outlined in detail in the discussion section, the findings of this study from the self-concept literature provide empirical evidence that contradicts the long-held theoretical assumption in this literature, that differentiation and integration are by definition antithetical conditions in the adult self-concept, thus they can only be measured as opposite ends in a continuum. This study adds empirical data to the few studies (Campbell et al, 2003) existing in the self-concept literature. It supports the view that there is a need for more research into the area focused on informing theory on the relationship between constructs of differentiation and constructs of unity/integration in the adult self-concept.

Further research, that is designed to answer this specific research issue and inform theory on dynamic self-concept conditions where the two variables are positively related and their effects on other self-processes, should carefully examine and select operationalizations of the variables that are not, a priori, assuming the two constructs as

being antithetical and mutually exclusive conditions. Such an a priori assumption is made, for example, by the measure of Donahue and colleagues (2003). This measure captures self-concept differentiation as an inverse measure of integration. Further research in this area should focus in comparing the many alternative operational definitions in this literature available for constructs of differentiation and of unity/integration, and use findings for meta-analyses of the relationship between the constructs in order to inform related theory.

#### Contributions for intentional change theory

Intentional Change Theory (Boyatzis, 2006; 2001; Boyatzis and Kolb, 1969) is a theory focusing in exploring how intentional change occurs at different levels of social organization, from the individual, dyadic, group, to larger and more complex fractals of social formations. As a means to contribute to intentional change theory, this study is an empirical exploration of intentional change's constructs as they apply to the individual fractal of change. For this fractal, this study is offering a theoretical framework regarding intra-personal intentional change processes, drawing from constructivist adult development theory. The operational testing of the proposed theoretical framework in this study is a systematic exploration of dynamics involved in individual level change, and involving processes described in intentional change theory as the Ideal Self and the Positive Emotional Attractor.

This study further establishes the construct of Ideal Self, in line with ICT (Boyatzis & Akrivou, 2006), as well as its definition in constructivist adult development theory and its measurement by the self-concept structure research presented in the review of the relevant literature. As a means to renew the empirical evidence linking this theory with theories of development and learning (rather than uniquely drawing from literature on change) this study delineated and tested a scholarly framework based on theories of ego development and learning. Also, theoretical and methodological insight is added. Firstly - it is shown, empirically, that awareness of elements of the ideal self facilitates intentional individual change. Secondly - it delineates what are the theoretical commonalities between the conception of ideal self in ICT and the construct of self-integration in adult ego development, and learning literatures.

As a means to guide future effort on creating a measure for the construct of ideal self in ICT, this study is informing research on another available operationalization for the construct, which is theoretically close to its conception in intentional change theory (Boyatzis and Akrivou, 2006). Specifically, the construct of self-ideal congruence is operationalized in this study by Higgins' Self-Ideal Congruence measure. Results show the key measurement qualities and behavior of this measure. They should be taken to inform ICT on what are the desired distinctions between the concept of ideal self in ICT (Boyatzis and Akrivou, 2006) and its current operationalization by the Higgins measure. Additionally, the relationship between the measure of Higgins and the one by Linville, capturing self-complexity, further adds to ICT by showing the general pattern of a significant positive relationship between the two measures with small effect. Similarly,

through the methodological exploration of this thesis the distinctions between the two measures, including strengths and weaknesses of both have been explored.

Intentional change theory posits that change at different levels of individual and social organization should be conceived and studied as a complex, and not a linear, phenomenon. The study has contributed to ICT, by building further theoretical insight on the construct of positive emotional attractor, conceptualized as a strange attractor in ICT (Boyatzis, 2006; Howard, 2006). The constructs of Positive and Negative emotional attractors are relatively new. There is not yet enough empirical data exploring the related processes. For example, it is not clear how the construct applies differently based on each different fractal of intentional change. This study focuses on the processes related to the positive emotional attractor, offering a detailed micro level framework, exploring dynamics involved in individual level change, involving PEA related processes. This research needs to inform future research efforts that there is a need for focusing research on this construct on the dynamics that are applicable for each fractal of change, based on the appropriate theory. Research should be focused on systematic and flexible exploration of the dynamics of the positive emotional attractor at the dyadic, team level, and its expansion to macro level social formations - such as change in the organizational, community and country levels.

### **3. Implications for leadership development, professional development and personal development**

Besides its direct applications to the theories it is drawing from, this study contributes to three specialized research areas on adult development. The implications and contributions of the study to the literature of leadership development, professional development and personal development will be discussed in this section.

#### **3.1 Leadership development**

It is evident that any proposed leadership development framework is influenced (directly or, indirectly) by a specific *approach, or paradigm* to leadership and leadership development. Work that reviews these different approaches to leadership among the most commonly used leadership theories has outlined various very distinct approaches to leadership - such as the traits, skills, styles, situational, psychodynamic and other approaches to leadership (Northhouse, P.G., 2001). Most of these approaches have come about as a result of specific societal, economical, political, cultural and demographic changes and needs of the time.

Since the 1950's leadership development frameworks and pedagogies have been heavily influenced by the traits and situational approaches to leadership (for a review, read Passareli, 2008). This framework is anchored in the psychodynamic approach to leadership, rooted in the work of Freud and Jung. It is opposed to other approaches, because the psychodynamic approach to leadership overemphasizes personality as its fundamental concept of leadership, instead of looking at a single model, or theory, of



leadership (Northhouse, P.G., 2001). Although the psychodynamic approach to leadership has developed (until today) interesting theories on leadership, it is lacking significantly in the area of a direction (or framework) for leadership development. Perhaps, the only well known framework that exists for application in the area of leadership development is the one based on the Myers Briggs Types Indicator, or MBTI. The MBTI is based on the work of Jung (1923; 1933) on types of personality.

This study adds to the related leadership development literature, by proposing a path for leadership development that falls into the psychodynamic approach to leadership. Specifically it contributes *a direction for leadership development, by showing that it is meaningful to increase the leaders' ability for meaning making, or the epistemology* they use in interpreting the self and the social world. It is shown that one way to do this is the focus on self-integration, via the increase in self complexity. This is the constructivist developmental lens, as the particular focus of the adult development theory, that I am adopting. It emphasizes transformation in a person's epistemology and meaning making that encompasses both the psycho-social and cognitive maturation components of a mature personality (Cook-Greuter, 1999). This constructivist definition of self-integration is better compared to notions of self-integration that could focus on a leadership development path that prioritizes the cognitive component of self-integration (for example, Zajonc, 1960; Schroder et al., 1967). The constructivist lens of development is seen by literature as linked to (a) the notion of integrity and (b) the notion of reflexive and active questioning and transformation of the surrounding culture and practices not via conflict, but instead via the transcendence of conflict and its replacement

with a relational and dialogical approach (Cook-Greuter, 1999; Kegan, 1994, Kolb, 1984).

Research on the effectiveness of leadership development programs and frameworks shows evidence that leaders can be developed (“made”) via a continual and dynamic process of life-long learning (Avolio, 2005). Findings of this study are a direct contribution in line with this view in two ways. First, the study findings and theoretical framework support directly literature suggesting that if one agrees with the view that leaders are made rather than born, then what becomes critical for organizational change is how they develop (Rooke & Torbert, 2005). It is argued with this study findings and results that an optimum path for leadership development is the one that focuses in the development of both complex and integrated leaders.

Secondly, for effective leadership development to occur, the programs and frameworks proposed should be grounded in theory on how adults learn and change (Collins, & Holton, 2004). Two theories of adult learning and change I am drawing from - namely Experiential Learning (Kolb, 1984) and Intentional Change (Boyatzis, 2006) theories- complement the constructivist lens, in that not only are they rooted in theory on adult development and change (a necessary prerequisite for any psychodynamic approach to leadership development), but they also emphasize specific pedagogical processes and measures of behavioral, tangible change in adults (and leaders). In line with these theories, his study proposed measures that can facilitate the assessment of the degree to which this path of leaders’ psychosocial development is occurring successfully, which are

easy to use and score, compared to the specialized measures of the ego development literature (such as the measures of self-integration, the measure for integrative learning and the measure of self-complexity).

A distinct contribution of this study on leadership development theory is its building of theory on customizing general frameworks of human development that are proposed in the field of executive coaching. Age, a control, was found to have a significant positive relationship with the second variable of self-integration. Additionally, very important and distinct patterns of relationships were found in regards to the participants' gender. These findings show the need to further refine theoretical models of executive coaching, based on the demographics of the sample, and to focus research on different sub-samples of the managerial population (such as women, women and men of color, younger managers etc). The problem in research on executive coaching is that it is already lacking well researched frameworks, derived out of real theory of adult development and change and empirical data. So, it sounds almost impossible to ask for further specialization. This study is part of further specializing the general theoretical framework offered by Intentional Change Theory (Boyatzis, 2006) for the field of leadership and executive coaching, as well as the theory of adult experiential learning (Kolb, 1984) that informs the field of professional development in general (this will be discussed in the following section of the conclusions chapter). Both these theories have been derived after twenty years of specialized research on adult change and self-direction (Boyatzis & Kolb, 1993; Boyatzis and Kolb, 1999; Kolb & Boyatzis, 1970; Kolb, Winter & Berlew, 1968). In conclusion, this study provides an empirically tested

theoretical framework that can be used for informing theory and educational approaches facilitating integrative leadership development.

I will now discuss which fields of organizational practice and theory may benefit from the proposed psychodynamic and constructivist theoretical framework of leadership development and why. This study focused on exploring the relationships in intra-personal variables that are seen by theory as key in bringing about a transformational shift in a person's (and a leader's) maturity. For this reason, *I argue that this work may be particularly meaningful for the development of leaders with agendas and mandate of transformational change in fields of practice that require complex-collaborative leadership impact* (for references, see Kegan, 1994). Self-integration, or integrative consciousness (Kolb, 1984) is a critical component of leadership in the post-modern social and economical world. Because of this, increasing significance should be given to the creation of leadership development and educational frameworks that facilitate the development of integrative leadership. The role of leaders and executives today is dramatically shifting. So is their social and corporate responsibility. I see the main changes that affect the role of leadership today, as mainly related to three important economical, technological and social changes in our (post-modern) society - namely (1) the globalization and economical interdependency and the unprecedented advances in information technology, (2) the urgency, criticality and complexity of the issues and problems that the (post-modern) world is facing, and the inter-dependence among economic, societal, environmental and political agendas, and (3) demographic changes in the composition and specialization of the global work-force that that increasingly give

way to a very diverse and multi-cultural work force. As a result of these changes, the role of leadership today not only becomes extremely complex and radically changing from its scope, but also it becomes much more important, as it carries the potential for causing unprecedented social and economic transformations in the shifting agendas.

To carry out effectively their critical and complex role in today's shifting agendas and values (Paine, 2003), transformational leaders need to possess not just better, or differentiated personality traits, but a higher degree of both cognitive and psycho-social maturity and integrity. These abilities will allow them, on the one hand, to be effective in finding sophisticated, integrative and long lasting solutions to the problems they are asked to solve. On the other hand, these "mature" leaders need to be able to coach and transform their followers' cognitive and emotional readiness for welcoming agendas of transformational and collaborative leadership. In today's world, there is increased complexity and a collective shift in established beliefs and cognitive boundaries that may get in the way of followers in different stakeholder groups to support.

Thus, I argue that this study's contributions to the literature of leadership development intends to be useful mainly in literature on *inter-organizational and inter-group collaboration* (Bradbury & Lichtenstein, 2000; Brown, 1991; Cooperrider & Pashmore, 1991; Gray, 1989; Reason et al., 2000) which proposes that a dialogue perspective in multi-party problems can be brought about through mutually beneficial solutions and partnerships between multiple stakeholders in business, or in business and society. This vision is applicable to a broad range of sustainability related aspects that

promote mutual benefiting solutions in several fields of practice, such as executive ethics and stakeholder relations, organizational democracy and pluralism, relations between profit organizations and non-profits, SMEs, global institutions, and societies, as well as aspects of inter-group dialogue that regard literature on conflict resolution. The current problems and issues related to the complexity and interdependence among work economies, as well as the complexity of related agendas, increasingly requires that stakeholders bridge what was traditionally seen as opposing and mutually exclusive agendas - and create new frameworks for mutually beneficial solutions. The stakeholders that have to move these solutions forward with the “other” group need to inspire and move their group’s cognitive and emotional readiness to imagine new frameworks of mutual benefit. This is important even if collective cognition is “stuck” in viewing competing or mutually exclusive agendas. Inter-organizational collaboration is seen in the literature as able to bring about organizational and inter-organizational learning (Argyris et al. 1978; Powel et al., 1996) in times of extreme and shifting complexity. The collaboration both opens and speeds up more and better access to resources - better than any of the “competing” parties are able to by drawing from their own group and their area of interest they are competing for (Sarfman et al. 1991).

This literature is interested in what is involved in a leader’s ability to generate and impact the creation of visions of social responsibility among different stakeholder groups. A popular belief that has impacted this literature is the view that complexity of self can guarantee the kind of desired behaviors on the part of the individuals participating as leaders, change agents and community participants in processes related to building

mutually beneficial and sustainable solutions in multi-party complex problems. This belief was partly based on some of earlier psychological theory that saw complexity and integration in the self as opposite ends in the continuum. And not as self-conditions that are positively related. In my opinion, this rules out a priori a lot of possibilities about new stages of human cognition in leading positive social and economical change. The findings from this study not only show that complexity and integration of self are not opposite poles, but it also indicates that an integrated leader can and should simultaneously be a complex one. Based on the results of this study, I posit that complexity although important is not sufficient. It cannot guarantee that complex and effective solutions will be guided *automatically* by an integrative, relational and dialectic perspective that will allow long lasting solutions. Firstly, by empirically showing a positive relationship between self-complexity and self-integration, this work contradicts popular assumptions in the post-modern literature on the self (for review, see Ashmore & Jussim, 1997) that have been influential in leadership development practice, in the direction of overemphasizing self-complexity and implying an antagonistic and mutually exclusive relationship with self-integration (for example, Gergen, 1991). It is shown by findings in this study that self-complexity and self-integration are positively related variables. This evidence informs on the assumption that self-complexity as the *most* effective or, the *highest* form of self-identity by the early and latest post-modern literature on the self (Goffman, 1959; Gergen, 1991; Sampson, 1992). This finding informs leadership development that self-multiplicity is an effective personal ability, but it may be a rather limited individual cognitive and emotional resource. The theory proposes, overall, many positive effects of self-complexity, related to coping with stress and

trauma, and adjustment (Campbell, 2003; Linville, 1985; 1987) and effective self-affective regulation. (Baumeister, 1986; Campbell et al. 1991; Linville, 1985; 1987; Lutz et al. 2003;). Yet, based on the findings of this study, such use of self-complexity is related to aspects of behavior that are also related to coping and adapting. This study shows that there is potentially an even more beneficial role of self-complexity: its use for the achievement of self-integration (since it is shown in this study that the two variables are positively related).

Although it enhances adaptation, self-complexity alone does not allow the kind of cognitive or psychosocial maturity required for inter-group and inter-individual learning and social impact and transformation - critical components of the leadership effectiveness today. Besides, self-complexity alone can lead the person to behavioral relativism and a good degree of intellectual confusion on how to combine one's multiple identities that may lead to feeling "in over one's head" (Kegan, 1994), and not being able to lead and role model authenticity and transformational impact (Avolio, 2005), and resonance (Boyatzis and McKee, 2005). On the contrary, increasing self-complexity, while focusing on self-integration allows the person to tap into more of his cognitive and psychosocial resources, while the person is still able to see the big picture and guide the generation of integrity based solutions for mutual benefit and long lasting impact. It allows both cognitively complex leadership and integrative socially responsible leadership. The self-integrated person is indeed a person who lives up to his/her ideal self. The person is able to form "an integrative perspective that can help shape cultural responses to emergent issues", having "an ability for driving forward the status quo and



being the creator that precedes his creations” (Kolb, 1984). Complex and integrated leaders can create a climate of conversation, using *language* that engages the participating stakeholders and followers in dialectical forms of knowing and having the quest of mutual and long lasting benefit as part of the basic building blocks and objectives of these conversations. This finding guarantees both complex and long lasting frameworks of action and authentic inter-relating. Human revolutions towards sustainability and mutual benefit need leaders with integrative consciousness to guide them!

To establish a clear link between self-integration as a direction for leadership development, further research is required to explore the degree to which self-integration (as operationally defined in this study) is a micro-level variable that is positively related to leadership effectiveness. So far management and leadership effectiveness research and theory has been linked to certain personality characteristics or competencies (Boyatzis & Sala, 2006; Boyatzis, 2001) or meta-characteristics such as ego-maturity. Self-integration is a trait that actually encompasses both. It constitutes a step beyond a list of individual characteristics. This work posits that self-integration may account for unexplained *variance* in study designs linking intra-personal variables with macro level variables resulting in transformative change, and sustainable solutions in complex and multi-party problems. Study designs that explore unexplained variance between intra-personal and macro-level variables of transformative change, may be designs exploring to what extent the two variables of self-integration proposed here can complement intra-personal measures used in the past, which are based on Costa and McRae’s (1985; 1993)

trait based conception of human growth. Future research can replicate past studies that explored trait based measures of individual abilities, and transformative impact of the person, by including the two variables of self-integration and exploring to what extent they improve our understanding of the relationship between intra-personal and outer-person variables.

### **3.2. Professional development**

The findings of this study can be used to inform research on the design of pedagogical frameworks that enhance integrative professional development within the classroom, and within the framework of formal and informal professional development and training at the workplace.

This study supports *literature on the content and direction of professional development showing that, around mid career, adults in professional roles strive to go beyond specialization*, being motivated to moving towards self-integration both as professionals and individuals (Kolb, 1988; Kolb & Wolfe, 1981; Wolfe & Kolb, 1980). Often applications on professional development are not guided by theory on what psycho-social development dynamics are present, and impact differently the reaction of adults to any professional development goals. Many professional development programs tend to not address the main issue of professional development in mid-career, which is moving beyond specialization. It is well known that most of the entry and middle management roles tend to focus on independent and specialized tasks, such as managerial problem solving, decision making, delegation and coordination of daily and monthly

performance- calling for specialized and narrower learning styles and more action as opposed to reflection (Kolb & Kolb, 2002). Moving the person forward in their professional careers needs to focus (via professional development programs, both formal and informal) on creating a mental and learning *shift*. Moving towards professional maturity requires an increase in a person's ability for dealing with the cognitive, human and moral aspects of their tasks that call for more integrative learning ability (Kolb & Wolfe, 1981; Wolfe and Kolb, 1980). To prepare executives in this direction, educational integrative frameworks should tap both self-complexity and integrative learning as processes that need to be combined and at the heart of the instructional design frameworks. This study showed empirical evidence that the increase of self complexity and integrative learning can enhance professional integrative development.

Literature on the effectiveness of *classroom based professional development* in graduate programs shows that when these programs use pedagogies that focus on the increase of self-awareness at the level of personality, and the subsequent intentional development of skills and abilities, they are more effective in producing career related outcomes for their students (Boyatzis et al. 2002; Ballou, Boyatzis and Kolb, 1999). And they are more effective in successfully enabling the person to develop psychosocial skills which will be critical for success in future professional roles (Boyatzis, Cowen and Kolb, 1995; Kolb & Kolb, 2002). This theoretical framework, as tested in this study, further contributes and adds to the work of Kolb and Boyatzis on pedagogical applications in the classroom from experiential learning and intentional change education, as a means for professional development (Boyatzis, Cowen and Kolb, 1995). this is accomplished by

offering a micro level theoretical exploration on some of the variables, i.e. the content of some of the pedagogies used, especially the use of coaching that is based on positive intentional change processes, and the use of the students own experience as a source of learning and development.

This theoretical framework supports theory on professional development in the workplace that happens via a *natural, or informal, and continuous professional development*, especially via relationships at the workplace. Literature has shown that in informal professional development rich learning occurs when work processes allow individuals to interact, and reflect in a way that allows the development of new patterns of knowing and behavior change (Avolio, 2005). This study, with its constructivist developmental lens, provides a framework that focuses on dynamic intra-personal processes that are seen to be linked to the development of new patterns of knowing and meaning making at the individual level. It can be utilized as a framework for coaching in every day peer relationships at work. As well as a framework for top-down professional development via relational practices, such as peer and top-down professional and personal coaching. Unfortunately, literature on professional development and executive coaching, up to today, lacks specialized scientific frameworks of human development and theoretical proposition that can be used for accelerating personal and professional development and growth that focuses on how to increase inner psychological resources causing a person's ability for renewal and coping. The dependent variable in this study, namely self-integration is such an inner resource. It allows the individual to increase their ability for meaning, renewal and self-direction, and self complexity and integrative

learning are found to be significant processes for facilitating self-integration. Also, the emphasis of this study on the focus on the increase of the person's self-complexity, or multiple selves can lead to the improvement of the quality of relationships at work, with both peers, bosses and subordinates. The more the person is allowed to open up and express his/her complexity of identity, the more the person will be authentic and not defensive in his/her behavior. And the more the person will be able to accept and interact constructively with dissimilar others, thereby embracing diversity at the workplace. With the above contributions, this work adds to and supports theoretical propositions focusing on enhancing informal professional development at work, via the creation of "high quality connections at work" (Dutton, 2003) and it directly falls within the literature proposing coaching frameworks for the development of resonance, and resonant relationships in organizations (Boyatzis & McKee, 2005).

All these specific contributions can be useful, especially for organizational literatures concerned with human resources frameworks and professional development pedagogies that can bring about *changes to the work systems, from intensive to sustainable*, in which human resources are regenerated and enabled to grow (Docherty et al., 2002). Current status quo in the practice of work system organizing is intensive and exploits, and emotionally drains, human beings. Based on tayloristic and neo-tayloristic principles and philosophies of organizing, or uniquely inspired by new business needs related to globalization and information technology, both these current forms of work systems ignore the fundamental psychological needs of the individual. They create fundamental imbalances between the deep and complex emotional and cognitive

relationships the individual has with his/her work. This leads to an erosion in values, spirit, dignity, as well as the erosion of the very identity of the individual (Maslach & Leiter, 1997). This results in new types of problems such as burnout and stress syndromes and the inability of the person to be able to maintain resonant relationships at work and outside work (Boyatzis & McKee, 2005). In addition, both individual and group learning is diminished. From being a source of personal development and growth, learning is experienced as a source of acute stress. The over-exploited and confused individual, rather than keeping a cognitive and affective openness to learning, he/she builds defenses around it (Argyris, 1991). In regards to this point, it can be argued that a focus of informal relational processes of professional development in organizations on increasing the adults ability for self-integration, via an increase in self-complexity and integrative learning can have beneficial effects on the ability of the person to deal with the complexity, stress, pace and unpredictability involved in today's working environments - and not block further continuous learning and professional growth.

### **3.3. Personal Development**

The findings of this study contribute to literature on personal development by offering a proposition and a path for personal adult development that is both generic and can be specifically applied to the gender, age and life stage of the person. The proposition aims at an increase of self-complexity and integrative learning and the achievement of self-integration. Distinct contributions for theory on human (adult) development were made by the study results on the literature of personal development,

based on the distinct and important patterns shown among the study variables based on age and gender, as explained in the results and discussion sections.

The confirmation of the hypotheses predicting a positive relationship between differentiation and integration of self (as manifested in the operational definitions of self-complexity and self-integration in this study) is an important empirical evidence for literature on personal development because it contests the “common sense” view that the more complex, the less integrated a person is. This has been an assumption in various other lines is self-psychology and organizational theory that indirectly impact assumptions and the understanding of personal development dynamics in personality in the post-industrial era. The findings imply that self-complexity is essential for development, but it is probably not adequate or sufficient by itself. To further contribute to theory on personal development additional research needs to be made to explore other essential variables for the achievement of self-integration.

### ***Implications for Practice***

Important implications for practice result from this study and in summary relate to *practice around integrating the individual and the organization* (Argyris, 1964). More specifically, implications for practice regard mainly the practice of executive coaching for senior and top management levels, and the creation of sustainable work systems which help employees to cope with stress and the insecurity linked to the post-modern workplace.

The offering by this study of a theoretical framework, measures and operational definitions for its constructs, and the study findings can *directly inform the practice of executive coaching and mentoring for executives*. In organizational practice it is often the case that promoting a person in middle and higher organizational levels requires from the person (1) seeing himself/herself as a specialist (or individual contributor) and start being able to perform general management function, requiring the person to transform to a generalist, (2) increasing the breadth and the depth of the problems he/she is able to find solutions for, as well as increase the ability of the person to play multiple roles in order to represent well and serve objectives of very different groups, such as subordinates, peers, senior management as well as clients and colleagues in the industry. Obviously these role related needs “push the person” to an increase in self-complexity in order to adapt and effectively deal with the various roles and expectations. Today, organizations have a lot of knowledge on the sort of training and development required for the person in this level to effectively deal with and respond to these demands.

In organizational practice, once the person has successfully passed the “middle/senior management test” he/she is offered top and executive management roles based on a successful past record of performance, as he/she is considered effective and an established organizational citizen, having passed the tests of both loyalties to the institution and tenure. Yet, it is at this level of advancement from mid to senior career that the person deals with the most radical transformation of both their identity and their meaning making ability. He/she needs to become an inspirational leader rather than an



effective manager. Often he/she needs to conceive and promote agendas and solutions to complex issues that involve multiple stakeholders, opposing needs, and to balance short term profit and a long term strategy. Furthermore, the person deals with issues in which integrity and moral decision making is at the same time more critical but also more difficult due to the complexity of the issues faced and the expectations for success placed on the executives after their mid career (Kolb & Wolfe, 1981; Wolfe & Kolb, 1980). These roles require a complete transformation in both the meaning making ability of the person and their ability for balancing between maintaining self-complexity and adaptability to the various groups they serve but even more so authenticity and freedom to be who they want to be as leaders based on their values. Also they need to be able to build character and moral strength, which is required to lead change rather than merely respond to the expectations of how they are expected to be in order to be popular.

An additional study implication to the practice of executive coaching regards how it can be applied to different generational cohorts. Age, a control, was found to have a significant positive relationship with the second variable of self-integration. Additionally, very important patterns in relationship complexity and integration, and integrative learning and integration were found between males and females in the sample. These findings show the need to specialize the applications of executive coaching methodologies based on the demographic characteristics of the coached individuals. The problem in organizations is that the practice of human resources is still very much lacking frameworks for executive coaching and methodologies for learning and development for executives in the higher and the highest organizational levels that are customized enough

to be applied differently in regards to different personality and demographic characteristics of the person. This study helps organizational practice for reducing this gap. An additional challenge has been that, for these jobs, one has to balance between the needs for a very customized and individualized solution entailing coaching each executive individually, and the needs for keeping training and leadership development cost in controlled. Although at this level leadership development is often “outsourced” to gurus in academia and in business, there is an increasing call for organizations to be able to become coaching organizations, in order to both support further growth of their senior executives, and allow themselves to create coaching and mentoring support for their subordinates (Boyatzis & McKee, 2005; Boyatzis, Smith & Blaize, 2006).

This study provides a detailed framework of how to specifically design and conduct coaching for senior and top executives in organizations. Firstly, it has shown specific patterns of relationship between the key constructs of complexity, learning and integration that are involved in all the major issues senior and top executives face. Secondly, it has shown a more detailed analysis of the general patterns based on the age group of the individuals. Besides the independence of the framework this study offers to be used on its own, this work is also part of a larger framework of coaching offered by intentional change theory (Boyatzis, 2006) that has been recognized and proven as best practice and should be used as more detailed part of this framework.

An important implication for practice from this work is informing organizational practices related to the creation of sustainable work systems via leading with compassion,

relational management and social intelligence (Boyatzis, Smith & Blaize, 2006; Goleman, 2008). This may be related to expectations of modern roles simply demanding too much complexity and variability of self-in the organizations. In all levels of work and seniority organizations today the work place is becoming more stressful. The pace of response is faster, the need to adapt and learn from the side of employees and respond to real-time changes in the products and the markets is shorter. These are direct effects of information technology and the global economy. With an emphasis on mechanization and information technology, the person is also experiencing an increasing insecurity and uncertainty about stability of future employment and income, as he/she becomes less important from a cost and profit perspective than other means of production such as information and technology (Docherty et al., 2002). The fundamental need of the person to be psychologically the creator and owner of his/her work and produce meaningful and personally significant work (Kolb, 1984) is also not covered, as success requires the increase in the person's generalist skills and adaptability that often organizational practice sees related to frequent role changes. Finally, the person is requested to be able to culturally connect to and work as a team with other teams that are geographically remotely placed. All of which causes additional stress for performing differently all the time, with known and unknown audiences, as part of what is described as post-industrial (Hage, 1995), or post-modern (Giddens, 1990; 1991; Gergen, 1991) views on the person.

The consequence of all the above is that the average worker faces existential angst, stress, loneliness and hopefulness in the workplace often during their working life. This study proposes that the direction of supporting the individual with these

unprecedented pressures and stress placed on him/her in the workplace is to develop the person's ability to cope by keeping their identity integrated and intact. Particularly useful in this area of practice, in showing what self-integration entails, may be found in the concepts of both views of self-integration and the proposed measures.

### ***Limitations and Future Research to address them***

When considering the findings of this study and their implication some limitations of this study also need to be considered.

One limitation that may be seen is the cross-sectional nature of the study as a weak design for implying relationships among variables that imply a developmental sequence. It is true that it would be ideal to study the research problem using a longitudinal design, as it is always with extreme caution that results of this study are discussed to infer developmental progression. Besides the fact that a longitudinal study could not be a feasible design for the purpose of a doctoral dissertation, it should be reminded that the majority of studies that have been done till today in the constructivist adult development literature are cross-sectional studies (Cook-Greuter, 1999). In addition, the most established measures of adult stage development in this literature (such as Loevinger's) have actually been designed primarily drawing from results of cross-sectional studies (for example, refer to the new scoring manual by Loevinger et al. (1998). Future research effort should focus on a longitudinal study adding to the findings of this study.

Another issue to address concerns the magnitude of the effects found in all relationships, as the significant effects were small. Yet, this is a very common phenomenon in psychological research on the self and personality. As discussed already, the small magnitude of the effects of the independent variables of the study show that although both self-complexity and integrative learning are significant predictors for the achievement of self-integration. The question on what are other antecedents of self-integration that can account for a larger effect still remains open. Thus, future research should continue to explore what are other determinants of self-integration.

Although this study found established measures for the conventional view of self-integration, as well as its independent variables in the literatures of experiential learning and self-concept structure research, there was no established measure capturing the post-conventional view of self-integration. The lack of a reliable pre-existing scale capturing the construct in its definition in constructivist ego development theory led to the legitimate decision of using a newly created set of questions. This, despite other advantages it may provide, can potentially be seen as a limitation of the study. Future research should focus on further exploring the reliability and internal consistency of the scale, as well as testing its relationship and construct validity relating it with other measures of integrative development, as well as other psychological measures.

It can be argued by some that there is a method similarity between the measure of

self-complexity and the first measure of self-integration (self-ideal congruence). Yet, the measures chosen are among those few existing and established in the psychological literature to capture these constructs. And they both succeed in capturing the constructs with a minimal and non intrusive psychological involvement of the subject.

Finally, a limitation of this study may be seen as the fact that no measure from the constructivist adult development literature, such as Loevinger's ego development scale (Loevinger et al., 1998) and Kegan's subject-object interview (Kegan, 1994; Lahey, 1986; Lahey et al., 1988) has been used in parallel with the other measures, to verify and validate that similar results are taken when using both sorts of measures. Although not using a measure from the ego development theory was a legitimate choice based on the sample size and procedures of this study related to online data collection, this issue can be also seen as a limitation, especially in regards to the main purpose of this study, which was to empirically test theory on the achievement of conventional and post-conventional view of self integration in the adult ego development theory. To address this limitation, future research should take care to establish relationships directly between the measures used and specialized measures of ego development.

## *Conclusion*

Theory on self-integration is a topic that has been not given adequate attention outside the constructivist adult development theory, due to its abstract definition and the lack of measures that are easy to use outside the constructivist adult development theory. This study contributes to closing this gap, by operationally testing core theoretical propositions of constructivist theory on self-integration, while it proposes measures that can be used for research on leadership development and potentially, for intra-individual variables that are related to the quality and effectiveness of leadership. These are also congruent with current advances in post-conventional adult constructivist ego development theory. In doing this, this study contributes to integrative scholarship, between constructivist adult development theory with the self-concept structure, experiential learning and intentional change theories. The study contributes to theories of adult development which are being used for organizational research, namely leadership and executive development, professional and personal development work. Its contribution for organizational practice is related to supporting practice aiming at integrating the individual and the organization, and the practices of leadership development and executive coaching.

## **APPENDICES**



*Appendix 1: Study Content and Measures*

## ONLINE STUDY ON ADULT SELF-CONCEPT

You are being asked to be part of research on adult development. **The study is being conducted by Kleio Akrivou, as part of her doctoral dissertation on the structure of adult self-concept. The dissertation is co-chaired by Drs. Richard Boyatzis and Dave Kolb, in the Department of Organizational Behavior at Case. Please read this form and ask any questions that you may have before agreeing to be in the research.**

### Background Information on the Study:

The purpose of this study is to research how adults organize their self-concept in multiple categories and the relationships among them. This is a valuable study in the field of adult development in organizational behavior. Should you choose to participate, the information you provide will be used to inform research that will result in the researcher's doctoral dissertation. You are being asked to participate in this online survey; your participation is entirely voluntary.

Participation: You are being asked to participate because you are an adult living in western societies, over 20 years old.

Confidentiality & Anonymity: The records of this study will be anonymous and kept strictly private and confidential. You are the only person, other than the researchers, who will have access to your information. Case Western Reserve University has an Institutional Review Board (IRB) that may review the research records to ensure that

your rights are adequately protected.

### Procedures

This is a **web-survey that contains TWO parts**. The first part of this online survey includes two subsections asking you to describe multiple traits and aspects of yourself. Please complete this section after reflection and try to give as many meaningful traits as you can. After this are completed, you will click the "Submit Survey" button which will direct you to a final very short survey on how you learn and process information and few demographic questions on another webpage. The total time required to participate is 30-40 minutes approximately, but depends on the pace of the participant.

### The benefits of participation and risks

**Going through this survey will be an interesting experience for you, so make sure you relax and enjoy the process!** The two psychological tests asking you to describe yourself in different ways can facilitate interesting self-reflection upon all the different “selves” you are at the same time and how you are across situations and roles in your current life, as well as who you would ideally be. In addition, the psychological tools related to the topics of the survey are tools used in the most current research on the self in psychology.

Secondly, upon completion of the survey **you will receive for FREE a report regarding your learning style, based on Experiential Learning Theory of Dr. D. Kolb.** Specifically, upon completion of the survey on the second webpage, you will be

provided with an option to receive an instant Learning Styles Inventory (LSI) profile, which is educational, developmental and retails at \$15.00, provided to you free of charge.

**Participation in this study contains no risks.** Because your participation is voluntary, you may choose to end this survey at any time. Should you choose not to participate, there will be no negative consequences. If you end the survey prematurely, you will not receive an LSI profile, because the full set of information required to generate the profile online will not have been submitted.

**If you wish to see the results and conclusions of this study, we will gladly share this information with you, once the study results have been aggregated and statistically processed!** Please send us a personal e-mail with your name and contact details once you have submitted the survey. The e mail address you need to contact is [Kxa79@cwru.edu](mailto:Kxa79@cwru.edu). You need to send us a personal e mail with your contact information because this survey is strictly confidential and anonymous, so there is no other way to know who you are and where to contact you.

#### Contact and Questions

The researchers conducting this study are **Drs. Richard, E. Boyatzis, David A. Kolb and Mrs. Kleio Akrivou**. You can have questions addressed by contacting Kleio Akrivou, or Drs. Boyatzis and Kolb, at [kxa79@case.edu](mailto:kxa79@case.edu)

If the researcher(s) cannot be reached, or if you would like to talk to someone other than

the researchers about: (1) questions regarding this study, (2) research participation rights, (3) research-related inquiries, or (4) other human subjects issues, please contact Case Western Reserve University's Institutional Review Board at (216) 368-6925 or write: Case Western Reserve University; Institutional Review Board; 10900 Euclid Ave.; Cleveland, OH 44106-7230.

Statement of Consent

I have read the above information and understand that agreeing to participate in this study involves completing survey items. I understand that findings from this study may be used as part of a dissertation paper and academic publications. I understand that my name will remain anonymous. I understand that if I have further questions or concerns, I may contact Kleio Akrivou, at [kxa79@case.edu](mailto:kxa79@case.edu).

I have read the above information and I wish to participate:

- CONSENT. Yes, I want to take the survey
- No, I do not wish to participate

(this may not be needed, as they directly get their HayGroup password)To maintain your anonymity, please create a participant identification code which will be any word followed by any number from 1-100. Participant identification codes must be between 6 to 20 characters in length. Examples include “bliss23” or “train49”.

**PLEASE WRITE THIS IDENTIFICATION CODE DOWN ON A PIECE OF PAPER, AS YOU WILL BE ASKED TO ENTER IT AGAIN LATER IN THIS PROCESS. ONCE YOU FILL IN THIS PAGE, YOU WILL NOT BE ABLE TO RETURN TO IT TO VIEW YOUR PARTICIPANT IDENTIFICATION CODE.**

Furthermore, this survey is designed to be completed entirely at one time. There will be no data-saving options, nor an option to return at a later time to complete unfinished surveys. Therefore, if you choose to participate, you are being asked to complete the entire survey in one sitting.

**IDCode.**

Please enter your identification code. **Participant Identification Code: -----**

In exchange for your participation, you will be provided with a Learning Style Profile, a customized report that provides insight in about your learning preferences/style free of charge.

To reiterate, the information you provide is and will always be anonymous. You will

never be identified by the information you provide.

As a participant in this survey process, you are free to stop filling out the survey at any point. You can do this by simply closing your webpage browser. There are no negative consequences for quitting early. However, in order for the data to be useful to the study, and to generate an instant customized Learning Style Profile, participants must complete the entire survey process in one sitting.

Thank you very much for contributing your time and reflection to this research study!



## **SURVEY Part ONE: WHO I AM...**

### **TRAITS SET 1: Describe your ACTUAL, IDEAL and OUGHT SELVES**

In this section we are interested in how you describe yourself, listing attributes of the type of person you think you actually, ideally and ought to be. For software designers: Ten blank cells are provided in each standpoint (total 10X3 fields)

Specifically, You will be asked to think and label in three separate groups:

- 10 attributes that best describe your “actual self” (your beliefs regarding the attributes you think you *actually* possess currently.)
- 10 attributes that best describe your “ideal self” (your beliefs regarding the attributes you would like *ideally* to possess; your ultimate goals for yourself.)
- 10 attributes that best describe your “ought self” (your beliefs regarding the attributes you *should* or *ought* to possess; your normative rules or prescriptions for yourself.)

**Please note that you can use the same or different traits for each list.**

•Attributes that describe **who I am ACTUALLY:**

Who I am actually 1 \_\_\_\_\_

Who I am actually 2 \_\_\_\_\_

Who I am actually 3 \_\_\_\_\_

Who I am actually 4 \_\_\_\_\_

Who I am actually 5 \_\_\_\_\_

Who I am actually 6 \_\_\_\_\_

Who I am actually 7 \_\_\_\_\_

Who I am actually 8 \_\_\_\_\_

Who I am actually 9 \_\_\_\_\_

Who I am actually 10 \_\_\_\_\_

For the software programmers:

1. do not allow moving to the next screen unless the participant having completed ALL the 10 blank spaces in each list
2. Each of the three selves appears as a new screen (not all 3 appear together in the same screen)

•Attributes that describe **who I would IDEALLY like to become:**

Who I would like to be 1 \_\_\_\_\_

Who I would like to be 2 \_\_\_\_\_

Who I would like to be 3 \_\_\_\_\_

Who I would like to be 4 \_\_\_\_\_

Who I would like to be 5 \_\_\_\_\_

Who I would like to be 6 \_\_\_\_\_

Who I would like to be 7 \_\_\_\_\_

Who I would like to be 8 \_\_\_\_\_

Who I would like to be 9 \_\_\_\_\_

Who I would like to be 10 \_\_\_\_\_

•Attributes that describe **who I should, or ought to be:**

Who I ought to be 1 \_\_\_\_\_

Who I ought to be 2 \_\_\_\_\_

Who I ought to be 3 \_\_\_\_\_

Who I ought to be 4 \_\_\_\_\_

Who I ought to be 5 \_\_\_\_\_

Who I ought to be 6 \_\_\_\_\_

Who I ought to be 7 \_\_\_\_\_

Who I ought to be 8 \_\_\_\_\_

Who I ought to be 9 \_\_\_\_\_

Who I ought to be 10 \_\_\_\_\_

**TRAITS SET 2: Describe the various aspects of yourself**

Now, in the screen will appear a list of 33 traits. Your task is to describe distinct “selves” or aspects of you or your life.

For each of the “selves” or aspects of you and/or your life, form groups of traits from this list that go together. You may sort the traits into distinct groups on any meaningful basis –but remember to think about yourself while doing this.

Example: A person may create the following three self-aspects:

- Self-Aspect 1: “THE GENEROUS ME”, including the following traits from the list of 33 traits provided: “mature”, “insecure”, “emotional” and” soft-hearted”
- Self-aspect 2 is “THE CREATIVE SELF” and that the traits that fit this self-aspect are “humorous”, “imaginative”, “creative”, “playful”, “logical”, “unconventional”.
- Self-aspect 3 is “ME IN VACATIONS”, including the following traits from the list of 33 traits provided: “humorous”, “imaginative”, “playful” “emotional”, “unconventional” and “soft hearted”

Graphic Image of various self aspects in the form of a flower was appearing here in the online version-----

- **Form as many or as few groups as you desire. Continue forming groups until you feel that you have formed the important ones. I**

realize that this task could be endless, but we want only what you feel is meaningful to you. When you feel that you are straining to form more groups, it is probably a good time to stop.

- **Each group may contain as few or as many traits as you wish. You do not have to use every trait from the 33 traits in the list**, only those that you feel are descriptive of you. Also, each trait may be used in more than one group; so you may keep reusing traits as many times as you like. For example, you may feel that you want to use the trait *relaxed* in several groups.
- The order in which you record your groups is not important, nor is the order of the traits within each group. We are only interested in which traits you put together.
- Try to give a label for each group. Yet, it is not necessary to label ALL the groups.

As you are doing the task, I'd like to keep a few things in mind. Remember that you are describing yourself in this task, not people in general. You do NOT have to use all the traits, and you may reuse a trait in several groups.

**SELF-ASPECT 1**

**LABEL:** \_\_\_\_\_

PLEASE TICK FROM THIS LIST OF TRAITS<sup>4</sup>, AS MANY TRAITS YOU WISH FROM THIS LIST TO ACCURATELY DESCRIBE THIS ASPECT OF YOURSELF

1.

2.

3.

4.

5.

6.

7.

8.

9.

10.

11.

12.

13.

14.

15.

---

<sup>4</sup> For a complete list of traits for the self-complexity task, kindly contact Dr. Linville, and refer to Linville, 1985; Linville, 1987.

16.

17.

18.

19.

20.

21.

22.

23.

24.

25.

26.

27.

28.

29.

30.

31.

32.

33.

**I have grouped the traits for my Self-aspect X. I want to create another self-aspect!**

**I have no more salient self-aspects to distinguish. End this section**



**SELF-ASPECT 2**

LABEL: \_\_\_\_\_

PLEASE TICK (circle, in paper pencil version) AS MANY TRAITS YOU WISH FROM THIS LIST TO ACCURATELY DESCRIBE THIS ASPECT OF YOURSELF

.....

The list of traits is repeated, until the participant chooses to end this section of the survey, by clicking on the second from the following two options, indicating that he/she has no more salient self-aspects to distinguish.

**I have grouped the traits for my Self-aspect X.  
I want to create another self-aspect!**

**I have no more salient self-aspects to distinguish. End this section**

**Please answer the following brief questionnaire**

Each item is evaluated on a scale from 1-5, reflecting:  
To what extent do I agree or disagree with the statement?

1 Strongly Disagree    2 Rather Disagree    3 Neutral    4 Rather Agree    5  
Strongly Agree

1. My life's work is a deep expression of my principles, values and identity.

2. In all my roles and relationships I am able to be authentic and express "my true inner self"

3. My daily life lacks a sense of deep purpose and meaning (**REVERSED**)

4. When it comes to life satisfaction the journey is as important as the destination.

5. I feel like I am the creator of my own life story

6. My life's situation requires me to conform to convention, rather than express my basic convictions (**REVERSED**)

7. I am committed to making the world a better place.

8. When I am in conflict with someone else I feel it is important to assertively state my own position (**REVERSED**)

9. When I am in conflict with someone else I recognize that there are “two sides of the coin”.

10. When I am in conflict with someone else I can still laugh at my need to be always right.

Thank you, you have completed the first part of this survey. **To finish and submit the survey, all there is left to complete is a 12 item short survey!** This is necessary in order for you to get your free online report on your learning style and for us to have meaningful results. Please proceed and have your Participant ID Code available.

You are about to be provided with a website where you will conduct the final survey in this process. At the login page, you will need to do the following:

1. Enter your ID Code in the username section – This will be the same user ID Code which you were asked to write down on a piece of paper in the beginning of this process.(note: The ITG group will do this appearing automatically).
2. Enter a password - this is a personal password of your choice but it must be 6 characters only (no more, no less!)
3. Enter the organizational password: 011205 (*write this number down on your piece of paper now so that you can enter it momentarily*).

Upon logging in, complete the survey; and follow the instructions to access your customized learning style report. Once this is completed, you are finished and there is nothing that will be required to submit the data. Thank you in advance for your participation!

**IMPORTANT INFORMATION:** PLEASE CLICK “SUBMIT SURVEY” TO SUBMIT THE FIRST PART OF THIS SURVEY. **By clicking “Submit Survey” below, you will both submit this portion of the survey to our database and proceed to the**

**next website.**

If for some reason you were not taken to the new website, simple copy and paste the following link into you browser:

**[HTTP://www.hayresourcesdirect.haygroup.com/lsi/default-new.asp?oz=453](http://www.hayresourcesdirect.haygroup.com/lsi/default-new.asp?oz=453)**

## **SURVEY Part TWO: HOW I LEARN ...**

This section had the Learning Style Inventory and the Adaptive Style Inventory self-report questionnaires. These two instruments are both copyrighted material and they are available from the Hay Group website.

*Appendix 2: Cover Letter*

**Invitation to participate in this study:**

<http://webutil.case.edu/surveyor/wsb.dll/3/conceptHay.htm>

*FOR Company X managers who participate in Leadership Programs  
Or, for managers in company X, given access to by an organizational representative*



*Invitation for participation in an online leadership research study at CASE – Participation is entirely voluntary.*

**Dear** company X participants in the XX Leadership Program at Dively /  
Dear Company X (manager's name)

We would like to explore your interest in participating in a research effort at Case. This request for **Participating in an online study is entirely separate from the training you are receiving at Dively, and your participation is entirely voluntary, but we would very much value your supporting this.** Kindly read the information below, and if you wish to be contacted by the researchers, please provide your e-mail and other contact information to the Dively team who will ask you to sign up for being contacted.

Content of the Study and Researcher(s): This study **explores leadership self awareness - emotional intelligence and learning. It specifically involves the way describe who you are (adult self concept) and your different “selves”.** It is being conducted for the partial fulfillment of the requirements of my PhD in Organizational Behavior of Mrs Kleio Akrivou who is one of the coaches for the XX Leadership Program at Dively Executive Education Center. This research is being supervised by Drs. Richard Boyatzis and David Kolb, who are Faculty at CASE. We would greatly appreciate your participation in this study, which will allow us to draw theoretical and practical conclusions regarding how to improve leadership capacity in organizations.

What it is about and your commitment: This is an **ONLINE questionnaire which will require 30 - 40 minutes of your time for its completion.** By signing up in the sign-up sheet you will get contacted by the researchers during JULY with this link on the web <http://webutil.case.edu/surveyor/wsb.dll/3/conceptHay.htm> - this will allow you to directly click and be connected to the survey research and demographic questions.

Benefits of participation: Participating in this study will be a very interesting experience for you personally. You will have an opportunity to reflect upon the different aspects of yourself across various leadership situations and roles in your current life! Secondly, **upon completion of the survey you will receive a report regarding your preferred learning style, at no cost.** This which is a broadly used and well respected educational and developmental tool, based on Experiential Learning Theory (Kolb, 1984). Upon completion of the survey, an individualized **Learning Styles Inventory (LSI) individual report will be generated and e-mailed to each person automatically** by the HayGroup. We

would like to thank you in advance for your participation. If you wish to see the results and conclusions of this study, please send an e-mail with your name and contact details after you have completed the survey. You will be provided with an ID number upon completion of the survey. The e-mail address you will need to contact is [Kxa79@cwru.edu](mailto:Kxa79@cwru.edu).

Anonymity / Confidentiality: This study has passed through the **approval of CASE Institutional Review Board for confidentiality and protection of human subjects** - Your responses to the survey will be anonymous and confidential. Company X is not involved -directly or indirectly- in this study. Under no circumstances will your individual responses ever be made known to anyone. Besides, **The survey contains general demographic information question, and no information that will make it possible to identify you as an individual as well as a company X manager will be collected**; your responses will be added to responses from leaders from another three large corporations in the USA. Thus, your decision regarding participation in this study will have no impact on your employment status and career path.

Thank you for your time and support,

Kleio Akrivou, PhD Candidate and  
The Thesis Chairs of the Researcher:  
Dr. R.E.Boyatzis, Professor  
Dr. D. A. Kolb, Professor  
Dept. of Organizational Behavior at CASE

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