ABSTRACT

Title of proposed thesis:	THIS NEW WHOLE: AN EXPLORATION INTO THE FACTORS OF SELF-AUTHORSHIP IN COLLEGE STUDENTS
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Over the past few years, self-authorship has become one of the most promising concepts and theories to emerge in college student development literature (Baxter Magolda, 2001b; Kegan, 1994). Despite an increasing amount of scholarship on this topic, the understanding of self-authorship remains incomplete, especially with regard to a clear comprehension of its structure, dimensions, and components.

Using an exploratory factor analysis with oblique rotation to study the responses of over 3,500 college students at 52 institutions of higher education on 89 variables associated with self-authorship, this investigation identified eight, highly intercorrelated factors or lines of development associated with self-authorship: (1) Interdependence; (2) Engaging Diverse Views; (3) Dissonance and Change; (4) Cognitive Complexity; (5)

Engaged Responsibility; (6) Personal and Communal Efficacy; (7) Congruence; and (8) Openness to New Ideas and Experiences. Implications of these results are outlined for current self-authorship theory, higher education policy and practice, and future research.

THIS NEW WHOLE:

AN EXPLORATION INTO THE FACTORS OF

SELF-AUTHORSHIP IN COLLEGE STUDENTS

by

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Thesis submitted to the Faculty of the Graduate School of the
University of Maryland, College Park in partial fulfillment
of the requirements for the degree of
Master of Arts
2007

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Chapter I: Introduction

Background

In 1998, when Evans, Forney, and Guido-DeBrito published their text

amalgamating various college student development theories, the authors deliberately

chose to omit Kegan's (1982, 1994) theory of the evolving self. Kegan's theory

suggested that the primary developmental task in adulthood was the achievement of *self-*

authorship: "an identity … that can coordinate, integrate, act upon, or invent values,

beliefs, convictions, generalizations, ideals, abstractions, interpersonal loyalties, and

intrapersonal states. It is no longer *authored by* them, it *authors them* and thereby

achieves a personal authority" (1994, p. 185; emphasis in original). Evans, Forney and

Guido-DeBrito explained in their introduction that, although Kegan's work had been

"referenced over the years in the student affairs literature," his ideas had "generated only

limited research and application" and thus did not merit inclusion in their text (p. xii).

Also in 1998, Baxter Magolda published the first results of her longitudinal study

of self-authorship – almost as if she were specifically answering Evans, Forney and

Guido-DeBrito's (1998) call to investigate, operationalize, and apply Kegan's

developmental model. In this first article, "Developing Self-Authorship in Young Adult

Life," Baxter Magolda noted that her study of self-authorship originated in her earlier

study of cognitive development in male and female college students (Baxter Magolda,

1992). When that study continued beyond the participants' college years, however,

Baxter Magolda (1998) noted that the participants began to make meaning in complex

manners and that "Kegan's concept of self-authorship captured much of what the

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participants experienced in the years following their graduation" (pp. 145-146). What had begun as a study of cognition was now a detailed investigation of self-authorship.

Baxter Magolda (1999b) defined *self-authorship* as: "simultaneously an ability to construct knowledge in a contextual world, an ability to construct an internal identity separate from external influences, and an ability to engage in relationships without losing one's internal identity" (p. 12). Over the next few years, Baxter Magolda continued to investigate "this complicated phenomenon" (p. 12). Eventually, in 2001, Baxter Magolda published a comprehensive, book-length treatment on self-authorship called, *Making Their Own Way: Narratives for Transforming Higher Education to Promote Self-Development*. Based on 300 interviews with 39 individuals during the ten years following their college graduations, this work provided a comprehensive, empirical validation of Kegan's theory and his concept of self-authorship. *Making Their Own Way* was a phenomena, receiving rave reviews (Johnson, 2001; Orenstein, 2001), winning Book of the Year honors from the Narrative and Research Special Interest Group of the American Educational Research Association (AERA; Stylus Publishing, n.d.), and contributing to Baxter Magolda's receipt of the 2003 Contribution to Knowledge Award from the Association of College Personnel Administrators (ACPA, 2003).

Since 1998 (and particularly since the publication of *Making Their Own Way* in 2001), self-authorship has emerged as one of the most promising topics in college student development, as evidenced by the proliferation of literature on this topic. Scholarship has emerged, for example, focusing on the development of self-authorship in particular student populations (Abes, 2003 [lesbian students]; Pizzolato, 2003, 2004 ["high risk" students]; Torres & Baxter Magolda, 2005 [Latina students]) and its manifestations at

different types of institution (Hornak & Ortiz, 2004 [community colleges]; Lewis et al., 2005 [military academy]). Self-authorship has also been used as a theoretical construct to evaluate or study various aspects of college student affairs (Creamer & Laughlin, 2005 [career planning]; Jones & Abes, 2004 [service-learning]; King & Baxter Magolda, 2005 [diversity programming]; Piper & Buckley, 2004 [residence life]).

Statement of Problem

Despite this proliferation of literature regarding self-authorship, the current understanding of this concept has remained incomplete. This was particularly highlighted in a recent article by Baxter Magolda (2004a) herself, in which she traced the entire 18-year history of her research on *personal epistemology*, which is the term she used to encompass both her initial study of cognitive development and her later study of self-authorship. After chronicling the history of her research, Baxter Magolda admitted at the end of her article that additional research was needed to gain a fuller understanding of self-authorship. Particularly because of the complex nature of self-authorship and because educators must become better equipped to facilitate the development of self-authorship, Baxter Magolda suggested that future research address "*the nature of personal epistemology, its components and their interconnections*" (pp. 41-42; emphasis added). In other words, Baxter Magolda noted the need to better understand the underlying structure and dimensions of self-authorship. She further suggested that such studies occur "across paradigms and approaches" (p. 42) and include a diverse array of students and campus settings.

Very recently, additional scholars have joined in this call for a better, more comprehensive, more integrated understanding of self-authorship. For example, Meszaros

(2007a) highlighted the need for further information about how college students develop self-authorship because "faculty and administrators need a broader, more holistic framework for understanding and fostering student intellectual growth" (p. 13). King (2007) stated that the prospect of determining a keen understanding and measurement of self-authorship has remained "that most interesting and pressing dilemma" (p. 12). And Pizzolato (2007), in reviewing efforts to measure and assess self-authorship, concluded that "literature on self-authorship has focused more on describing development than deconstructing the orientation in measurable chunks" (p. 33).

Purpose of Study

This study, therefore, proposed to answer the Baxter Magolda's (2004a) call to investigate self-authorship's components and their interconnections and to respond to Pizzolato's (2007) call to deconstruct this concept into measurable chunks. Thus, the purpose of this study was to explore the factor structure of self-authorship in a diverse array of college students and, by doing so, to identify the dimensions of self-authorship (or at least the dimensions along which self-authorship develops in college students) and to clarify the interconnections between these components. To achieve this goal, this study consisted of an exploratory factor analysis of survey responses collected from over 3,500 college students who were all at least 22 years of age and who attended one of 52 separate institutions of higher education across the United States. Both the individual participants and the institutions represented a full spectrum of diversity in terms of student demographics (e.g., race, class, sexuality) and institutional type (e.g., size, location, population served).

This study defined *self-authorship* as the development and exercise of an individual's internal, conscious, and consistent ability to identify, evaluate, and (re)construct one's own identity and sense of self, one's own knowledge and values, and one's own interactions with others and the external world (Baxter Magolda, 1998, 2001b, 2004d; Kegan, 1982, 1994; Pizzolato, 2003, 2004, 2005a, 2005b). Because of the various capabilities and dimensions inherent in this definition of self-authorship (and, as seen in Chapter 2, in the broader literature concerning self-authorship), a vast array of 89 variables associated with different elements of self-authorship were included in this analysis.

Significance of this Study

In addition to answering the recent calls to investigate the components of self-authorship in a more focused and detailed manner, this study was believed to be significant for two other broad reasons. First, it attempted to address several weaknesses and deficiencies in the current literature regarding self-authorship, and, second, it responded to several policy considerations that compel further investigation into self-authorship.

Addressing Limitations in the Existing Literature on Self-Authorship

This study into the factors structure of self-authorship sought to address three key shortcomings or limitations in the current scholarly literature on this topic, including: (1) the lack of agreement as to the constituent elements of self-authorship; (2) the lack of large, diverse samples in previous studies of self-authorship; and (3) the dearth of quantitative research to flesh out existing qualitative studies of self-authorship.

First, although the current literature has largely accepted the notion that self-authorship contains three broad dimensions – the cognitive, intrapersonal, and interpersonal domains (Baxter Magolda, 2001b, 2004d; Kegan, 1994) – a closer review of the literature revealed that self-authorship encompasses a number of additional components, themes, and elements, some of which are encompassed within the three broad dimensions, but some of which appear separate and distinct. (A full discussion of self-authorship's dimensions and components is found in the second part of Chapter 2.) For example, one study identified components such as autonomy, volition, problem-solving, and self-regulation (Pizzolato, 2005b), whereas another suggested that coping, leadership, self-efficacy, and knowledge creation were the main components of self-authorship (Ferencevych, 2004). Furthermore, the foundational literature upon which the concept of self-authorship was built suggested various other themes, such as the centrality of values (Kohlberg, 1975, 1981), the establishment of mutuality (Jordan, 1991, 1997), and the ability to catalyze dissonance (Piaget, 1950; Wadsworth, 1989). Further compounding these issues was the belief that all of these dimensions (however defined) eventually became intertwined and fused in when one achieved a self-authored orientation, thus further complicating the understanding of self-authorship's structure. Thus, this study analyzed variables associated with the many different dimensions and components of self-authorship in an effort to produce (hopefully) a single, coherent, and parsimonious model.

A second deficiency in the existing literature on self-authorship that this study sought to address was the lack of research based on large, diverse samples of students. Baxter Magolda's (2001b) research, the most extensive investigation of self-authorship to

date, is based on a sample of 39 White, upper-middle-class graduates of Miami University, a selective institution in Ohio. She herself consistently noted the limitations inherent with such a sample (e.g., 1998, 2001b, 2004d). Similarly, much of Pizzolato's research (2003, 2004, 2006) focused on a group of 35 Michigan State students who, rather than being upper-middle-class White students, consisted solely of students who were identified as "high risk" due to their racial or socio-economic classification. The vast majority of other studies involving self-authorship – which are almost all qualitative in nature - have also used similarly small (or even smaller) samples of students, such as Abes' (2003, Abes & Jones, 2004) study of 10 lesbian women, Creamer and Laughlin's (2005) study of 40 college women making career decisions, Jones and Abes' (2004) study of eight students involved in a service-learning project, Lewis et al.'s (2005) study of between 30 and 50 students at West Point Military Academy, and Torres and Baxter Magolda's (2005) study of 28 Latino/a students. And, of the 13 studies collected and identified by Kegan (1994), 12 had between 11 and 44 participants (the average size was 23.5), and the remaining study (the largest) had only 60 participants.

Thus, as is fully outlined in Chapter 3, the current study proposed to address this concern by using a sample of over 3,500 college students attending 52 different institutions. The sample's demographics revealed extensive racial, sexual, and socio-economic diversity, and the selected universities represent a full spectrum of institutional types and geographic locations.

Finally, this study hoped to address the almost complete absence of research on self-authorship using quantitative methodologies. Indeed, the first quantitative study on self-authorship to appear in a peer-reviewed journal was published at the very end of last

year (Wawrzynski & Pizzolato, 2006), but the individual who developed this instrument has also recommended that it be used in conjunction with a qualitative assessment technique to produce better results (Pizzolato, 2007). Virtually all of the remaining literature involved either conceptual or qualitative inquiries into self-authorship. The result: "The literature on self-authorship is in its early stages. Much about the conception of self-authorship, its developmental process, and its correlates remains unknown" (Pizzolato, 2005b, p. 147). Thus, this study proposes to add to the existing literature and particularly to understand the nature and dimensions of self-authorship from a quantitative, deductive process.

Policies Compelling Further Study into Self-Authorship

In addition to addressing various weaknesses and deficiencies in the literature regarding self-authorship, three important policy reasons strongly warranted the further study of self-authorship. These included: (1) self-authorship appears to undergird many of the key learning outcomes and missions of institutions of higher education; (2) by better understanding the components of and factors affecting self-authorship, educators may become better equipped to assist students' holistic development; and (3) a comprehensive understanding of self-authorship may help realize the emancipatory potential of self-authorship. These justifications will now each be discussed in more detail.

First, it has been increasingly recognized that self-authorship underlies many of the key learning outcomes for college students and has become "reflected in many universities' mission statements and a goal for many divisions of student affairs" (Love & Guthrie, 1999, p. 73). Self-authorship, therefore, has been identified as a central goal

of higher education for the 21st century (Baxter Magolda, 2004d, 2007). Even beyond the college setting, the various aspects of modern life – including parenting, partnering, working, citizenship, and adult learning – also appear to require a hidden curriculum that requires self-authorship to achieve success (Kegan, 1994). Thus, it is important to understand self-authorship as best as possible given its central, foundational role in achieving success in higher education and in modern life.

Second, understanding the dimensions of self-authorship would better assist educators in promoting and facilitating overall student development (Baxter Magolda, 1999b, 2001b, 2004d). Higher education has been called upon to integrate their learning and developmental missions, with self-authorship being identified as the "bootstrap" that guides the "overall growth trajectory" (Wildman, 2007, p. 20). To meet this responsibility, Pizzolato (2005b) suggested that additional research is needed, particularly in understanding the paths along which self-authorship develops and identifying specific interventions that facilitate such development. By identifying the dimensions of self-authorship, this study will help illuminate the paths and interventions that educators can focus on as they help foster student development.

Finally, a more complex and thorough understanding of the nature and dimensions of self-authorship was seen as necessary because education has an obligation to assist in the liberation and emancipation of students and the transformation of social power structures (Freire, 2000; Giroux, 1983; hooks, 1994; Rhoads & Black, 1995). Although student affairs literature has not yet connected self-authorship with liberation, scholars in various other academic disciplines have made this connection (Carr & Zanetti, 2001; Cooke, 2000; Flanagan, 1991; Maan, 2005; Saxet, 2005; Tomlin, 1999). Indeed,

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"powers of agentic transformation and self-authorship" – such as when women express their true personal identities rather than in ways that reflect socialization within a sexist society – have been said to represent "our most fundamental human power and our main ethical project" (Flanagan, p. 199). Similarly, self-authorship has been equated with "political autonomy" (Cooke) and called a "post-colonial practice" that involves "extricating oneself from inherited constraints and authorizing oneself in the margins between cultures." (Maan, pp. 224, 217).

Despite the linking of self-authorship and emancipation in other academic disciplines, student affairs scholars have yet to make such explicit connections. The closest student affairs scholars have come was to recognize that self-authorship appears related to social identities such as race, class, and sexual identity (Abes, 2003; Abes & Jones, 2004; Kegan, 1982, 1994; Pizzolato, 2003, 2004; Torres & Baxter Magolda, 2005). Identifying the dimensions and structure of self-authorship, however, may provide the knowledge needed to realize the emancipatory potential of self-authorship.

Conclusion

Perhaps the best example of self-authorship and its potential can be found in the biography of Sojourner Truth, who gave herself a new name after being released from slavery:

> How did Isabella Baumfree, an illiterate, newly emancipated, poor Black woman, dare to name herself [Sojourner Truth]? Stepping outside the conventions of 1832, Truth created her own identity and invoked naming as a symbolic act imbued with meaning. Refusing to be silenced, Truth claimed the authority of her own

experience to challenge the racism, sexism, and class privilege of her time.

(Collins, 1998, p. 229)

Truth represents a paragon of self-authorship. By naming herself, Truth crafted her identity, articulated her core beliefs, and oriented herself in the world. Simultaneously, by these same acts, Truth emancipated herself from her slave name, liberated herself from the mores of her time, and helped transform the social order. The hope is that this study can help higher education facilitate and assist students as they similarly claim the authority of their own experiences and thus achieve self-authorship.

As this chapter has briefly discussed, although self-authorship has become one of the most promising and important theories to emerge within the student affairs literature, many key areas remain unexplored. The next chapter contains a comprehensive, in-depth discussion of the existing literature on self-authorship, placing particular emphasis on two aspects of that literature: a description of the developmental process of self-authorship and the elements, themes, and components associated with self-authorship.

Chapter II: Review of the Literature

This chapter reviews the literature regarding the nature, structure, and components of self-authorship in two main parts. The first part provides a general overview of the developmental process of achieving self-authorship. This section initially discusses the conceptual model of self-authorship articulated by Kegan (1982, 1994), then outlines the four stages in the development of self-authorship identified by Baxter Magolda (2001b), and finally summarizes additional key findings from research focusing on self-authorship in college students. The second part of this chapter then explores the various components of self-authorship. After initially discussing the three broad dimensions of self-authorship suggested by Kegan and Baxter Magolda, this chapter concludes by describing 15 elements and themes associated with self-authorship that emerge from a careful review of the literature.

The Development of Self-Authorship

This first section of the chapter explores the process through which one develops self-authorship. As indicated in Chapter 1, this study defined *self-authorship* as the development and exercise of an individual's internal and conscious ability to identify, evaluate, and (re)construct one's own identity and sense of self, one's own knowledge and beliefs, and one's own interactions with others and the external world (Baxter Magolda, 1998, 2001b, 2004d; Kegan, 1982, 1994; Pizzolato, 2003, 2004, 2005b). As a result, the individual "becomes identified through these self-authored conceptualizations, giving the self an enduring identity that remains fairly stable across contexts and interpersonal relationships" (Ignelzi, 2000, p. 8). The origins of the concept of self-

authorship were found in Kegan's constructive-developmental theory of holistic development.

Kegan's Constructive-Developmental Theory of Holistic Development

Kegan (1982, 1994) identified self-authorship as but one stage in his constructive-developmental theory of human development. Overall, Kegan believed that individuals evolve through a series of five stages. These stages, which he called *orders of consciousness*, involve increasingly complex capacities to make meaning of an individual's personal, intellectual, and external experiences. Thus, Kegan's theory was *constructive* in its suggestion that individuals actively construct meaning of their experiences, and it was *developmental* in its suggestion that individuals evolve increasingly complex meaning-making schemas as they matured. (For a broader overview of Kegan's theory and his key concepts, see the articles by Love and Guthrie [1999] and Ignelzi [2000], as well as interviews Kegan had with Scharmer [2001] and Debold [2002].)

A fundamental principle underlying Kegan's theory was the notion of the *subject-object* distinction. In an interview, Kegan described these concepts in this way:

> What I mean by "object" are those aspects of our experience that are apparent to us and can be looked at, related to, reflected upon, engaged, controlled, and connected to something else. We can be *objective* about these things, in that we don't see them as "me." But other aspects of our experience we are so identified with, embedded in, fused with, that we just experience them as ourselves. This is what we experience *subjectively* – the subject half of the subject-object

relationship. (Debold, 2002, "The Subject-Object Relationship"; emphasis in

original)

According to Kegan, development occurred as individuals achieved the capability to

recognize different aspects of themselves and their surroundings as *objects* (rather than

their being *subjects*) and thus came to exercise conscious control over those elements.

These core principles allow a better understanding of how individuals achieve

self-authorship, which in Kegan's (1982, 1994) theory involved the move from the third

to the fourth order of consciousness. (Table 2-1 summarizes the key points associated

with this development.) The third order of consciousness was the level of interpersonal

relationships, where individuals situated themselves and organized their world according

to their social roles and relationships. As a result, an individual's meaning-making ability

was dictated by the standards and mores of their larger communities. Individuals

operating at the third order of consciousness identified themselves, assigned values, and

interacted with the world according to their relationship with others; they adopted an

identity, values, and mode of relating to other using *externally defined* expectations. This

was, in Kegan's (1994) words, "the triumph and the limit of the third order" (p. 126).

Although third-order thinking allowed individuals to enter into communities and form

societies, these individuals were, as of yet, unable to recognize that they could also stand

apart from these standards and judge, critique, or otherwise reflect on these topics for

themselves (Love & Guthrie, 1999).

Table 2-1: Characteristics of Kegan's Third and Fourth Orders of Consciousness			
Order	**Subjects** *Cognitive, Interpersonal, Intrapersonal*	**Objects** *Cognitive, Interpersonal, Intrapersonal*	**Underlying Structure**

Third	Abstractions
	   Ideality
	   Inference, Generalization,
	   Hypothesis, Proposition,
	   Ideals, Values
	Mutuality / Interpersonalism
	   Role Consciousness,
	   Mutual Reciprocity
	Inner States
	   Subjectivity, Self-
	   Consciousness
		Concrete
		
		Point of View
		
		Enduring
		Dispositions, Needs,
		Preferences
			Cross-Categorical
			Trans-Categorical

Fourth	Abstract Systems
	   Ideology
	   Formulation,
	   Authorization,
	   Relations between
	   Abstractions
	Institution
	   Relationship-Regulating
	   Forms, Multiple-Role
	   Consciousness
	Self-Authorship
	   Self-Regulation, Self-
	   Formation, Identity,
	   Autonomy, Individuation
		Abstractions
		
		Mutuality
		
		Inner States,
		Subjectivity,
		Self-Consciousness
			System/Complex

Source: Kegan, 1992, p. 94-95			

At the fourth order of consciousness – the stage that represents self-authorship – a major shift occurred in individuals' subject-object orientation. External social values, categories, and definitions, which at the third order were subjects and thus provided individuals' orientation to the world, now became objects. According to Kegan (1994), this transition from third to fourth order thinking was the major breakthrough in the

transition to adulthood, a move that he equated with a "fish crawling out of water for the first time and actually seeing that there is such a thing as water" (Scharmer, 2001, p. 13). As a result of this fundamental shift, individuals achieved a whole new identity, which Kegan called *self-authorship*:

> This new whole is an ideology, an internal identity, a *self-authorship* that can coordinate, integrate, act upon, or invent values, beliefs, convictions, generalizations, ideals, abstractions, interpersonal loyalties, and intrapersonal states. It is no longer *authored by* them, it *authors them* and thereby achieves a personal authority. (Kegan, p. 185; emphasis in original)

Although the achievement of self-authored ways of thinking represented the goal of adulthood, advancements from third- to fourth-order thinking occurred steadily – but only gradually (Kegan, 1994; Lahey, Souvaine, Kegan, Goodman & Felix, 1988). Kegan suggested that, between the third and fourth orders, individuals passed through a number of intermediate phases, during which time individuals began constructing their fourth order thinking patterns, then increasingly exercised fourth-order thinking while minimizing the interference of third-order thinking, and finally established a secure pattern of fourth-order thinking. A detailed description of the developmental phases through which individuals pass on their move from third- to fourth-order thinking is the subject of the next section.

Phases in the Development of Self-Authorship

Although Kegan (1982, 1994) and his colleagues (Lahey et al., 1988) suggested that the movement to self-authorship occurred through discrete, identifiable stages, Baxter Magolda (2001b) described these phases in great detail. Baxter Magolda's 14-year

longitudinal study of a cohort of students from their freshman year at Miami University

through their early 30s produced the clearest framework for understanding the transition

from third- to fourth-order (self-authored) orientations. Baxter Magolda identified four

phases in this transition: *following external formulas*, *the crossroads*, *becoming the*

author of one's life, and *internal foundations*. Table 2-2 highlights some of the main

characteristics of these four phases, which will be reviewed in more detail below.

Table 2-2: Characteristics of the Phases in the Development of Self-Authorship	
Stage	**Description & Characteristics**
Following External Formulas	• Accept beliefs and plans from authority figures • Define self through external roles and relationships with others • Act to acquire approval from others
The Crossroads	• Question accepted beliefs; see need for own vision • Sense dissonance between external roles and internal identity • Realize need for more balance in relationships
Becoming the Author of One's Life	• Grow trust in own belief system and internal voice • Begin formulating coherent personal identity • Reframe relationships with others to achieve mutuality
Internal Foundations	• Rely on internal belief system and chosen values • Achieve personally defined, stable, and congruent identity and sense of self • Construct interdependent relationships with others
Source: Adapted from Baxter Magolda, 2001b	

Following External Formulas. The following external formulas phase represented

individuals operating at Kegan's third order of consciousness. In describing the

individuals in her study who represented this stage of thinking, Baxter Magolda (2001b)

wrote:

Participants … followed "formulas" they obtained from external sources to make their way in the world. These formulas took the form of prescribed plans or predetermined scripts for success in adult life that participants gleaned from others around them. Being unsure of themselves, they adopted these formulas as a means of becoming successful in their work and personal lives. (p. 71)

Baxter Magolda's research revealed that her participants not only *used* these external formulas to determine what one should think or behave, but they also *adopted* external views of success as their own – an excellent example of how these external definitions remained what Kegan would call subjects (rather than objects). Indeed, Baxter Magolda found that her participants became adept at finding formulas to guide all aspects of their lives, including formulas to achieve professional success, guide their roles as adults, and to dictate their ways of relating with others.

Following external formulas allowed for great success in group integration (Baxter Magolda, 2001b), one of the main social requirements in collegiate life. Thus, it is not surprising that studies have confirmed that many (if not most) college students operated at this level of development (Baxter Magolda; Creamer & Laughlin, 2005; Jones & Abes, 2004; Lewis et al., 2005; Pizzolato, 2005a, 2005b). Indeed, Baxter Magolda noted that none of the 39 participants in her longitudinal study had begun to move beyond the external formulas phase in college; rather, her participants graduated and spent their early years after graduation (i.e., early 20's) at this phase. Although students began to reflect upon the viability of these external formulas, they had not yet begun to construct their own self-authored formulas to replace them (Kegan, 1994).

Ultimately, however, the demands of modern, Western life made external formulas inadequate for long-term success, as Kegan explained in an interview:

In our highly pluralistic postmodern world, we do not have a homogeneous definition of who we should be and how we should live. We're living in the midst of a rapidly expanding pluralism of tribes, which means that there are competing demands for our loyalty, faithfulness, time, money, attention, and so on. Thus, the stance of being shaped by our surround is actually insufficient to handle modern life. Rather, we are called on to have an internal authority by which we ourselves are able to name what is valuable, or respond to the claims and expectations on us, sort through them, and make decisions about which ones we will and will not follow. So we are not just made up by or written on by a culture, but we ourselves become the writer of a reality that we then are faithful to. (Debold, 2002, "Do adults transform?"; see also Kegan, 1994)

Thus, an individual who followed external formulas was but an "audience" to one's own experiences, an individual who may have been able to provide "insight into why the audience [i.e., the individual] reacts as intensely to the content as it does," but one who cannot identity "why or how the author writes the scripts or drama as he [sic] does" (Kegan, 1994, p. 132). To accomplish this task, individuals began the journey to self-authorship by entering the next phase: the crossroads.

The Crossroads. The crossroads was perhaps the most revolutionary phase in the development process toward self-authorship. It has been referred to as a "snapping point" (Baxter Magolda, 2001b, p. 116), a "provocative moment" (Pizzolato, 2005a, p. 625), and a "catalyzing" experience (Pizzolato, p. 625). At its heart, the crossroads phase was about

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competing notions of trust. Trusting *others*, the "foundation stone" of third-order thinking, had "been found wanting as an ultimate good" and must now be replaced with a new orientation: trusting *oneself* (Kegan, 1982, p. 195). The movement to the crossroads phase was often triggered by a change in environment (e.g., going away to college, moving from a homogenous community to a diverse community), which caused students to reconsider their previously taken-for-granted ideas (Torres, Hernandez, & De Sawal, 2007).

Individuals entering the crossroads thus found themselves in a liminal position, mired in external formulas yet longing to follow an internal guide:

> Stories about the crossroads part of the journey are filled with pronouncements about what is going to be. Participants appear to be trying to convince themselves that they really were going to stand up for themselves, that they really were going to start following their own voices. Some were at the threshold of doing so; other had taken initial steps to act on their resolutions. External influence, so strong prior to arriving at the crossroads, was weakening, but had not yet lost its grip on these young adults' sense of themselves. Self-authorship was on the horizon and they were steadily working their way toward it. (Baxter Magolda, p. 116)

In Baxter Magolda's study, her 39 participants did not enter the crossroads stage until after they graduated from college and entered their mid-20s, but other empirical studies have linked numerous different collegiate environments or experiences to initiating the crossroads phase. These include: students' decisions regarding whether to attend college (Pizzolato, 2003, 2005b); students' choice of majors and careers (Creamer & Laughlin, 2005; Laughlin & Creamer, 2007); students' negotiation of social and personal identities

(Abes, 2003; Abes & Jones 2004; Abes, Jones, & McEwen, 2007; Torres & Baxter Magolda, 2005; Torres, Hernandez, & De Sawal, 2007); and students' experiences in activities such as service-learning (Jones & Abes, 2004; Jones & Hill, 2003).

The most in-depth study of crossroads experiences, however, was recently conducted by Pizzolato (2005a). Pizzolato collected stories from over 600 students at Michigan State University, in which those students detailed the most important decisions they had made. Although the decisions were not taken as direct proxies for self-authorship, they allowed Pizzolato to investigate the types of potential crossroads moments that college students face and identify those experiences that appeared to propelled students the most toward self-authorship. By reviewing the types of decision confronted (i.e., how provocative was the crisis?), the manner in which the student resolved those issues (i.e., did the student rely on internal or external factors?), and the type of equilibrium that was achieved upon resolution (i.e., did students merely adjust their current framework or reconstruct their framework around a new, internally defined sense of self?), Pizzolato found "a relation between provocation and self-authorship, where provocation was a necessary but insufficient condition for displays of self-authorship" (p. 635). Other key characteristics of students that were correlated to experiencing provocative, crossroads moments included: *volitional efficacy* ("a belief in one's ability to persist in goal-directed behavior in the face of challenges" [p. 630]), *self-regulation* ("[s]tudents … assessed their situation, determined, and carried out a plan of action" [p. 631]), and the ability to *internally catalyze* issues ("the student independently determine[d] that a decision had to be made" [p. 632]). Although some students appeared to resolve their challenges in a manner that reflected self-authorship, not all students who

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experienced highly provocative (i.e., crossroads) moments appeared to do so. Pizzolato concluded that individuals "may need more than one dissonant experience to move them from feeling dissatisfied with external definition to experiencing a provocative moment that leads them to search for internal definition" (p. 630).

Pizzolato's (2005a) findings served as reminders of the difficulty of the crossroads phase and the challenges associated with bridging from an old to a new way of thinking. To build this bridge (Kegan, 1994), individuals had to begin to exercise personal authority and thus breach the threshold of self-authorship. By doing so, they entered the next phase of their development: becoming the author of one's life.

Becoming the Author of One's Life. After negotiating the crossroads, the hope was that an individual's internal voice of authority grew strong enough to begin overcoming external influences. Although external influence still remained an important part of one's orientation, those influences became relegated to the background, and an individual's own internal voice came to forefront and began to coordinate and mediate one's internal and external motives (Baxter Magolda, 2001b). This was the stage where individuals began to become the authors of their own lives. The move from the crossroads phase to the becoming the author of one's life phase was often spurred by a personal crisis that caused students to better recognize their own decision-making and meaning-making abilities (Torres, Hernandez, & De Sawal, 2007).

At this phase, individuals – having made a commitment to their internal selves – now had to work through the process of "deciding what to believe, one's identity, and how to interact with others" (Baxter Magolda, 2001b, p. xix). Having accepted the idea that knowledge was created, that identities were individually defined, and that individuals

could relate to others in many different manners, the individuals began to see the importance of options and choices, context and setting, self-reflection and interaction. Individuals had to sort out, choose, and commit to their own priorities and values. Authorship came to replaces audience; self-affirmation replaced external approval; and mutuality replaced embeddedness in relationships. Although fourth-order (self-authored) thinking began to govern their modes of thought, individuals "must work at not letting the third order intrude" (Kegan, 1994, p. 190). Most of the participants in Baxter Magolda's study did not enter this phase of development until their late 20's, well after they graduated from college, but others, particularly those who attended graduate or professional school, entered this phase earlier (see also Baxter Magolda, 1999c).

Pizzolato's (2005a, 2005b) research also helped to better understand this phase, particularly the ways in which it may (or may not) have manifested itself in traditionally college-aged students. Pizzolato concluded that a distinction be made between self-authored *reasoning* and self-authored *action*. Although many students in her study were able to reason in self-authored ways (i.e., analyze a situation from one's own perspective and situation according to one's own belief system), those students did not always act in ways consistent with such reasoning because they believed the "repercussions of acting based on their internally defined goals would be too negative" (2005b, p. 129). She concluded that for college students – many of whom may feel the need to balance their own wishes and thoughts with external opinions from parents, teachers, and peers – self-authorship should be considered *situational* in nature (see also Creamer & Laughlin, 2005). This implied that part of the process of becoming the author of one's own life was to increase the congruence between one's reasoning and actions.

As individuals began to author their lives and display self-authored reasoning and actions, they tended to rely on one of three different foundations: an internal belief system, a self-defined identity, or interdependent relationships with others (Baxter Magolda, 2001b, 2004d). (These three dimensions – the cognitive, intrapersonal, and interpersonal domains – will be discussed in more detail in the second part of this chapter.) The primary task for the first set of participants in Baxter Magolda's study focused on establishing and creating an internal belief system by both constructing one's own beliefs and values and committing oneself to acting in congruence with those values. This internal belief system in turn helped guide all other realms of their lives, including their personal actions, career choices, spiritual beliefs, and relationships with others. Another group of participants in her study focused primarily on developing an internal self-definition or identity – that is, to determine "who they were and who they wanted to become in all aspects of their lives" (2001b, p. 126). They then began to act in congruence with that chosen identity. A final group focused primarily on crafting relationships with others and the external world based on interdependence, mutuality, and communion. These individuals therefore began to establish a sense of self-authorship by renegotiating existing relationships (including terminating unhealthy ones), exerting themselves in the workplace, and disentangling themselves from others' attempts to make decisions for them.

The common theme of each of these approaches – constructing an internal belief system, defining one's own chosen identity, and forging mutual relationships – was that each required, contributed to, and affirmed the establishment of an *internal voice* to

guide, direct, and (of course) author an individual's life. This internal voice, then, became the foundation upon which an enduring sense of self-authorship would be constructed.

Internal Foundations. Eventually, as individuals experienced and trusted their own internal voice, they came to rely upon that voice as the internal foundation and guidepost for authoring their own lives. This foundation was an individual's "sense of power over [one's] own life" (Baxter Magolda, 2001b, p. xix) and became the basis of one's self-authored orientation. Although this foundation was internal, personal, and subjective, it was not "selfish or self-centered; it involves careful consideration of external perspective and others' needs, but this consideration occurs in the context of one's internal foundation" (p. xix). The movement to this level of development occurred as students gained confidence in their ability to act on their own beliefs, making them better equipped to trust their internal definitions and guiding principles (Torres, Hernandez, & De Sawal, 2007). Once individuals achieved their own internal foundations, they became self-authored, and they reached Kegan's fourth order of consciousness.

Intriguingly, simply because self-authorship was characterized by a consistent core that guided one's thoughts, feelings, and actions, individuals still experienced challenges, dissonance, or struggles, despite establishing this foundation (Baxter Magolda, 2001b). The difference at this stage, however, was that this core foundation – because it recognized the contextual nature of knowledge, self, and others – was "simultaneously more flexible and more grounded" than earlier modes of thinking (p. 159). In that way, a self-authored orientation was like a building specifically designed and constructed to withstand earthquakes; tremors may jar the structure, but its

foundation remained secure and allows the building to persevere. Given the remarkable strength and flexibility of a self-authored foundation, it was no surprise that the participants in Baxter Magolda's study who reached this level of development described themselves as being *personally grounded* through an intuitive sense of understanding, a sense of inner strength, and a feeling of mutuality in one's relationships.

Empirical Studies into the Emergence of Self-Authorship in College Students

As seen in the introductory section of Chapter 1, Baxter Magolda's (2001b) research represented a real turning point in and foundation for self-authorship research. Perhaps her most important finding was that none of the students in her study reached self-authorship until their late 20's or early 30's, which lead her to conclude (later) that "self-authorship is uncommon during college" (Baxter Magolda, 2004c, p. xxiii). Two very recent multi-institutional studies have largely confirmed Baxter Magolda's findings: the preliminary stages of Wabash National Study of Liberal Arts Education (which uses self-authorship as its theoretical frame) found that less than 10% of college students had entered the early stages of self-authorship (Baxter Magolda, King, Stephenson et al., 2007; King, 2007); and a recently concluded longitudinal study of Latino/a students found that, at most, four of the 29 students in the study had reached self-authored orientations in at least one aspect of their lives (Torres, Hernandez, & De Sawal, 2007). Beyond college students, Kegan's (1994) own analysis of research into the development of self-authorship concluded that only about one-half of all adults in the United States have achieved full fourth-order, self-authored orientations. Given all these findings, the conclusion certain appears to be that developing self-authorship would be "exceptional for college students, especially young students" (Abes & Jones, 2004, p. 626).

Although the literature has generally supported the notion that self-authorship does not fully emerge in individuals during their college years, an increasing amount of literature has begun to explore this topic in more detail. One set of studies suggested that students from certain backgrounds – particularly underprivileged backgrounds – began to develop self-authorship earlier than students from socially privileged backgrounds. Another body of research revealed a number of interactions, experiences, and environments on college campuses that may help foster development toward self-authorship. Finally, the literature also revealed ways in which the development of self-authorship is impeded.

Social Position and the Development of Self-Authorship. One of the most intriguing themes to emerge over the past few years in the self-authorship literature was the concept that students who belong to socially disadvantaged or under-privileged groups appear to develop self-authorship earlier than the White, upper-middle-class students in Baxter Magolda's (2001b) original study. Indeed, in her most recent writings, Baxter Magolda (2007) acknowledged this theme, noting: "Those who have been marginalized due to race, ethnicity, social class, gender, or sexual orientation encounter … provocative experiences as they pursue college goals," thus propelling them to develop their own self-authored voice to guide them (p. 72).

Some of the earliest research in this area was conducted by Pizzolato (2003, 2004), one of the scholars Baxter Magolda (2007) cited as illustrative of this theme. Pizzolato's work focused largely on the experiences of about 30 Michigan State students who were identified – due to their race, socio-economic class, or college-generation status – as being at *high risk* of withdrawing from college. Pizzolato (2003) discovered,

in sharp contrast to the young adults in Baxter Magolda's (2001b) study, that many of the high-risk students she interviewed appeared to develop self-authoring ways of knowing *prior to* entering college. Pizzolato found that her students' backgrounds and pre-college experiences – which included being the first person in one's family to navigate the college admission process, having peers who were not motivated to succeed academically or attend college, and running afoul of the law – created sufficiently provocative, crossroads moments that they "challenged students' current ways of knowing and conceptions of self" (p. 803). In order to achieve their goal (i.e., attend college) they were thus forced to commit to new goals and values that they devised for themselves; in short, they appeared to begin to self-author their lives. Pizzolato concluded that "provocative experiences began with individual experiences, but self-authorship developed in the context of a series of events combined with student work creating appropriately supportive relationships and making sense of what happened in, and as a result of, these relationships" (p. 808).

Certainly, one can critique some of the specifics of Pizzolato's (2003, 2004) findings – for example, was she defining self-authorship in the same way as Kegan (1994) and Baxter Magolda (2001b)? Or was her methodology as sound as Baxter Magolda's? – but many of the basic conclusions of her work have also been mirrored by other research. For example, Abes (2003; Abes & Jones, 2004) found that several lesbian women in her study exhibited *foundational* (i.e., self-authored) levels of reasoning. In particular, Abes found that these women made meaning of their sexual identity in particularly sophisticated manners:

Whether rejecting the construct of normal, or adopting descriptive rather than concrete identity labels, some participants were challenging external sources of authority, critically examining multiple perspectives, and developing for themselves the meaning of their identity. This fourth-order meaning-making and transitions toward fourth order are exceptional for college students.… Identifying as a lesbian, and thus outside of what is often considered normative (or heterosexist) expectations, might have contributed to the complexity with which some of these participants constructed their identity. (p. 626)

Similar findings (albeit, largely conceptual) were made by Kegan (1982), who suggested that a gay man's resolution of his sexual identity was "just the kind of experience that, with the proper support, can facilitate development.… The young man comes to find that whatever the answer is about his sexuality, the self that discovers the answer is a new one" (pp. 192-93).

Other examples of the tie between social identity and self-authorship have been found in the research regarding racial and ethnic identity development (Torres & Baxter Magolda, 2004; Torres, Hernandez, & De Sawal, 2007; Wawrzynski & Pizzolato, 2006) In a longitudinal study of 29 Latino students at various institutions across the United States, Torres and her colleagues found that students' made sense of and reconstructed their ethnic identity in ways that paralleled the development of self-authorship. These scholars traced the movement in their students from following external authorities (such as accepting stereotypes about Mexicans), to crossroads periods (characterized by cognitive dissonance regarding their ethnic heritage and background), that eventually lead toward the construction of their own ethnic identity. Torres and Baxter Magolda in

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particular concluded that Latino identity development was "intricately interwoven" with self-authorship (p. 345). These conclusions were also reflected in Pizzolato's recent research (Wawrzynski & Pizzolato, 2006), in which quantitative data revealed that being a student of color was significantly related to higher scores on certain measures associated with self-authorship.

Intriguing data have also emerged in studies of women's college experiences and self-authorship (Allen & Taylor, 2006; Creamer & Laughlin, 2005; Laughlin & Creamer, 2007). Some research suggested that women began the movement toward self-authorship while in college. Allen and Taylor (2006) identified several types of senior-year women (called *finders* and *naturalists*) who moved "beyond socialization toward self-authorization" (p. 606). These women were characterized by a personal sense of agency, by their ability to make and remake decisions from "a place of responsibility and self-empowerment," and their efforts to achieve concurrence between their own emerging values and the meaning of their post-college plans (p. 605). Creamer and Laughlin (2005; Laughlin & Creamer, 2007), on the other hand, have detected a different trend. Their studies of women's choices of majors and careers (especially decisions to enter professions traditionally dominated by men, such as science, technology, engineering, and mathematics), revealed that, although some women may have *appeared* to be making decisions that reflected self-authored orientations, many simply were not. Their detailed investigations actually revealed that many women followed certain key individuals' advice based on "the nature of the personal relationship they had with that person rather than any judgment about the person's knowledge or expertise" (Laughlin & Creamer, p. 47). These findings emphasized that these students were still largely followed external

formulas or authorities and using third-order consciousness, rather than their own self-authored decision-making abilities.

College Experiences that Promote the Development of Self-Authorship. Recent scholarship has also suggested that development toward self-authorship could be fostered through both curricular and co-curricular interventions. Baxter Magolda (1999b, 1999c) has written extensively on the manner in which curricular changes at both the undergraduate and graduate level can help foster self-authorship, and she and her colleagues (2001b; Baxter Magolda & King, 2004) also outlined and identified various co-curricular and student-employment experiences that can also be leveraged to foster self-authorship. Others have advanced similar findings (Bekken & Marie, 2007). Furthermore, research has suggested that service-learning assisted students' integration of their meaning-making abilities and thus facilitated movement toward self-authorship (Jones & Abes, 2003; Jones & Hill, 2002). Similarly, scholarship has tied many other co-curricular programs to self-authorship, including the adoption of a community standards model in residence halls (Piper & Buckley, 2004), engaging in internships and cultural immersion programs (Egart & Healy, 2004; Yonkers-Talz, 2004), and implementing diversity programs (King & Baxter Magolda, 2005). Additionally, Pizzolato and Ozaki (2007) have identified certain academic advising techniques that appeared to promote development.

Factors Impeding the Development of Self-Authorship. Despite these many encouraging findings, research has also revealed that developing self-authorship was hindered by the presence of certain other factors, and nascent forms of self-authorship could be exceedingly tenuous (Pizzolato, 2003, 2004). Privilege was one inhibiting

factor. In one of her earliest studies, Pizzolato (2003) studied a sub-set of high-risk students who, because they were recruited to be intercollegiate athletes, were largely ferried through the college admissions process and thus experienced privilege with regard to college access. These high-risk yet privileged students may have appeared to achieve some semblance of self-authorship by achieving their goal of college admission, but the privilege they experienced appeared to undermine their development of a firm foundation because their self-authored identity had not been tested and fortified. Pizzolato concluded that "self-authorship is a process that can be temporarily shut down by privilege. Thus development of self-authorship requires [among other things] … appropriate scaffolding from others, as opposed to merely providing high levels of privilege" (p. 808).

In addition, Pizzolato (2004) also found that extreme academic and social obstacles, especially those faced by students in underprivileged groups, actually caused students' development to regress. Whatever level of self-authorship her sample of high-risk students had established by achieving admission to college, some students' foundations were "shattered" when they encountered severe academic and social barriers, such as perceptions of their lack of adequate preparation for college or negative experiences associated with their race or class (p. 430). Facing these obstacles, students retreated from their self-authored ways of thinking and began "internalizing others' expectations and doubts and behaving in ways inconsistent with [their] entering sense of self and self-authoring capabilities" (p. 432). Pizzolato concluded that "although development of self-authorship provides students with the skills to negotiate between multiple competing expectations in the context of their own internal foundations, *whether students are able to use these skills may depend on the degree of external hostility they*

perceive toward outward expression of their internal foundations" (p. 439; emphasis added).

These are incredibly powerful lessons. Although recent literature has powerfully suggested that college students can and do achieve more sophisticated levels of self-authorship than initially suggested by Baxter Magolda (2001b), the research also suggested that simply attaining the *capability* to reason in self-authored ways does not guarantee that college students actually *operated* at their optimum level (Pizzolato, 2004, 2005a). Put another way, nascent self-authored identities remained fragile and susceptible to interference by outside forces.

To achieve a richer, deeper understanding of the lines along which self-authorship developed and how self-authored identities might be preserved in college students, it is important to understand the dimensions and components of self-authorship. This, indeed, is the subject of the second half of this chapter.

The Dimensions and Components of Self-Authorship

Having outlined the development of self-authorship in college students, it is now important to review, in depth, what the literature suggests are the underlying dimensions or elements of self-authorship. The first part of this section thus reviews the conceptual model of self-authorship initially advanced by Kegan (1994) and later embraced by Baxter Magolda (2001b), which suggests that self-authorship is composed of three dimensions: the cognitive, intrapersonal, and interpersonal domains. These three domains, however, are quite broad. By delving into the literature further (both the literature specifically addressing self-authorship and foundational literature upon which much self-authorship scholarship is based upon), a total of 15 discrete components,

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elements, and themes were further identified that appeared to be associated with self-authorship. Many of these 15 elements represent sub-components of the three broad dimensions outlined by Kegan and Baxter Magolda, but some do not fit neatly within that framework.

The Three Broad Dimensions of Self-Authorship

Both Kegan (1994) and Baxter Magolda (1999a, 1999d, 2000, 2001b) identified three broad aspects of self-authorship, which Kegan referred to as *domains* and Baxter Magolda called *dimensions*. These aspects corresponded to the cognitive, intrapersonal and interpersonal aspects of self-authored individuals. Further, both scholars emphasized that self-authorship resulted from the *integration* of these dimensions and from the three domains mutually interacting, informing, and building upon one another to form an internally grounded identity (Baxter Magolda, 2001b, 2004d; Kegan, 1982, 1994). The next part of this chapter discusses these three broad aspects.

The Cognitive-Epistemological Dimension. The cognitive dimension of self-authorship asks the question: "How do I know?" (Baxter Magolda, 2001b, p. 15; see also Baxter Magolda, 1999d). This cognitive component represents the foundation of self-authorship, both theoretically and historically. Kegan (1982, see especially Chs. 1 & 2) specifically based his developmental theory on two earlier cognitive-constructivist theorists, Piaget (1950) and Kohlberg (1975, 1981). Baxter Magolda's (2001b) study of self-authorship emerged directly from her own study of students' epistemological development (Baxter Magolda, 1992), and she later (1999d, 2001b) credited the foundational work of earlier cognitive theorists like Perry (1970, 1981), Belenky, Clinchy, Goldberger, and Tarule (1986), and King and Kitchener (1994) as influencing

her understanding of self-authorship. Not only does cognitive development form the historical and conceptual foundation for self-authorship, but the cognitive dimension remains at the heart of this theory; scholars have recognized that self-authorship is concerned principally with "the cognitive process people use to make meaning" (Creamer & Laughlin, 2005, p. 14). Self-authorship's cognitive domain also stresses the need for individuals to be able to evaluate knowledge claims by themselves and to establish one's own set of values (Baxter Magolda, 1998, 1999d, 2001b). In short, self-authorship requires trust in one's ability to construct knowledge, to establish personal values, and – perhaps more importantly – "to commit to both" (Baxter Magolda, 1998, p. 147).

The Intrapersonal-Identity Dimension. The key question of self-authorship's intrapersonal dimension is: "Who am I?" (Baxter Magolda, 2001b, p. 15). The identity dimension is concerned with establishing an "*integrated identity*, characterized by understanding one's own particular history, confidence, the capacity for autonomy and connection, and integrity" (Baxter Magolda, 2004d, p. 6; emphasis in original). This identity component is intertwined with the cognitive dimension; after all, self-authorship highlights "the central role of the self in knowledge construction" (Baxter Magolda, 2003, p. 232). Without a clear and integrated understanding of one's own identity, a person cannot achieve self-authorship; after all, a person's beliefs, self-image, and relationships are all contingent upon a firm grounding of one's own identity:

> A primary reason self-authorship remained elusive during college was the lack of emphasis on developing an internal sense of self…. It was not until after college, however, that their employers and graduate educators stressed that their thinking, knowing, and applying their perspectives to their work *all hinged on* their internal

values and *how they defined themselves*. (Baxter Magolda, 2004d, p. 5; emphasis

added)

Just as self-authorship grew out of earlier cognitive theories, Kegan (1994) and Baxter

Magolda (1999a, 2001b) have noted several earlier scholars whose work in the

intrapersonal dimensions informed the later work on self-authorship, including: Erikson's

(1968) pioneering work on psychosocial development; Chickering's (1969; Chickering &

Reisser, 1993) seven vectors of student development; Josselson's (1987, 1996) work on

women's identity; Loevinger's (1976) theory of ego development; Maslow's (1950/1973,

1971) work on self-actualization; and the work of Murray (1938) and McClelland (1984;

McClelland, Atkinson, Clark & Lowell, 1953) on the achievement motivation.

 The Interpersonal-Relationship Dimension. Finally, the interpersonal dimension

of self-authorship addresses the question: "How do I want to construct relationships with

others?" (Baxter Magolda, 2001b, p. 15). The goal here is to enter into "*[m]ature

relationships*, characterized by respect for both one's own and others' particular identities

and cultures and by productive collaboration to integrate multiple perspectives" (Baxter

Magolda, 2004d, p. 6; emphasis in original). Self-authored identities are not self-

centered; rather, they are premised on the notions of mutuality and interdependence

(Baxter Magolda, 2001b). Again, Kegan (1994) and Baxter Magolda (2000, 2001b)

credited several earlier theorists for their influential and informative work regarding

interpersonal development, including the notion of *mutuality* from Judith Jordan (1991,

1997); the concepts of *agency* and *communion* from David Bakan (1966); and the *care*

orientation from Carol Gilligan (1982).

Although Kegan (1994) and Baxter Magolda (2001b) described these three dimensions separately, they both emphasized that self-authorship involved the *unification* of all these dimensions in the meaning-making process. Self-authorship, Baxter Magolda (1999b) stressed, was "*simultaneously* an ability to construct knowledge in a contextual world, an ability to construct an internal identity separate from external influences, and an ability to engage in relationships without losing one's internal identity" (p. 12; emphasis added). Thus, in short, self-authorship was a "complicated phenomenon" (Baxter Magolda, 1999b, p. 12). But to truly comprehend the complicated nature and structure of self-authorship, one must look inside and beyond the three dimensions to see the numerous other elements, themes, and components associated with self-authorship.

Identifying More Specific Components, Elements, and Aspects of Self-Authorship

Although there has been virtual agreement that self-authorship is composed of the three dimensions identified by Kegan (1994) and Baxter Magolda (2001b), a closer analysis of the literature on self-authorship revealed that, within these three broad dimensions, a variety of other, more specific components, elements, and aspects of self-authorship existed. Many of these sub-components, elements, and themes were discussed, either expressly or implicitly, in Kegan's and Baxter Magolda's writings, but many of them emerged in more explicit terms in others' writings. The next few sections outline a few studies and bodies of literature that help identify more specific components, elements, and aspects of self-authorship.

The Development of Instruments to Measure Self-Authorship. One set of studies that provided more detail on the components, elements, and aspects of self-authorship were the two attempts to construct survey instruments to measure self-authorship

(Ferencevych, 2004; Pizzolato, 2005b, 2007). Pizzolato explicitly relied on the work of

Baxter Magolda (2001) in developing her items and scales. Eventually, her work resulted

in an instrument that measures four components of self-authorship: *capacity for*

autonomous action (measuring emotional and behavior independence from others),

perceptions of volitional competence (assessing beliefs in one's ability to work toward a

goal), *problem-solving orientation* (measuring the ability to resolve issues using one's

principles), and *self-regulation in challenging situations* (assessing the ability to regulate

oneself in the face of obstacles). In developing these scales, Pizzolato (2005b) expressly

noted that she attempted to identify and measure sub-dimensions of the cognitive and

intrapersonal dimensions (but not the interpersonal dimension).

Similar, although different, findings emerged from Ferencevych's (2004) effort to

construct an instrument to measure self-authorship in participants in an outdoor

leadership education program. (N.B., Ferencevych's work was contained in his master's

thesis and, thus, has not been peer reviewed or published; his findings, however, remain

illustrative and illuminating of many of the themes that emerged in other scholarly

literature.) Conceptually, Ferencevych noted the connection between self-authorship and

two psychological theories: Rotter's (1966/1982) notion of *locus of control* and

Bandura's (1977) notion of *self-efficacy* – connections that had not been explicitly made

by other scholars. Ferencevych first identified eight overlapping themes that experiential

education and self-authorship had in common: *judgment/decision making, self-regulation,*

self-confidence, interpersonal skills, empowerment, creative problem-solving,

leadership/responsibility, and *knowledge creation*. After including variables associated

with these eight themes in an initial draft of an instrument, a principle components

analysis suggested that these variables could be reduced to four themes: *situational coping, interpersonal leadership, self-efficacy*, and *knowledge creation*. These, then, became the four scales on Ferencevych's instrument.

Together, the results of these two efforts illustrated that, although the three-dimensional model appears parsimonious, the three-dimensional model may hide a more detailed set of components, elements, and aspects relating to self-authorship, such as volition, autonomy, efficacy, and coping. These efforts, however, do not represent the only literature that revealed more detailed components, elements, and aspects of self-authorship. Indeed, Kegan's (1994) own work, as discussed in the next section, highlights additional items.

Kegan's Expectations for a Self-Authored Adult Life. Kegan (1994) himself identified numerous tasks associated with adult life that require self-authorship. These tasks suggested that self-authored individuals were much more multifaceted than the three-dimensional model may at first suggest. For example, the following represents a list of tasks Kegan indicated adults are expected to be able to accomplish in work settings:

1. To invent or own our work…

2. To be self-initiating, self-correcting, self-evaluating…

3. To be guided by our own visions…

4. To take responsibility for what happens to us … externally and internally…

5. To be accomplished masters of our particular work roles [and duties]…

6.   To conceive of the organizations [in which we work] from the "outside

in," as a whole; to see our relation to the whole; to see the relation of the

parts to the whole…. (pp. 152-53; emphasis removed)

Although several of these items appear related to only one dimension (for example,

"inventing" work clearly implicates the cognitive dimension), many others seem to

involve multiple dimensions or even fall between the cracks. Mastery of one's work

roles, for example, could be a cognitive, intrapersonal, or interpersonal task (indeed, it

may involve all three). Items such as being self-initiating, self-correcting, and self-

evaluating also appear to involve both cognitive processes and also a clear understanding

of one's self (intrapersonal) and one's situation and expectations vis-à-vis the larger

world (interpersonal). The final task listed above (seeing oneself within the

organizational context) also suggests the need to engage all three dimensions: the

cognitive (specifically, conceptual ability), the intrapersonal (specifically, recognizing

our role within the whole), and the interpersonal (specifically, seeing how others relate to

the whole). And when Kegan suggested that adults be "guided by their own visions" –

that almost seems to imply a spiritual (or extrapersonal dimension) that is not included in

the three-dimensional model.

In addition to these exemplars, Kegan (1994) listed dozens of other tasks in his

book, tasks that spanned aspects of life as diverse as parenting, partnering, employment,

citizenship, and learning (see especially pp. 302-303). These tasks, too, illustrated the

overlapping nature of the cognitive, intrapersonal, and interpersonal dimensions, as well

as tasks that appear to imply other components of self-authorship that were not

specifically included within the three-dimensional model. Thus, Kegan's lists further highlighted the complex structure of self-authorship.

The Foundational Literature Informing the Theory of Self-Authorship. Finally, by reviewing the foundational literature that influenced scholars like Kegan (1982, 1994) and Baxter Magolda (2001), additional themes emerged that further complicated the structure and components of self-authorship.[1] Tables 2-3 and 2-4, below, identify the foundational scholars, literature, and key concepts that Kegan and Baxter Magolda, respectively, specifically referenced in their own work. For example, both Kegan (1982) and Baxter Magolda (1999a, 2001b, 2004d) cited Erikson (1968) and Loevinger (1976) as offering key influences or parallels to their work on self-authorship. Erikson's theory of psychosocial development suggested that establishing one's identity required the prior achievement of both internal and external conceptions of trust, autonomy, initiative, and industry. Likewise, Loevinger's theory of ego (or personality) development focused on changes in one's impulses, preoccupations, and interpersonal attitudes – and the means by which one controls or consciously addresses those feelings. Although Erikson's and Loevinger's concepts do not directly mirror self-authorship, they clearly offered additional, vital themes and elements that helped explain the full dimensions and capabilities of a self-authored identity.

Table 2-3: Kegan's Comparison of His Theory to Other Scholars' Frameworks					
Kegan	1st Order	2nd Order	3rd Order	4th Order	5th Order
Piaget (1950)	Pre-operational	Concrete Operational	Early Formal Operational	Full Formal Operational	*Post-Formal Operational**
Kohlberg (1975, 1981)	Punishment & Obedience Orientation	Instrumental Orientation	Interpersonal Concordance Orientation	Societal Orientation	Principled Orientation
Loevinger (1976)	Impulsive	Opportunistic	Conformist	Conscientious	Autonomous
Maslow (1950/1973, 1971)	Physiological Satisfaction Orientation	Safety Orientation	Love, Affection, Belonging Orientation	Esteem & Self-Esteem Orientation	Self-Actualization
Murray (1938) / McClelland (1984)	-	Power Orientation	Affiliation Orientation	Achievement Orientation	*Intimacy Orientation**
Erikson (1968)	Initiative v. Guilt	Industry v. Inferiority	*Affiliation v. Abandon-ment**	Identity v. Identity Diffusion	-

* Italicized entries represent stages or orientations that were not included in the original theorist's framework but that Kegan included because he believed they were suggested in the theory.

Adapted from Kegan, 1982, pp. 86-87.

Table 2-4: Key Influences on Baxter Magolda's Research on Self-Authorship		
Epistemological Dimension	**Intrapersonal Dimension**	**Interpersonal Dimension**
Perry (1970, 1981) *Cognitive development* Belenky, Clinchy, Goldberger & Tarule (1986, 1996) *Women's ways of knowing* King & Kitchener (1994) *Reflective judgment*	Erikson (1968) *Psychosocial identity* Chickering (1969; Chickering & Reisser, 1993) *Seven vectors of identity development* Josselson (1987, 1996) *Women's identity development* Loevinger (1976) *Ego development*	Bakan (1966) *Agency & communion* Jordan (1991, 1997) *Mutuality*
Sources: Baxter Magolda, 1999a, 1999d, 2000, 2001b, 2004d.		

Thus, although the self-authorship literature generally adopted the three-dimensional model of self-authorship, the literature also suggested that many different components, elements, and aspects made up those dimensions. The section that follows, therefore, identifies the 15 specific components, elements, and aspects that emerged from a more nuanced review of the literature on self-authorship.

The 15 Specific Components, Elements, and Aspects of Self-Authorship

Cognitive Complexity. Cognitive complexity served as the foundation of self-authorship. Not only did Kegan's (1982) and Baxter Magolda's (2001b) work evolved out of their interest in cognitive development (as discussed above), but self-authorship represents, at its core, a particular meaning-making orientation (Ignelzi, 2000; Kegan, 1982, 1994; Love & Guthrie, 1999). This orientation required a complex and highly

evolved cognitive capacity, one that allowed for contextual thinking (Baxter Magolda, 1992, 1999d, 2001b, 2004a), reflective thinking (King & Kitchener, 1994), and relativistic thinking (Perry, 1970, 1981). Indeed, Baxter Magolda (2001b, 2004a) suggested that the ability to think in these complex manners was a prerequisite to evolving self-authorship, and Pizzolato's (2004, 2005a, 2005b) research indicated that there a gap existed between the development of self-authored reasoning skills and the accompanying self-authored action.

Value-Centered. Another attribute of self-authored identities was the emergence of one's own personally defined values and belief system. Indeed, in Kegan's (1982) initial conceptions regarding the development toward self-authorship, Kohlberg's (1975, 1981) work on moral development and values played a foundational role. Notably, Kohlberg's highest stages of moral development, the post-conventional level, appear to align and share many commonalities with self-authorship. At these stages, individuals made a "clear effort to define moral values and principles that have validity and application *apart from* the authority of the groups or persons holding these principles and *apart from* the individual's own identification from these groups" (Kohlberg, 1975, p. 671, quoting Kohlberg, 1973; emphasis added). Such statements flush well with the notion that self-authored individuals have gained the ability to have "values about one's values" and has not become completely defined by the values adopted from external sources. (Heid & Parish, 1997, p. 60; see also, Kegan, 1994, p. 90-91; Love & Guthrie, 1999). Likewise, the later phases of both Perry's (1970, 1981) and Chickering's (1969; Chickering & Reisser, 1993) theories – the prior focusing on *commitment* and the later

focusing on *purpose* and *integrity* – both emphasized the need for individual to develop and commit to personal values at advanced stages of development.

Research has reinforced the importance of values to self-authorship. Pizzolato's (2003) study indicated that many high-risk students displayed self-authored ways of knowing when they committed to personal values (such as the importance of higher education) that were not widely shared by their peers or communities of reference. Likewise, Jones and Abes (2004) noted that students who engaged in service-learning progressed toward self-authorship by, in part, more clearly identifying and committing to their own set of values. And in Baxter Magolda's (1999d) study, she noted that the central crossroads struggle for several individuals was: "Does this satisfy me and have integrity with my values?" (pp. 339-340).

Problem-Solving Orientation. Another aspect or characteristic of self-authorship that emerged was the ability to personally identify, address, and solve problems facing oneself (Baxter Magolda, 2004d; Pizzolato, 2005a, 2005b). Indeed, Pizzolato (2005b) suggested that "problem solving seems to be the underlying construct of [the] cognitive dimension" (p. 39). It should be noted, however, that self-authorship was not so much concerned with the *substance* of the decision, but rather with the *process* one used to make a decision. All the literature emphasized that individuals who achieved self-authorship made decisions according to an internally defined belief system and did not emphasize the particularities of any given decision (see esp. Pizzolato, 2005a).

Creamer and Laughlin (2005; Laughlin & Creamer, 2007), in particular, have discussed this process by investigating college women's career decisions. Their findings suggested that self-authored decision-making developed through a negotiation of the need

for external approval and a trust in one's personal authority; self-authorship developed in part when students were able to make decisions according to their own sources of authority. Although decisions may have been based on personal foundations, it was important to recognize that self-authored decisions were not made in a vacuum: "Students with a fully developed sense of self-authorship value the contribution of different viewpoints, rather than finding them confusing, troubling, or threatening" (Creamer & Laughlin, p. 22). Decision-making from a self-authored standpoint thus became externally informed but ultimately a personal, internal choice.

Clear and Stable Sense of Self. One of the central elements of self-authored individuals, according to the literature, was a clear sense of personal identity. The journey to self-authorship represented individuals' movement beyond "working toward answers or a 'finished project'" and instead "toward increasingly satisfying definitions of themselves" (Baxter Magolda, 2001b, p. 183). Indeed, under Kegan's (1982, 1994) theory, self-authorship was the order of consciousness at which a personal sense of self moved from being a subject to an object; thus, at this stage, individuals were finally able to establish their own sense of self.

The centrality of identity to self-authorship was also also reflected in the foundational literature that informed Kegan's and Baxter Magolda's work on self-authorship; much of this literature had its primarily focus on the movement toward and establishment of a healthy, personal identity (Chickering, 1969; Chickering & Reisser, 1993; Josselson, 1987, 1996; Loevinger, 1976; Maslow, 1950/1973, 1971). Even recent scholarship suggested that college students who struggle to achieve a self-authored status

were, in essence, attempting to decide between positive and negative versions of themselves and their chosen identities (Pizzolato, 2006).

Agency, Efficacy, and Mastery. Another theme that ran throughout the literature, including Baxter Magolda's earliest work (1998; see also 2001b, 2004d), was that, with the development of self-authorship, individuals achieved a clear sense of agency, efficacy, and mastery. With regard to the current self-authorship literature, this theme emerged in various ways. For example, in Pizzolato's (2005b) work, she noted that self-authored students view themselves as capable and driven and that the development of a sense of agency was a necessary foundation for the emergence of a self-authored identity. Similarly, Ferencevych's (2004) work tied self-authorship to Bandura's (1977) notion of self-efficacy, a tie that appears particularly valid. Finally, this theme was reflected in the recent research that confirms that co-curricular interventions, such as service-learning (Jones & Abes, 2004; Jones & Hill, 2003) and development of community living standards for residence halls (Piper & Buckley, 2004), helped move students toward self-authorship by, in part, demonstrating their abilities to act effectively on their environments.

Much of the foundational literature upon which self-authorship was based also emphasized these concepts. For example, Chickering (1969; Chickering & Reisser, 1993) suggested that college students must develop competence in intellectual, physical, and interpersonal spheres as part of the development sequence. Murray (1938) and McClelland (1984; McClelland, Atkinson, Clark, & Lowell, 1953) both emphasized the importance of individuals being motivated by the desire for *achievement*, which McClelland described as the need for mastery and efficiency. Similarly, other theorists

have suggested that, before reaching higher levels of development, individuals must

achieve a sense of esteem (Maslow, 1971), initiative, and industry (Erikson, 1968).

Volition and Self-Actualization. Self-authorship has also implied the ability of

individuals to persist through challenging situations to attain and achieve a healthier and

more rewarding existence (Pizzolato, 2004, 2005b). Indeed, the basic developmental

process of self-authorship – in which an individual negotiated the crossroads period to

achieve an internal foundation (Baxter Magolda, 2001b) – can be viewed as an extended

metaphor highlighting the need for volition and self-actualization. Maslow's (1950/1973,

1971) work was particularly relevant on this point. The achievement of self-actualization

occurred through the process of consistently making the *growth choice* – that is, a

decision that allowed one to progress rather than regress. This may not have always been

the easiest choice, but it was ultimately the most rewarding. Similarly, Chickering's

(1969; Chickering & Reisser, 1993) emphasis on the need to develop *purpose* echoed this

theme because it suggested "an increasing ability to be intentional, to assess interests and

options, to clarify goals, to make plans, and to persist despite obstacles" (Chickering &

Reisser, p. 50). This theme was also reflected in Pizzolato's (2003, 2006) research

revealing how high-risk students achieve self-authorship by overcoming obstacles to

achieve their goals.

Mutuality, Communion, and Interdependence. Although many of the previous

themes seemed to emphasize the autonomous and self-directed nature of self-authored

individuals, scholars have also emphasized that self-authorship is not a selfish or self-

centered identity (Baxter Magolda, 2000, 2001b, 2004d; Kegan, 1994; Pizzolato, 2005b).

Rather, self-authored individuals sought to form mutual and interdependent relationships

with others and the world around them. Indeed, the literature indicated that connection

and communion – rather than separation – are defining features of the cognitive (Belenky

et al., 1986; Goldberger, Tarule, Clinchy, & Belenky, 1996), intrapersonal (Chickering,

1969; Chickering & Reisser, 1993; Josselson, 1987, 1996), and interpersonal (Bakan,

1966; Gilligan, 1982; Jordan, 1991, 1997) dimensions.

Integrated Social Identity. Recent research linking self-authorship to various

social identities (Abes, 2003; Abes & Jones, 2004; Torres & Baxter Magolda, 2005;

Torres, Hernandez, & De Sawal, 2007) has indicated that self-authorship was further

characterized by having a stronger, more integrated social identity, in addition to one's

personal identity. Emerging scholarship (Abes, Jones & McEwen, 2007) also stressed

how individuals' social identities were fused and integrated into their personal sense of

self through the process of meaning-making abilities and the development of self-

authored ways of reasoning.

Additionally, clear parallels exist between the literature on self-authorship (e.g.,

Baxter Magolda, 2001b; Kegan, 1994) and the broad array of literature on various social

identity development theories, including those focusing on racial identity development

(e.g., Ferdman & Gallegos, 2001; Helms, 1992, 1993; Parham, 1989), sexual identity

development (D'Augelli, 1994; Fassinger, 1998; McCarn & Fassinger, 1996), and self-

determination in people with disabilities (Wehmeyer, 1999). In particular, both sets of

literature stressed the overlapping relationship between the cognitive, intrapersonal, and

interpersonal dimensions. Helms, for example, specifically noted the interplay between

the intrapersonal and interpersonal: "Racial identity theory deals with how you perceive

yourself as a racial being (Who did you think of when she said 'our race'?) as well as

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how you perceive others racially (Who represents 'another race' to you?)" (p. 23).

Parham was even more explicit about how racial identity development among Blacks

involves all three dimensions: "The motivation to seek identity resolution," he wrote,

"corresponds to an individual's mental thrust into the world of adult concepts…. Identity

development is, however, influenced by an interaction between internal (individual) and

external (environmental) factors" (p. 195). Likewise, McCarn and Fassinger were also

explicit in describing the manner in which the development of sexual identity in gay men,

lesbians, and bisexual men and women proceeded through and was impacted by the

intrapersonal, interpersonal and cognitive dimensions. Their model of sexual identity

development, in fact, explicitly deconstructed an individual's development into two

component parts: personal sexual identity (intrapersonal), one's relationship to the larger

queer community (interpersonal), and the meaning the individual attaches to each

dimension (cognitive). Furthermore, Fassinger noted that, because of the social position

of the queer community and the numerous meaning-making processes that many gay

men, lesbians, and bisexual individuals negotiated in coming to terms with their sexual

identities, they would be expected to have more advanced cognitive abilities and a more

refined sense of personal values. Finally, the emerging literature regarding the

development of self-determination in individuals with disabilities stressed the

achievement of a high quality of life, which included elements from all three dimensions:

emotional well-being and self-determinism, personal development, and interpersonal

relations and social inclusion (Wehmeyer).

Appreciation of Diversity. Related to the issue of social identity has been the

theme of appreciation for multiculturalism and plurality. Self-authored individuals, in

short, sought "relationships that affirm diversity" (Baxter Magolda, 2001b, p. xvi). This has also been apparent in students who begin the move toward self-authorship, as Baxter Magolda suggested in an interview:

> Students who have extracted themselves from external self-definition and explored their own identity tend to be more open to difference as it is no longer a threat to their identity and they understand the idea of multiple perspectives. Complexity on the epistemological, intrapersonal, and interpersonal dimensions of development (the combination of which is self-authorship) is associated with greater appreciation of difference. (Crosby, 2006, p. 2)

In addition, self-authorship formed the conceptual basis of the developmental model of intercultural maturity, which represented a "holistic approach to defining diversity outcome goals and how students progress toward these goals" (King & Baxter Magolda, 2005, p. 573).

Catalyzing Dissonance. Another vital component of self-authorship emerging from the literature was the ability of the individual to catalyze moments of dissonance and thus focus on one's personal development. Indeed, as a constructive-developmental process, the theory of self-authorship was founded on the work of Piaget (1950; see also Wadsworth, 1989), who stressed that *disequilibrium* was the mechanism that spurred cognitive development. It was only when individuals experienced conflict with their "known" world that they became motivated to restructure their systems of knowledge. The central role of dissonance as a motivation for development and maturity was also found in Erikson's (1968) notion of *identity crisis* and in the work of Perry (1979), who suggested that all developmental processes involve a movement from feelings of

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dissonance (i.e., "a world where all of what was solid and known is crumbling") toward the triumph of growth (i.e., the "discovery of a new and more complex way of thinking and seeing") (p. 270).

Indeed, the very idea of the crossroads stage of self-authorship – that key transition time when students began to realize that external formulas no longer produce satisfactory experiences, thus propelling their movement toward self-authorship (Baxter Magolda, 2001b; Pizzolato, 2005a) – appeared to be drawn directly from Piaget's emphasis on the role that dissonance and disequilibrium play in the developmental process. The crossroads is, in essence, an extended period of disequilibrium. Kegan's first book, *The Evolving Self* (1982), was almost completely concerned with the movement from one order of consciousness to another – that is, it was concerned primarily with crossroads periods and dissonance. Pizzolato's (2005a, 2006) research, however, emphasized that it was not just the presence of dissonance, but ultimately how individuals choose to view and respond to dissonance, that impacted their development toward self-authorship. Specifically, her work showed that individuals must learn to use dissonance as a *catalyst* for spurring needed change and growth.

Congruence and Personal Reflexivity. As suggested above, Kegan (1994) and Baxter Magolda (2001b, 2005c) have continually emphasized that, as self-authorship develops, the cognitive, intrapersonal, and interpersonal dimensions become fused. In other words, self-authored individuals sought congruence; according to Kegan, the drive toward self-authorship was the drive to make one's "inner and outer experiences cohere … [and] to become identified with that principle of coherence" (Scharmer, 2001, pp. 14-15; emphasis removed). The result of such congruence was that self-authored individuals'

identities, beliefs, and actions grow more consistent, authentic, and congruent, a pattern which was borne out in the research of Pizzolato (2004, 2005a, 2006), Creamer and Laughlin (2005), and Allen and Talyor (2006).

An understanding of how congruence could be achieved was illustrated in Josselson's (1996) work on identity development in women. A group of women that Josselson called *pathfinders* – whom she described as being "self-authored" (p. 37) – appeared to model congruence through their balance of experience and commitment. These women had "experienced a period of exploration or crisis and then made identity commitments on their own terms" (p. 35). Thus, self-authored individuals achieved congruence by reflecting on their experience and then committing to a particular way of life. King and Kitchener (1994), one of the main influences on Baxter Magolda's writings on self-authorship (1999d, 2001b), also emphasized the role of self-reflective thinking and judgment in the development process.

Openness to New Ideas and Experiences. Multiple scholars have emphasized that attainment of self-authorship and the construction of a solid, internal foundation, allowed individuals to welcome and cherish new ideas and experiences (Baxter Magolda, 2001b; Kegan, 1994). Self-authored individuals, having achieved a stable, internal foundation, were not threatened by new experiences but rather looked to such experiences to add depth and richness to their understandings of themselves and the world around them. A similar theme was found in the literature regarding self-actualization (Maslow, 1950/1973, 1971). Maslow, for example, noted that self-actualization was characterized by a continued freshness of appreciation, creativity, and spontaneity (1950/1973), as well

as by potentialities and the search for peak experiences (1971). All of these implied an openness to new experiences and ideas.

Seeing Self (and Others) in Context. Another key theme associated with self-authorship was the centrality of context. Cognitive complexity, for example, required an ability to understand the contextual nature of knowledge (Baxter Magolda, 1992, 2001b; Perry, 1970, 1981). Similarly, one's identity and relationship with others and the external world also varied depending on the particular context (Baxter Magolda, 2001b; Kegan, 1994). Indeed, Kegan identified and discussed a great series of adult tasks, *all* of which were contextual and all of which required different skills and abilities depending on the circumstances. For example, Kegan noted that, although there were certain basic underlying abilities needed to negotiate interpersonal relationships, the specific demands and requirements varied depending on an individual's specific role, such as employee, parent, or citizen.

Internal Locus of Control. Although only one scholar (Ferencevych, 2004) made a direct connection between self-authorship and Rotter's (1966/1982) notion of internal locus of control, the parallels between these two theories were quite evident. Rotter's theory was based on the idea that, as individuals came more to believe that their experiences were the result of their own actions and decisions, the more those individuals relied on themselves to control and exert agency in their lives. This theory mirrored self-authorship in many ways, most notably in the notion that self-authored individuals came to have an increasing reliance on their own internal foundation as the guiding force in their lives (Baxter Magolda, 2001b). Additionally, Rotter's description of how individuals develop an internal locus of control seemed remarkably similar to the manner

in which Pizzolato (2004) described the crossroads stage of self-authorship; that is, the more students were able to translate their own self-authored reasoning skills into self-authored actions, the more they propelled themselves toward full realization of self-authorship. It should be noted, however, that there is a major difference between these two theories: whereas Rotter viewed the external as relating to fate, chance, and luck (i.e., non-agents), self-authorship viewed the external as relating to authority figures, personal acquaintances, and society (i.e., specific agents).

Emancipation and Liberation. This, the final theme associated with self-authorship, was first discussed at the end of Chapter 1. As that discussion demonstrated, the literature on self-authorship – particularly in academic disciplines outside of college student affairs – emphasized the libratory, emancipatory, and transformative nature of self-authorship (Carr & Zanetti, 2001; Cooke, 2000; Flanagan, 1991; Maan, 2005; Saxet, 2005; Tomlin, 1999). Further bolstering this connection was the parallel between self-authorship and the notion of self-determination from the literature on individuals with disabilities (Wehmeyer, 1999). Both concepts emphasized that individuals should work to free themselves from perceived constraints imposed on them from external sources, and both involved the exercise of psychological empowerment, autonomy, self-regulated behavior, and ultimately self-realization. When exercised, therefore, self-authorship served to liberate an individual from broader social constraints.

Conclusion

Self-authorship has generally been understood to encompass three main dimensions: the cognitive, intrapersonal, and interpersonal domains. Despite the general acceptance of this model, a closer analysis of these dimensions and the literature on self-

authorship revealed that self-authorship can be broken down into at least the 15

components, elements, and aspects identified in this chapter. The next chapter suggests a

statistical method to reconcile these different findings to determine an underlying

structure of self-authorship that takes into account all these components.

Chapter III: Methodology

Restatement of Purpose

The purpose of this study was to investigate the factor structure of self-authorship in a diverse array of college students and, by doing so, to identify and clarify the interconnections between the components of self-authorship. To achieve this goal, an exploratory factor analysis was conducted utilizing survey responses on 89 variables associated with self-authorship and collected from over 3,500 college students at 52 separate institutions of higher education across the United States. The individual participants and the institutions represented a full spectrum of diversity, both in terms of student demographics (e.g., race, religion, class, sexuality) and institutional type (e.g., size, location, population served, degrees awarded).

The research question for this study asked: What is the factor structure of self-authorship? The null hypothesis assumed that no underlying structure exists (i.e., there is only one factor), and the alternative hypothesis stated that self-authorship has an underlying structure of at least two factors. The research hypothesis predicted that self-authorship would have a structure that was composed of between three factors (mirroring the three broad dimensions) and 15 factors (mirroring the 15 components, elements, and aspects identified in Chapter 2).

This chapter outlines the specific methodology that was utilized to address the purpose of this study, test the hypotheses, and answer the research question. First, this chapter justifies the use of exploratory factor analysis as the most appropriate methodology to investigate the dimensions of self-authorship. Second, this chapter

discusses the Multi-Institutional Study of Leadership (MSL), the source of the data to be used for this study. This part of the chapter sets forth the rationale for using data from the MSL to study self-authorship, discusses how the sample was selected and the data were collected, and identifies the particular variables from the MSL instrument that were used for the study. Finally, attention turns to the manner in which the actual factor analysis was carried out, at which point the methods of extracting, retaining, and rotating factors is reviewed.

Design of Study: Exploratory Factor Analysis (EFA)

The Justification for Using EFA

Exploratory factor analysis (EFA) was the methodology used in this study to identify the underlying structural dimensions of self-authorship. EFA was a particularly appropriate statistical method because it is designed to reveal the latent dimensions (i.e., factors) of a large set of measured variables that cause those variables to covary (Costello & Osborne, 2005). That is, EFA endeavors to "achieve parsimony by using the smallest number of explanatory concepts to explain the maximum amount of common variance in a correlation matrix" (Tinsley & Tinsley, 1987, p. 414). Since this study proposed to investigate the factors and dimensions of self-authorship, EFA was well suited for this purpose.

The Logic of EFA. EFA operates on the assumption that the total variance of each individual variable is attributable to three sources: error variance, specific variance, and common variance (Bryant & Yarnold, 1995). *Error variance* represents the "inherently unreliable random variation" that occurs in any social sciences variable; *specific variance* represents the variance that is associated only with and specifically to that individual

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variable (i.e., the "variance that does not correlate with any other variables"); and

common variance represents the variance that "correlates (is shared) with other variables

in the analysis" (p. 107). *Uniqueness*, then, represents the proportion of total variance

made up of specific and error variance; *communality* represents the remainder (i.e., the

common variance). EFA identifies the ideal number, identity, and interrelationship of

factors that maximize the common variance (that is, the communality) of all the variables

in the study (Bryant & Yarnold, 1995). By isolating and identifying the communality of

the variables, EFA detects the latent, co-variable factors – that is, the underlying

dimensions – of the larger variable list. EFA thus appears ideally suited to fulfilling the

purpose of this study.

     EFA v. Principle Components Analysis. These underlying assumptions and logic

of EFA also demonstrate why Principle Components Analysis ("PCA"), another common

statistical method, was *not* used in this study. Whereas EFA was designed to locate

factors that explain the maximum amount of *common* variance, PCA was designed to

locate factors that explain the maximum amount of *total* variance (Bryant & Yarnold,

2001). Although PCA has been commonly used by researchers attempting to identify

latent factors or dimensions, from a strictly statistical standpoint, PCA does *not* extract

latent factors. Instead, PCA is best described as a method of data reduction or

transformation (Tinsley & Tinsley, 1987). This study, however, proposed to investigate

the latent dimensions of self-authorship, so EFA – not PCA – was the chosen

methodology.

     EFA v. Confirmatory Factor Analysis. The study proposed in this paper was also

better suited to using exploratory factor analysis rather than confirmative factor analysis

(CFA). CFA, in general, is very similar to EFA except that, whereas EFA allows the

number and identity of factors to *emerge from* the data itself, CFA allows a researcher to

specify the number of the factors and the alignment of variables *prior to* conducting the

analysis (Bryant & Yarnold, 1995). CFA, in other words, assumes that the researcher has

a strong, *a priori* theoretical model around which the variables were constructed.

Given the general acceptance of Kegan's (1992) and Baxter Magolda's (2001b)

three-dimensional model of self-authorship, CFA would have been an acceptable

methodology for this study, but EFA remained the preferred method for several reasons.

First, EFA could have provided an even more powerful tool of confirmation than CFA. If

the EFA conducted in this study revealed a factor structure that mirrored the three-

dimensional model proposed by Kegan (1992) and Baxter Magolda (2001b), that finding

would have emerged directly from the data, rather than being the product of *a priori*

decisions forced onto the data through a CFA. In other words: EFA allowed for a

virtually infinite number of possible factor structures to emerge from data, whereas CFA

would have assumed there was only one. Therefore, if EFA had "confirmed" the structure

suggested by Kegan and Baxter Magolda (rather than any of the other possible

structures), such a result would have offered powerful proof that the theoretical model

was indeed accurate. Additionally, as discussed in detail below, the particular EFA

method used in this study provided the capability to compare multiple factor models, thus

increasing the possible insight of the exploratory approach (Costello & Osborne, 2005;

Fabrigar, Wegener, MacCallum & Strahan, 1999; Pallant, 2005).

Second, EFA appeared to be particularly appropriate in the study of self-

authorship because the literature to date – almost all of which is conceptual or qualitative

in nature – suggested that 15 or more different components, elements, and aspects may make up self-authorship. Without a clear, definitive model of how these various elements and components affect self-authorship, it would have been difficult to determine one model to serve as the basic structure for a CFA.

Thus, EFA – rather than PCA or CFA – represented the most effective *statistical* method for uncovering the underlying dimensions of self-authorship. That being said, however, one might still question whether a *qualitative* approach – such as Kegan's subject-object interview (Lahey et al., 1988) or the narrative approach used by Baxter Magolda (1992, 2001b) – might be more consistent with the epistemological assumptions that underlie the concept of self-authorship. The next section addresses such concerns.

Matching Methodology to Epistemology

Baxter Magolda (2001a) suggested that developmental processes such as self-authorship, which have their epistemological origins in constructivist and developmental paradigms (as opposed to post-positivist and analytical paradigms that predominate in the hard-sciences), should be measured using qualitative methodologies, such as narrative or interpretive approaches. Indeed, Baxter Magolda noted that student development literature (including literature on how development could be assessed or measured) has largely ignored "the tension between positivist and constructivist paradigms that undergirds the tension between quantitative and qualitative methods" (p. 521). To make her own epistemology and methodology more consistent, Baxter Magolda decided to revise the manner in which she measures students' cognitive growth (a constructivist-developmental process) to incorporate more interpretive assessment criteria. This logic, then, would seem to suggest that self-authorship – which is also a constructivist-

developmental process (Baxter Magolda, 2001b; Kegan, 1982, 1994) – was not well suited to analysis using quantitative methodology, like factor analysis.

Although Baxter Magolda's (2001a) rationale may work as a general rule, this logic did not invalidate EFA as an appropriate technique to analyze the factor structure of self-authorship. Instead, EFA remained the most potent and appropriate research methodology for this study for several reasons. First, this study did not present a direct conflict between epistemology and methodology. Rather than measure the *development of* self-authorship, this study proposed to investigate the *dimensions of* self-authorship. Although the former clearly would have suggested the use of a constructionist methodology to match the developmental nature of the question, the later represented a more analytic question, thus making a quantitative method like EFA viable and appropriate.

Second, using a statistical approach like EFA helped to triangulate and even add to the findings of previous conceptual and qualitative investigations into self-authorship (Baxter Magolda, 2001b; Kegan, 1982, 1994; Pizzolato, 2003, 2004). Furthermore, "[w]hen there are many different epistemological routes to one place, people who have taken them will 'see' a different thing when they arrive" (Abbott, 2001, p. 32). Thus, although EFA may have served to largely confirm previous empirical findings, it also had the potential to add to or modify knowledge of self-authorship's structure. Further, given the numerous dimensions, themes, and aspects associated with self-authorship, it was not entirely clear what the exact structure of self-authorship was. EFA was a good tool to help resolve discrepancies in the literature. Thus, EFA was appropriate because it could

illuminate new or overlooked structures within self-authorship or reveal new ways in which the dimensions related to one another.

Finally, some scholars, including a noted sociologist and scholar of academic disciplines, believe that there is real value in combining a methodology and an epistemology that do not appear to be a perfect match (Abbott, 2001); indeed, Abbott suggested that such an approach may be "the most powerful mechanism for knowledge change in social science…. Interesting new social science can always be produced by trying a combination hitherto unknown" (p. 29). Thus, even if EFA were not a perfect methodological match for self-authorship's constructivist epistemology, it could nonetheless produce important (and perhaps even serendipitous) insight into self-authorship.

Therefore, EFA represented best possible method for investigating the dimensions of self-authorship. But before discussing the particular factor extraction methods used in this study, it is first important to understand the source of that data: the Multi-Institutional Study of Leadership (MSL).

<center>*Data Collection*</center>

This study analyzed the factor structure of self-authorship using data from the MSL, a nation-wide study conducted in the Spring of 2006. This section will introduce that study, its links to self-authorship, the instrument and variables of interest to this study, describe the sample to be used in this study, and discuss data collection and management techniques.

Data Source

     The Multi-Institutional Study of Leadership (MSL). The data source for this study was the Multi-Institutional Study of Leadership (MSL), which was conducted in the Spring of 2006 by researchers at the University of Maryland, College Park, and led by co-principal investigators Susan Komives and John Dugan. The MSL's primary purpose was to investigate and describe leadership development in college students at the personal, institutional, and national level by measuring students' background characteristics and experiences, their college environments, and certain outcomes associated with leadership (Komives & Dugan, 2005a, 2005b, 2006).

     The MSL investigators adopted the social change model of leadership development (Higher Education Research Institute [HERI], 1996) as their theoretical framework for investigating leadership. The social change model, one of the most widely used and respected student leadership models (Kezar, Carducci & Contreras-McGavin, 2006), views leadership as a change-directed, transformative, relational process with eight values aligned along four domains: *consciousness of self*, *congruence*, and *commitment* make up the individual domain; *collaboration*, *common purpose*, and *controversy with civility* compose the group domain; *citizenship* represents the societal-community value; and *change* stands as the core value (HERI). Descriptions of each of the eight social change model values is found in Table 3-1.

Table 3-1: Descriptions of the Values from the Social Change Model		
Domain	**Value**	**Description**
Individual Values	Consciousness of Self	• Being aware of the beliefs, values, attitudes, and emotions that motivate one to take action
	Congruence	• Thinking, feeling, and behaving with consistency, genuineness, authenticity, and honesty toward others • Taking actions consistent with one's most deeply-held beliefs and convictions
	Commitment	• Motivating oneself through by engaging one's psychic energy • Demonstrating passion, intensity, and duration
Group Values	Collaboration	• Working with others in a common effort • Empowering self and others through trust • Capitalizing on the multiple talents and perspectives of each group member and on the power of that diversity to generate creative solutions and actions
	Common Purpose	• Working with shared aims and values • Participating actively in articulating the purpose and goals of the group activity • Recognizing and sharing the group vision and mission
	Controversy with Civility	• Recognizing that differences of viewpoints is inevitable and must be shared openly but with courtesy • Showing respect for others, a willingness to hear each others' views, and restraint in criticizing the views or actions of others • Being open to new, creative solutions that may emerge from conflicting viewpoints

Societal/ Community Value	Citizenship	• Connecting to the community and society • Working for positive change on behalf of others and the community • Recognizing the interdependence of all and that democracy involves both individual rights and individual responsibilities • Incorporating a sense of concern for the rights and welfare of all those who might be affected by personal or group efforts
Central Value	Change	• The hub that gives meaning and purpose to the other values • The ultimate goal of the creative process of leadership – to make a better world and a better society for self and others
Adapted from: HERI, 1996, pp. 21-23.		

The researchers also gathered data on numerous other variables, including students' demographics, leadership efficacy, appreciation of diversity, involvement patterns, leadership training, leadership experiences, experiences in mentoring relationships, and other factors. The MSL also included four sub-studies: student activism, student employment, student government, and cognitive development / leadership identity development. Each of these sub-studies was completed by only one-quarter of the participating students. Further details about the MSL, including its variables, sample, and data collection procedures are described below, after a discussion of the rationale for selecting the MSL as the data source to investigate the dimensions of self-authorship.

The Link between the MSL and Self-Authorship. The MSL was chosen as the data source for this investigation into the factor structure of self-authorship for both substantive and practical reasons. First, from a substantive standpoint, leadership (particularly the social change model of leadership development used in the MSL) and

self-authorship share many core concepts. Significantly, these conceptual links have been

articulated, not only by scholars in the field of self-authorship such as Baxter Magolda

(2001b, 2004e) and Kegan (Kegan & Lahey, 2001; Scharmer, 2000), but also by

leadership scholars (Komives, Casper, Longerbeam, Mainella & Osteen, 2004; Komives,

Longerbeam, Owen, Mainella & Osteen, 2006). Indeed, Baxter Magolda (2004e) herself

noted that self-authorship and the social change model "[b]oth emphasize the complexity

of knowing and acting, the centrality of identity to responsible leadership, the value of

shared authority, and the goal of empowering learners and leaders" (p. 15). In addition to

these conceptual links between leadership and self-authorship, Baxter Magolda (2001b)

empirically verified the impact that leadership experiences can have on the development

of self-authorship (see especially pp. 286, 295-303), and Kegan has utilized his theory to

help foster leadership development in adults (Kegan & Lahey, 2001; Scharmer, 2000).

Second, from a pragmatic standpoint, the MSL was an ideal data source because

of its large sample size and the numerous variables included on its instrument that related

to self-authorship. Factor analysis, as a methodology, requires particularly robust sample

sizes to achieve useful results; in short, "the larger, the better" (Pallant, 2005, p. 173). By

using data from a national dataset like the MSL, this study was able to secure a very large

sample (as outlined in detail below), which helped make the analysis more robust.

Additionally, because the MSL contained a vast array of variables related to self-

authorship (also outlined in detail in the next section), it represented an ideal data set.

The MSL's value also appeared to exceed the potential value of using either of the

two instruments that have been developed specifically to assess self-authorship and that

were described in Chapter 2 (Ferencevych, 2004; Pizzolato, 2005b. 2007). Both of these

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instruments were rather narrowly drawn to measure only specific aspects of self-authorship. For example, Pizzolato's 29-item instrument specifically excluded any specific measure of interpersonal factors (2005b), and she has specifically recommended that it be used only in conjunction with a qualitative assessment tool (2007). Ferencevych's 27-item instrument was specifically designed for use with one particular outdoor education program, making its use for all college students suspect.

The next section spells out in detail the design and content of the MSL instrument, particularly those variables and items that were included in the factor analysis conducted through this study.

The MSL Instrument. The MSL instrument was a web-based survey designed to collect data on approximately 300 different items and variables. These items could be divided into several broad categories: student demographics (e.g., race, religion, socio-economic class), pre-college experiences (e.g, high school GPA, high school involvement), college experiences (e.g., organizational involvement, leadership experiences, diversity experiences), and outcomes (e.g., social change values, leadership efficacy, appreciation of diversity). In addition to the core variables asked of all participants, the MSL instrument also included four sub-studies: student activism, student employment, student government, and cognitive development / leadership identity development. Students taking the MSL were randomly assigned to one of the four sub-studies and completed those items along with the rest of the instrument. A full copy of the MSL instrument is found in Appendix A; its master variable list is found in Appendix B.

The study conducted here, however, only used a portion of the MSL variables. In particular, this study used a total of 89 variables from the MSL. Those variables were taken from 14 different scales: the eight scales associated with the eight values of the social change model, two scales from the cognitive development / leadership identity development (LID) sub-study (cognitive complexity, LID stage 4), two scales addressing diversity issues (discussions of socio-cultural issues and appreciation of diversity), and the leadership efficacy scale.

To measure the eight values associated with the social change model, the MSL used a used a modified version of Tyree's (1998) Socially Responsible Leadership Scale (SLRS), which was specifically designed to assess the social change model. The modifications (Appel-Silbaugh, 2005; Dugan, 2006) were designed to further reduce the number of items included on the instrument while retaining its reliability. The revised SLRS contained 68 items in eight scales, one for each of the social change values. A master list of the SLRS variables included on the MSL instrument can be found in Appendix C.

The cognitive development, diversity discussions, and appreciation of diversity scales were taken from (and used with the permission of) the National Study of Living-Learning Programs (NSLLP); previous studies had reported their reliability and validity (Inkelas, Vogt, Longerbeam, Owen, & Johnson, 2006). The remaining three scales (leadership efficacy and the two LID scales) were designed by the MSL research team (Komives & Dugan, 2006). Table 3-2 lists the MSL scales that will be used in this study, sample items from those scales, how each scale was scored, and the reliability for those scales.

MSL Scale	Items in Scale	Sample Items from Scale	Scoring	Reliability (α)
Consciousness of Self	9	I am able to articulate my priorities. I am comfortable expressing myself.	Disagree/Agree (1-5)	0.79
Congruence	7	My behaviors reflect my beliefs. Being seen as a person of integrity is important to me.	Disagree/Agree (1-5)	0.8
Commitment	6	I am willing to devote time and energy to things that are important to me. I follow through on my promises.	Disagree/Agree (1-5)	0.83
Collaboration	8	I enjoy working with others toward common goals. Collaboration produces better results.	Disagree/Agree (1-5)	0.82
Common Purpose	9	I support what the group is trying to accomplish. I have helped to shape the mission of the group.	Disagree/Agree (1-5)	0.82
Controversy with Civility	11	Creativity can come from conflict. Hearing differences in opinions enriches my thinking.	Disagree/Agree (1-5)	0.77
Citizenship	8	I believe I have responsibilities to my community. I have the power to make a difference in my community.	Disagree/Agree (1-5)	0.77
Change	10	I am comfortable initiating new ways of looking at things. I am open to new ideas.	Disagree/Agree (1-5)	0.81

Table 3-2: MSL Scales, Sample Items, Scoring, and Reliabilities

Leadership Efficacy	4[†]	Taking initiative to improve something Organizing a group's tasks to accomplish a goal	Confidence Level (1-4)	0.88
Discussions of Socio-cultural Issues	6	Discussed your views about multiculturalism and diversity Discussed major social issues such as peace, human rights, and justice	Never/Very Often (1-4)	0.9
Appreciation of Diversity	3	I have gained a greater commitment to my racial/ethnic identity since coming to college I have become aware of the complexities of inter-group understanding	Disagree/Agree (1-4)	0.73
Cognitive Development	4	Ability to put ideas together and to see relationships between ideas Ability to critically analyze ideas and information	Growth Level (1-4)	.85*
Leadership Identity Development (Stage 4)	6[††]	Group members share the responsibility for leadership Leadership is a process all people in the group do together	Disagree/Agree (1-5)	.76*

*Scales marked with asterisks were part of one of the four sub-studies included in the MSL; reliabilities, therefore, are based on the 25% of the total sample that was invited to respond to these questions.

[†] Only three of the four items from the efficacy scale were used in the final analysis.

[††] Only four of the six items from the LID Stage 4 scale were used in the final analysis.

Source: Komives & Dugan, 2006

The use of different scoring on different scales (i.e., both 4-point and 5-point

scales) did not present a problem because, as part of the factor analysis process, all scores

are standardized (Garson, 1998/2007).

The Variables Included in the EFA. The MSL had variables that appeared to relate

to each of the 15 components, elements, and aspects of self-authorship identified in

Chapter 2: *Cognitive Complexity; Value-Centered; Problem-Solving Orientation; Clear and Stable Sense of Self; Agency, Efficacy, and Mastery; Volition and Self-Actualization; Mutuality, Communion, and Interdependence; Appreciation of Diversity; Integrated Social Identity; Catalyzing Dissonance; Congruence and Reflexivity; Openness to New Ideas; Seeing Self (and Others) in Context; Internal Locus of Control;* and *Emancipation and Liberation*. Table 3-3 lists all of the variables included in the factor analysis conducted in this study. For each variable, the table also lists the item's MSL item number, the MSL scale it is associated with, and the self-authorship theme (or themes) that the variable appears to reflect.

Table 3-3: Variables Included in the Exploratory Factor Analysis			
MSL Number	**Variable Descriptor**	**MSL Scale**	**Possible Theme(s)**
Q18.6	I have low self esteem	Consciousness of Self Scale	Agency
Q18.19	I contribute to the goals of the group	Common Purpose Scale	Agency
Q18.29	I can make a difference when I work with others on a task	Collaboration Scale	Agency
Q18.35	I have helped to shape the mission of the group	Common Purpose Scale	Agency
Q18.44	I have the power to make a difference in my community	Citizenship Scale	Agency
Q18.51	I can be counted on to do my part	Commitment Scale	Agency
Q18.60	My contributions are recognized by others in the groups I belong to	Collaboration Scale	Agency
Q22.2	Organizing a group's tasks to accomplish a goal	Leadership Efficacy Scale	Agency
Q23.6	I am a person who can work effectively with others to accomplish our shared goals	LID Stage Four Scale	Agency
Q23.10	I know I can be an effective member of any group I choose to join	LID Stage Four Scale	Agency
Q18.9	I am usually self confident	Consciousness of Self Scale	Agency / Internal Locus
Q22.4	Working with a team on a group project	Leadership Efficacy Scale	Agency / Mutuality
Q20.2	Ability to learn on your own, pursue ideas, and find information you need	Cognitive Development Scale	Agency / Problem-Solving
Q22.3	Taking initiative to improve something	Leadership Efficacy Scale	Agency / Problem-Solving
Q20.1	Ability to put ideas together and to see relationships between ideas	Cognitive Development Scale	Cognitive Complexity
Q20.3	Ability to critically analyze ideas and information	Cognitive Development Scale	Cognitive Complexity
Q20.4	Learning more about things that are new to you	Cognitive Development Scale	Cognitive Complexity/ Problem-Solving

Q18.13	My behaviors are congruent with my beliefs	Congruence Scale	Congruence
Q18.27	It is important to me to act on my beliefs	Congruence Scale	Congruence
Q18.32	My actions are consistent with my values	Congruence Scale	Congruence
Q18.56	Self-reflection is difficult for me	Consciousness of Self Scale	Congruence
Q18.63	My behaviors reflect my beliefs	Congruence Scale	Congruence
Q18.23	I am willing to devote the time and energy to things that are important to me	Commitment Scale	Congruence / Internal Locus
Q18.2	Creativity can come from conflict	Controversy with Civility Scale	Dissonance
Q18.26	Change makes me uncomfortable	Change Scale	Dissonance
Q18.17	Change brings new life to an organization	Change Scale	Dissonance / Liberation
Q18.8	Transition makes me uncomfortable	Change Scale	Dissonance / Problem-Solving
Q18.11	Greater harmony can come out of disagreement	Controversy with Civility Scale	Dissonance / Problem-Solving
Q18.39	I work well in changing environments	Change Scale	Dissonance / Problem-Solving
Q16.1	Talked about different lifestyles	Socio-Cultural Discussions Scale	Diversity
Q16.5	Discussed your views about multiculturalism and diversity	Socio-Cultural Discussions Scale	Diversity
Q21.1	I have learned a great deal about other racial/ethnic groups	Appreciation of Diversity Scale	Diversity
Q16.2	Held discussions with students whose personal values were very different from your own	Socio-Cultural Discussions Scale	Diversity / Openness
Q16.4	Held discussions with students whose religious beliefs were very different from your own	Socio-Cultural Discussions Scale	Diversity / Openness
Q16.6	Held discussions with students whose political opinions were very different from your own	Socio-Cultural Discussions Scale	Diversity / Openness
Q18.3	I value differences in others	Controversy with Civility Scale	Diversity / Openness
Q16.3	Discussed major social issues such as peace, human rights, and justice	Socio-Cultural Discussions Scale	Diversity / Self in Context / Emancipation
Q18.67	I support what the group is trying to accomplish	Common Purpose Scale	Internal Locus

Q18.18	The things about which I feel passionate have priority in my life	Consciousness of Self Scale	Internal Locus / Sense of Self
Q18.4	I am able to articulate my priorities	Consciousness of Self Scale	Internal Locus / Sense of Self
Q18.20	There is energy in doing something a new way	Change Scale	Liberation
Q18.50	I can identify the difference between positive and negative change	Change Scale	Liberation
Q18.47	I participate in activities that contribute to the common good	Citizenship Scale	Liberation / Self in Context
Q18.10	I am seen as someone who works well with others	Collaboration Scale	Mutuality
Q18.31	I think it is important to know other people's priorities.	Common Purpose Scale	Mutuality
Q18.38	I give my time to making a difference for someone	Citizenship Scale	Mutuality
Q18.42	I enjoy working with others toward common goals	Collaboration Scale	Mutuality
Q18.48	Others would describe me as a cooperative group member	Collaboration Scale	Mutuality
Q18.57	Collaboration produces better results	Collaboration Scale	Mutuality
Q18.62	I share my ideas with others	Controversy with Civility Scale	Mutuality
Q18.65	I am able to trust the people with whom I work	Collaboration Scale	Mutuality
Q23.3	I spend time mentoring other group members	LID Filter	Mutuality
Q23.9	I feel inter-dependent with others in a group	LID Stage Four Scale	Mutuality
Q18.1	I am open to others' ideas	Controversy with Civility Scale	Openness
Q18.5	Hearing differences in opinions enriches my thinking	Controversy with Civility Scale	Openness
Q18.12	I am comfortable initiating new ways of looking at things	Change Scale	Openness
Q18.16	I respect opinions other than my own	Controversy with Civility Scale	Openness
Q18.30	I actively listen to what others have to say	Collaboration Scale	Openness
Q18.43	I am open to new ideas	Change Scale	Openness
Q18.45	I look for new ways to do something	Change Scale	Openness

Q18.25	When there is a conflict between two people, one will win and the other will lose	Controversy with Civility Scale	Problem-Solving
Q18.14	I am committed to a collective purpose in those groups to which I belong	Common Purpose Scale	Self in Context
Q18.33	I believe I have responsibilities to my community	Citizenship Scale	Self in Context
Q18.37	Common values drive an organization	Common Purpose Scale	Self in Context
Q18.40	I work with others to make my communities better places	Citizenship Scale	Self in Context
Q18.58	I know the purpose of the groups to which I belong	Common Purpose Scale	Self in Context
Q23.11	Teamwork skills are important in all organizations	LID Stage Four Scale	Self in Context
Q18.55	I believe I have a civic responsibility to the greater public	Citizenship Scale	Self in Context / Liberation
Q18.15	It is important to develop a common direction in a group in order to get anything done	Common Purpose Scale	Self in Context / Mutuality
Q18.46	I am willing to act for the rights of others	Citizenship Scale	Self in Context / Mutuality
Q18.22	I know myself pretty well	Consciousness of Self Scale	Sense of Self
Q18.28	I am focused on my responsibilities	Commitment Scale	Sense of Self
Q18.34	I could describe my personality	Consciousness of Self Scale	Sense of Self
Q18.41	I can describe how I am similar to other people	Consciousness of Self Scale	Sense of Self
Q18.59	I am comfortable expressing myself	Consciousness of Self Scale	Sense of Self
Q18.64	I am genuine	Congruence Scale	Sense of Self / Congruence
Q21.2	I have gained a greater commitment to my racial/ethnic identity since coming to college	Appreciation of Diversity Scale	Social Identity
Q21.4	I have become aware of the complexities of inter-group understanding	Appreciation of Diversity Scale	Social Identity
Q18.52	Being seen as a person of integrity is important to me	Congruence Scale	Values
Q18.61	I work well when I know the collective values of a group.	Common Purpose Scale	Values

Q18.66	I value opportunities that allow me to contribute to my community	Citizenship Scale	Values
Q18.68	It is easy for me to be truthful	Congruence Scale	Values
Q18.24	I stick with others through difficult times	Commitment Scale	Volition
Q18.53	I follow through on my promises	Commitment Scale	Volition
Q18.54	I hold myself accountable for responsibilities I agree to	Commitment Scale	Volition / Congruence
Q18.49	I am comfortable with conflict	Controversy with Civility Scale	Volition / Openness
Q18.36	New ways of doing things frustrate me	Change Scale	Volition / Problem-Solving
Q18.7	I struggle when group members have ideas that are different from mine	Controversy with Civility Scale	Volition / Internal Locus / Problem-Solving
Q18.21	I am uncomfortable when someone disagrees with me	Controversy with Civility Scale	Volition / Openness / Internal Locus / Problem-Solving

Table 3-3 lists the 89 variables that were included in the final factor analysis. Although this may appear to be a large number of variables, the robust size of the sample (over 3,500 students) was more than sufficient to conduct a factor analysis of this data (Costello & Osborne, 2005; Fabrigar, Wegener, MacCallum & Strahan, 1999; Pallant, 2005). Furthermore, neither the large number of respondents nor the 30:1 respondent per item ratio should skew or adversely affect the results of the EFA (Tinsley & Tinsley, 1987, citing Endes, 1985).

Originally, six other variables were proposed to be included in the factor analysis. Three of these variables made up the LID Stage 3 scale, two items came from the LID Stage 4 scale, and one item came from the leadership efficacy scale. (The items are contained in Table 3-4 below.) These six items were ultimately removed because they all included some form of the word *lead* or *leadership* in them. (No other items in this study

included those words, despite being drawn from a leadership study.) There was a concern that, if these items were left in the final analysis, they would produce a suboptimal factor solution by loading together and forming a leadership factor, which would not appear to be a component factor of self-authorship (see Garson, 1998/2007).

Table 3-4: Variables Excluded from the Final Exploratory Factor Analysis		
MSL Number	**Variable Descriptor**	**MSL Scale**
Q22.1	Leading others	Leadership Efficacy Scale
Q23.4	I think of myself as a leader only if I am the head of the group	LID Stage Three Scale
Q23.7	I do not think of myself as a leader when I am just a member of a group	LID Stage Three Scale
Q23.12	The head of the group is the leader and members of the group are followers	LID Stage Three Scale
Q23.8	Leadership is a process all people in the group do together	LID Stage Four Scale
Q23.5	Group members share the responsibility for leadership	LID Stage Four Scale

Table 3-5 identifies the number of MSL variables that were ultimately included in the factor analysis that appeared to be connected to each of the 15 themes identified in Chapter 2. (The numbers in Table 3-5 total more than 89 because, as indicated in Table 3-3, some MSL variables appeared to be related to multiple themes.) Thus, each theme had between 2 and 14 items associated with it.

Table 3-5: Self-Authorship Themes & MSL Variables	
Theme	**Number of MSL Variables**
Cognitive Complexity	3
Value-Centered	4
Problem-Solving Orientation	10
Clear and Stable Sense of Self	8
Agency, Efficacy, and Mastery	14
Volition and Self-Actualization	7
Mutuality, Communion, and Interdependence	13
Appreciation of Diversity	8
Integrated Social Identity	2
Dissonance and Catalyst	6
Congruence and Personal Reflexivity	8
Openness to New Ideas	12
Seeing Self (and Others) in Context	11
Internal Locus of Control	7
Emancipation and Liberation	6

The Sample

The sample for this study was composed of a sub-set of the college students who

attended a diverse set of institutions and who participated in the MSL during the spring of

2006. The final sample for this study was achieved through a multi-step process. First,

the MSL research team selected participating institutions; second, each institution then selected its sample; and finally, a specific sub-set of the overall MSL sample was selected for this study.

   Selecting the Institutional Participants for the MSL. The institutions participating in the MSL were selected in the fall of 2005. Initially, the MSL investigators sent invitations to a variety of institutions on three different e-mail listservs focusing on student leadership and involvement. In response to this solicitation, 150 institutions indicated their interest in participating in the MSL. The MSL researchers then purposefully selected 55 institutions to participate in the study to achieve maximum variation, depth, and richness in institutional type, geography, and student populations (Komives & Dugan, 2005a, 2005b). After securing human subjects approval (in addition to the general approval granted to the MSL research team by the University of Maryland), 52 institutions completed data collection (two schools withdrew from the study prior to data collection and one institution was unable to complete the study) (Komives & Dugan, 2006). The specific characteristics of these 52 institutions are summarized in Table 3-6 below, and Appendix D lists each participating institution and its classifications.

Table 3-6: Characteristics of MSL Institutions	
Description	**No.**
Carnegie Class of Institution:	
Associates Colleges	2
Baccalaureate Colleges	7
Master's Universities	11
Research (Intensive) Universities	10
Research (Extensive) Universities	22
Institutional Affiliation:	
Public	30
Private	22
Size of Undergraduate Student Body:	
3,000 or less	10
3,001 – 10,000	15
10,000 or more	27
Geographic Region:	
Northeast	15
Southeast	13
Midwest	12
West	12
Special Population Serving Institutions:	
Women's Institutions	3
Historically Black Institutions	2
Hispanic Serving Institutions	2
Institutions Serving the Deaf & Hard-of-Hearing	1
Source: Komives & Dugan, 2006	

Selecting the Individual Participants for the MSL. Once these institutions were

selected, the research team determined the appropriate sample for each campus, with the

precise number of students determined based on several factors. For those institutions

with 4,000 or less students, the entire student population was included in the survey. For

institutions with more than 4,000 students, the number of students to be included in the

sample was determined by an effort to achieve a 95% confidence interval with a margin or error of +/-3% for that particular school. After calculating the minimum number of students needed to complete the survey to achieve this confidence level, that number was generally increased by 70% to take into account that web-based surveys achieve about a 30% response rate from college student populations. Some institutions increased their sample size beyond this amount where previous experience or research indicated lower response rates for their students. Once a final sample size was determined, each school randomly selected the appropriate number of undergraduate students to be invited to participate in the MSL. Ultimately, a total of just over 157,000 students were selected to participate in the MSL, which amounts to an average sample of just over 3,000 students per institution. The overall response rate was approximately 38% (Komives & Dugan, 2006). General demographic data regarding the entire set of MSL respondents can be found in Table 3-7 (specific demographics for the sample who participated in this study will be found in Chapter 4).

Table 3-7: Demographic Characteristics of MSL Respondents

Description	%		Description	%
Gender			*Sexuality*	
Female	61.5%		Heterosexual	94.1%
Male	38.3%		Gay, Lesbian, or Bisexual	3.4%
Transgender	0.1%		Rather Not Say	2.5%
Race/Ethnicity			*Perceived Campus Climate*	
White	71.8%		Closed, Hostile, Intolerant – 1	0.5%
African American/Black	5.2%		2	1.6%
American Indian	0.3%		3	5.5%
Asian/Asian Pacific American	7.9%		4	13.9%
Latino	4.4%		5	34.9%
Multiracial	8.2%		6	28.1%
Not Included	2.3%		Open, Inclusive, Friendly – 7	15.5%
Class Standing			*Political Views*	
Freshman	23.3%		Far Left	3.7%
Sophomore	21.7%		Liberal	32.9%
Junior	26.3%		Middle of the Road	37.7%
Senior	28.8%		Conservative	24.3%
			Far Right	1.4%
Disability Status			*College Generation Status*	
Identified Disability	11.5%		First-Generation Student	14.4%
No Disability Identified	88.5%		Non-First-Generation Student	85.6%
Class of Institution Attended			*College Grade Point Average*	
Research Extensive	47.8%		3.50 – 4.00	35.4%
Research Intensive	17.5%		3.00 – 3.49	37.7%
Masters	23.3%		2.50 – 2.99	20.3%
Baccalaureate	9.6%		2.00 – 2.49	5.4%
Associates	1.7%		1.99 or Less	1.1%
			No College GPA	0.1%
Undergraduate Student Body			*Institutional Affiliation*	
Small (3,000 or under)	12.6%		Public	57.4%
Medium (3,001 – 10,000)	35.9%		Private	42.6%
Large (More than 10,000)	51.4%			
Source: Komives & Dugan, 2006				

Selecting the Participants for this Study. For purposes of this study, however,

only a specific sub-set of the total MSL sample was used. As mentioned previously, the

MSL included four sub-studies in addition to the primary investigation of leadership

outcomes. Rather than having each participant complete the survey items for each of these sub-studies (and thus lengthen the survey), the MSL investigators randomly assigned each individual in the sample to one of the four sub-studies. The survey was then constructed using skip logic so that each student only took his or her assigned sub-study.

This study included only a portion of the students who participated in the sub-study on cognitive development and leadership identity development. The cognitive development sub-study was selected because, as discussed in Chapter 2, scholarly literature has stressed the central importance of cognitive development to the achievement of self-authorship (Baxter Magolda, 1999d, 2001b, 2004d; Kegan, 1982, 1994). In addition, some of the items from the leadership identity development scales are included because, as seen above in Table 3-4, those items also appeared to relate to self-authorship.

In addition to only using students who participated in the cognitive development / leadership identity development sub-study, this study only included students who were at least 22 years of age. Using older students was deemed important because, as seen in Chapter 2, much of the literature has indicated that self-authorship generally develops slowly (if at all) during individuals' college years (e.g., Baxter Magolda, 2001b; Kegan, 1994; Lewis et al., 2005) and that less than 10% of college students have reached even the lower levels of self-authorship while in college (Baxter Magolda, King, Stephenson et al, 2007; King, 2007). A growing body of literature, however, has demonstrated that students can make significant strides toward self-authorship during their college years (e.g., Abes, 2003; Allen & Taylor, 2006; Appel-Silbaugh, 2006; Pizzolato, 2003, 2004;

Torres & Baxter Magolda, 2005; Wawrzynski & Pizzolato, 2006). Additionally, results from the MSL reveal that students over the age of 21 scored statistically significantly higher on many of the outcome measurements than younger students (Komives, personal communication, Jan. 23, 2007). Therefore, by including only older students in the sample of this study, it intended to generate results using students who had progressed the furthest in their development toward self-authorship.

Of the total number of students responding to the MSL, approximately 12,000 students were assigned to the cognitive development / leadership identity development sub-study. Of that amount, 3,578 students completed at least 90% of the instrument and were at least 22 years of age. These students, then, became the sample for this study.

Data Collection and Management

After human subjects approval was received from all participating institutions and for the overall MSL study, data collection was conducted in the spring of 2006 and was coordinated by a third-party web-survey administrator. Each institution, based on its preferences, was assigned a particular three-week block of time during which their students would be asked to complete the MSL survey instrument. On the first day of that period, the survey administrators sent each student an initial e-mail invitation to participate in the study. This e-mail contained an internet link to the survey instrument, which (as discussed above) was all web-based. Students who selected the link were directed to the survey's website, where they were first asked to verify their consent to participate in the study and then taken to the survey instrument itself. Three subsequent e-mail reminders were sent to students who had not completed the survey; these reminders were spaced out over the two-week period following the initial invitation. To encourage

participation, each institution offered incentives, including gift certificates, iPods, and (at one campus) free tuition, and many institutions also engaged in publicity campaigns to highlight the awareness and importance of the MSL. The average amount of time needed to complete the survey instrument was 20 minutes (Komives & Dugan, 2006). After final data collection, standard data cleaning methods were implemented (reversing scales where necessary, removing participants under the age of 18, creating scales, removing outliers, etc.).

Data Analysis Plan

This section discusses the specific process that was used to extract factors from the MSL data, the process used for determining the appropriate number of factors to retain, and the process in which the factors were rotated and analyzed to achieve the best factor model.

Preliminary Analyses

Prior to conducting any factor analysis, it was first necessary to verify that factor analysis was an appropriate analytical procedure to use with this data set and that no assumptions are violated. Thus, it was necessary to ensure that the correlation matrix of the items was appropriate (Pallant, 2005; Tinsley & Tinsley, 1987). This was achieved by ensuring that the correlation matrix between the variables contained a number of correlations where the absolute value was 0.3 or greater (Pallant), that Bartlett's test of sphericity was statistically significant (Pallant; Tinsley & Tinsley), and that the Kaiser-Meyer-Olkin measure of sampling adequacy had a value of 0.6 or above (Pallant). Each of these criteria were met, so it was appropriate to begin the factor analysis.

Factor Extraction

Once the preliminary analyses confirmed that a factor analysis could appropriately be carried out, the next step was to begin initial factor extraction. This study used maximum likelihood as its method of exploratory factor analysis because it conformed with all the assumptions and conditions of this study: (1) the factor analysis contained variables associated with all components, elements, and aspects associated with self-authorship; (2) the sample was randomly selected; and (3) the hope was to generate a factor structure that would be generalizable to the broader college student population (Tinsley & Tinsley, 1987).

An initial factor extraction was then conducted using an unrotated approach to identify the initial eigenvalues associated with this dataset and to produce a screeplot of those values to assist in determining the number of factors to retain.

Factor Retention

Ultimately, to determine the number of factors to retain, a number of approaches were used. First, the initial eigenvalues were examined to identify the number of factors that had eigenvalues over 1.0. Second, the screeplot was examined to determine the location of breaks or shoulders on the graph. Third, a parallel analysis was conducted, since scholarship is increasingly suggesting that this is the most reliable and accurate method to determine the number of factors to retain (Costello & Osborne, 2005; Lance, Butts, & Michels, 2006; Pallant, 2005; Tinsley & Tinsley, 1987; Zwick & Velicer, 1986).

Based on these various analysis, a number of possible factor solutions appeared possible. Thus, a series of obliquely rotated exploratory factor analyses were conducted using the maximum likelihood method. The results of these analyses were examined to

determine which model presented the most robust yet parsimonious model. Then, a final model and solution was selected.

Factor Rotation

As indicated above, the final exploratory factor analysis was obliquely rotated to produce the best possible model. "Rotation clarifies the factor structure by spreading variance across the factors a bit more equitably [and] … results in a more interpretable solution and one that is more likely to generalize to other samples from the same population" (Tinsley & Tinsley, 1987, pp. 420-421). Oblique rotation methods were appropriate because the factors in this study were found to be largely intercorrelated with one another (Costello & Osborne, 2005; Fabrigar et al., 1999; Tinsley & Tinsley).

Conclusion

This chapter reviewed the statistical method that was used to identify the factor structure of self-authorship using the responses of a large, diverse sample of college students on a large, diverse array of variables associated with self-authorship. The next chapter presents the results of these analyses.

Chapter IV: Results

Introduction

The purpose of this study was to determine the factor structure and dimensions of self-authorship in a diverse array of college students. This chapter sets forth the results of the statistical factor analysis, beginning first with a description of the sample, then discusses the initial analyses untaken to confirm that factor analysis was appropriate, and finally presents the results of the exploratory factor analysis that was conducted.

Description of the Sample

The sample for this study consisted of a diverse array of 3,578 students attending 52 different institutions across the United States who completed the Multi-Institutional Study of Leadership in the Spring of 2006. A summary of the characteristics of these students is included as Table 4-1 below.

Of the 3,578 students in the sample, the vast majority (70.3%) were between the ages of 22 and 25 (recall from Chapter 3 that only students 22 years of age of older were included in the sample for this study). Nearly one-quarter (24.8%) were between the ages of 26 and 40, and the remaining students (6%) were between the ages of 41 and 60. The sample included no students over the age of 60. Given the age range that was selected for this study, it was not surprising that the vast majority of the sample was composed of upperclass students, with 63.7% identified as seniors, 24.1% as juniors, and less than 8.5% as sophomores or first-year students. Over 70% of the students in the sample reported GPAs of over 3.00.

The sample was diverse in its demographic makeup. Women made up nearly 56% of the sample, men were 44%, and individuals who identified as transgender composed 0.2% of the sample. With regard to race and ethnicity, just under two-thirds (65.6%) identified themselves as White. Asian, Black, and Latino/a students each made up between 6 and 8% of the sample, and multiracial students made up nearly 10% of the sample. A small number (3.5%) reported that their race was not identified on the survey instrument. Nearly all of the sample (83.9%) were born in the United States, with the vast majority (62.3%) also having both their parents and grandparents born in this country, and another 10.6% having both parents born in the United States. Of the 16% that were born outside of this country, 6.3% were naturalized citizen, 5.8% were resident aliens, and 3.9% held student visas.

The sample also showed a wide array of socio-economic characteristics. Nearly one-fifth (19.7%) of the students were first-generation college students. The students' estimates of their families' combined annual income was also quite diverse: 20.3% of the students reported incomes under $25,000, 19.9% reported income between $25,000 and $55,000, 21.3% reported incomes between $55,000 and $100,000, and approximately 20% reported incomes of over $100,000. Another 20% of the sample either did not know or preferred not to answer the question regarding family income.

The sample was diverse along other lines, as well. Politically, only a small minority of students identified themselves as holding extreme viewpoints, whether it was on the far left (4.4%) or on the far right (1.2%). The largest proportion (38.7%) identified themselves as being middle-of-the-road, with the remaining students being either liberal (31.9%) or conservative (23.9%). Finally, more than one in eight students (13.5%)

indicated that they had a mental, physical, or learning disability or impairment of some

sort.

With regard to the students' institutional affiliations, more than two-thirds

(68.7%) attended public institutions, with the remaining students divided almost equally

between private, non-denominational schools (16.3%) and religiously affiliated schools

(15.0%). Most individuals in the sample (62.9%) also attended institutions with

undergraduate student bodies larger than 10,000, with 24.9% attending mid-sized

institutions (3,000-10,000 students), and a small number (7.7%) attending schools with

less than 3,000 students. Only 3.0% of the sample attended community colleges, and

another 31.0% attended bachelors- or masters-level institutions. Most of the sample

(66.1%) attended doctoral institutions with a research focus. Finally, most students had a

positive perception of their campus climate, with less than one-quarter rating it 4 or less

on a 7-point scale. More than one-third (33.9%) rated the climate a 5, and over 41% rated

it a 6 or 7.

Table 4-1: Demographic Characteristics of Sample				
Description	**%** *n*=3578		**Description**	**%** *n*=3578
Age			*Class Standing*	
22-25	70.3 %		Freshman/First-year	1.7 %
26-30	13.7 %		Sophomore	6.7 %
31-40	10.1 %		Junior	24.1 %
41-60	6.0 %		Senior	63.6 %
60 or older	0.0 %		Other	4.0 %
Gender			*Sexuality*	
Female	55.8 %		Heterosexual	92.3 %
Male	44.0 %		Gay, Lesbian, or Bisexual	4.4 %
Transgender	0.2 %		Rather Not Say	3.3 %
Race/Ethnicity			*Perceived Campus Climate*	
White	65.6 %		Closed, Hostile, Intolerant – 1	0.6 %
African American/Black	6.5 %		2	1.8 %
American Indian	0.5 %		3	5.6 %
Asian/Asian Pacific American	7.6 %		4	15.5 %
Latino	6.4 %		5	33.9 %
Multiracial	9.8 %		6	25.7 %
Not Included	3.5 %		Open, Inclusive, Friendly – 7	16.8 %
College Grade Point Average			*Political Views*	
3.50 – 4.00	34.4 %		Far Left	4.4 %
3.00 – 3.49	36.9 %		Liberal	31.9 %
2.50 – 2.99	22.8 %		Middle of the Road	38.7 %
2.00 – 2.49	5.2 %		Conservative	23.9 %
1.99 or Less	0.7 %		Far Right	1.2 %
No College GPA	0.1 %			
Citizenship Status			*Estimated Parental Income*	
Grandparents, parents, & you were born in the U.S.	62.3 %		Less than $12,500	9.2 %
Both parents and you were born in the U.S.	10.6 %		$12,500 - $24,999	11.1 %
			$25,000 - $39,999	11.0 %
You were born in the U.S., but at least one parent was not	11.0 %		$40,000 - $54,999	8.9 %
			$55,000 – $74,999	10.7 %
Foreign-born, naturalized citizen	6.3 %		$75,000 - $99,999	10.6 %
			$100,000 - $149,999	10.6 %
			$150,000 - $199,999	4.6 %
Foreign born, resident alien/permanent resident	5.8 %		$200,000 and over	6.2 %
			Don't know	8.9 %
Hold a student visa	3.9 %		Rather not say	8.2 %

Disability Status			College Generation Status	
Identified Disability	13.5 %		First-Generation Student	19.7 %
No Disability Identified	86.5 %		Non-First-Generation Student	80.3 %
Size of Student Body			*Institutional Affiliation*	
Small (3,000 or under)	7.7 %		Public	68.7 %
Medium (3,001 – 10,000)	29.4 %		Private/Non-Denominational	16.3 %
Large (More than 10,000)	62.9 %		Private/Religiously Affiliated	15.0 %
Type of Institution Attended				
Research Extensive	43.2 %			
Research Intensive	22.9 %			
Masters	22.2 %			
Baccalaureate	8.8 %			
Associates	3.0 %			

The Exploratory Factor Analysis

Preliminary Analyses to Ensure Sufficient Covariance

The first step in preparing to factor analyze the data was to ensure that the data were suitable for a factor analysis in that a sufficient amount of multi-collinearity was present. This was necessary because, as seen in Chapter 3, one of the underlying assumptions of a factor analysis is that the variables being studied are interrelated and share common variance (Bryant & Yarnold, 1995). Two statistical tests were performed to ensure sufficient covariance existed in the data to proceed with a factor analysis: the Kaiser-Meyer-Olkin Measure of Sampling Adequacy (MSA) and Bartlett's Test of Sphericity.

The Kaiser-Meyer-Olkin MSA is an index with a range from 0 to 1, with a value of 1 suggesting that each variable is perfectly predicted without error by the other variables (Hair, Anderson, Tatham & Black, 1995). Values of 0.9 or greater indicate that significant multi-collinearity exists and factor analysis is appropriate; values of 0.6 to 0.7 are considered the minimum necessary to run a factor analysis (Hair et al.; Pallant, 2005).

In this case, the Kaiser-Meyer-Olkin index was 0.972, indicating that sufficient multi-collinearity exists to perform a factor analysis

Similarly, Bartlett's Test of Sphericity measures whether significant correlations exist between and among the variables. A statistically significant result ($p < 0.05$) should be present for factor analysis to be appropriate. In this case, the result was indeed statistically significant ($\chi^2 = 134{,}949.415$; $df = 3916$; $p < 0.001$), also demonstrating the appropriateness of factor analysis.

Finally, in addition to these statistical tests, a correlation matrix was generated for all 89 variables in the dataset. Scholars suggest that, before conducting a factor analysis, researchers should visually inspect the correlation matrix of the data set to ensure that coefficients of 0.3 or above are present (Pallant, 2005). In this case, a large number of variables had correlation coefficients larger than 0.3, with some coefficients being larger than 0.7. Together, this analysis of the correlation matrix combined with the results of the statistical tests demonstrated that it was appropriate to proceed with a factor analysis of the data set.

Extracting the Factors

An initial, unrotated exploratory factor analysis, using the maximum likelihood method for extracting factors, was produced to help determine the number of factors to be retained. Table 4-2 presents the results of that initial analysis.

Table 4-2: Initial, Unrotated Factor Analysis – Eigenvalues and Total Variance Explained					
Factor	**Initial Eigenvalues**			**Extraction Sums of Squared Loadings**		
	Total	**% of Variance**	**Cumulative %**	**Total**	**% of Variance**	**Cumulative %**
1	23.887	26.839	26.839	23.330	26.213	26.213
2	4.150	4.663	31.502	3.756	4.220	30.434
3	3.633	4.082	35.585	3.051	3.428	33.861
4	2.575	2.894	38.478	2.141	2.406	36.267
5	2.490	2.798	41.276	2.050	2.304	38.571
6	2.252	2.530	43.806	1.801	2.024	40.595
7	1.713	1.925	45.731	1.295	1.455	42.050
8	1.673	1.880	47.611	1.059	1.190	43.240
9	1.513	1.700	49.311	1.100	1.236	44.476
10	1.391	1.563	50.874	.846	.951	45.427
11	1.273	1.431	52.305	.784	.880	46.307
12	1.190	1.337	53.642	.762	.857	47.164
13	1.140	1.281	54.924	.703	.790	47.953
14	1.123	1.262	56.186	.624	.701	48.654
15	1.072	1.205	57.391	.545	.612	49.266
16	1.021	1.147	58.538	.552	.620	49.887
17	1.003	1.127	59.665	.508	.570	50.457
18	.951	1.068	60.733			
19	.926	1.041	61.774			
20	.892	1.003	62.777			
21	.872	.979	63.756			
22	.841	.945	64.701			
23	.809	.909	65.611			
24	.763	.857	66.468			
25	.747	.840	67.307			
26	.730	.820	68.127			
27	.719	.808	68.935			
28	.705	.792	69.727			
29	.686	.771	70.498			
30	.675	.759	71.257			

31	.671	.753	72.010		
32	.656	.737	72.748		
33	.643	.722	73.470		
34	.633	.711	74.181		
35	.612	.687	74.868		
36	.602	.676	75.544		
37	.595	.669	76.213		
38	.581	.653	76.866		
39	.576	.647	77.513		
40	.567	.637	78.150		
41	.554	.622	78.772		
42	.550	.618	79.390		
43	.545	.613	80.002		
44	.539	.606	80.608		
45	.527	.592	81.200		
46	.521	.586	81.786		
47	.507	.570	82.356		
48	.506	.568	82.924		
49	.499	.561	83.485		
50	.493	.554	84.040		
51	.485	.545	84.585		
52	.479	.538	85.123		
53	.469	.527	85.649		
54	.468	.526	86.175		
55	.459	.515	86.690		
56	.454	.510	87.201		
57	.445	.500	87.701		
58	.440	.494	88.195		
59	.437	.491	88.686		
60	.424	.477	89.163		
61	.417	.468	89.631		
62	.408	.459	90.090		
63	.403	.453	90.543		
64	.402	.452	90.995		
65	.396	.445	91.440		
66	.394	.443	91.882		
67	.388	.436	92.319		

68	.387	.434	92.753			
69	.372	.417	93.171			
70	.366	.412	93.582			
71	.361	.406	93.988			
72	.356	.400	94.388			
73	.353	.396	94.784			
74	.340	.382	95.167			
75	.337	.379	95.546			
76	.331	.372	95.917			
77	.327	.367	96.285			
78	.323	.363	96.648			
79	.314	.353	97.000			
80	.304	.342	97.342			
81	.300	.337	97.680			
82	.294	.330	98.010			
83	.283	.318	98.328			
84	.276	.310	98.638			
85	.268	.301	98.939			
86	.254	.286	99.225			
87	.240	.269	99.494			
88	.231	.260	99.754			
89	.219	.246	100.000			

Extraction Method: Maximum Likelihood
Rotation Method: None

Determining the Number of Factors to Retain

Statistical Approaches. To determine the number of factors to retain, a number of statistical analyses and approaches were considered. First, as shown in Table 4-2 above, 17 factors had initial eigenvalues over 1.0. The Kaiser criterion suggests that this is the number of factors to be retained; scholarly consensus, however, has confirmed that the Kaiser criterion consistently overestimates the number of factors and should not be used

(Costello & Osborne, 2005; Lance, Butts, & Michels, 2006; Pallant, 2005; Tinsley & Tinsley, 1987; Zwick & Velicer, 1986).

The second approach used to help identify the number of factors to retain was to review the screeplot of the eigenvalues from the initial analysis. (The screeplot is shown below in Figure 4-1.) Various elbows appear on the graph, with large elbows or breaks after the third and sixth factors and a smaller elbow after the eighth factor. After the eighth factor, no further elbows are visible. These elbows would suggest that a three-, six-, and eight-factor solution be considered.

Figure 4-1: Screeplot from Initial, Unrotated Factor Analysis

Extraction Method: Maximum Likelihood
Rotation Method: None
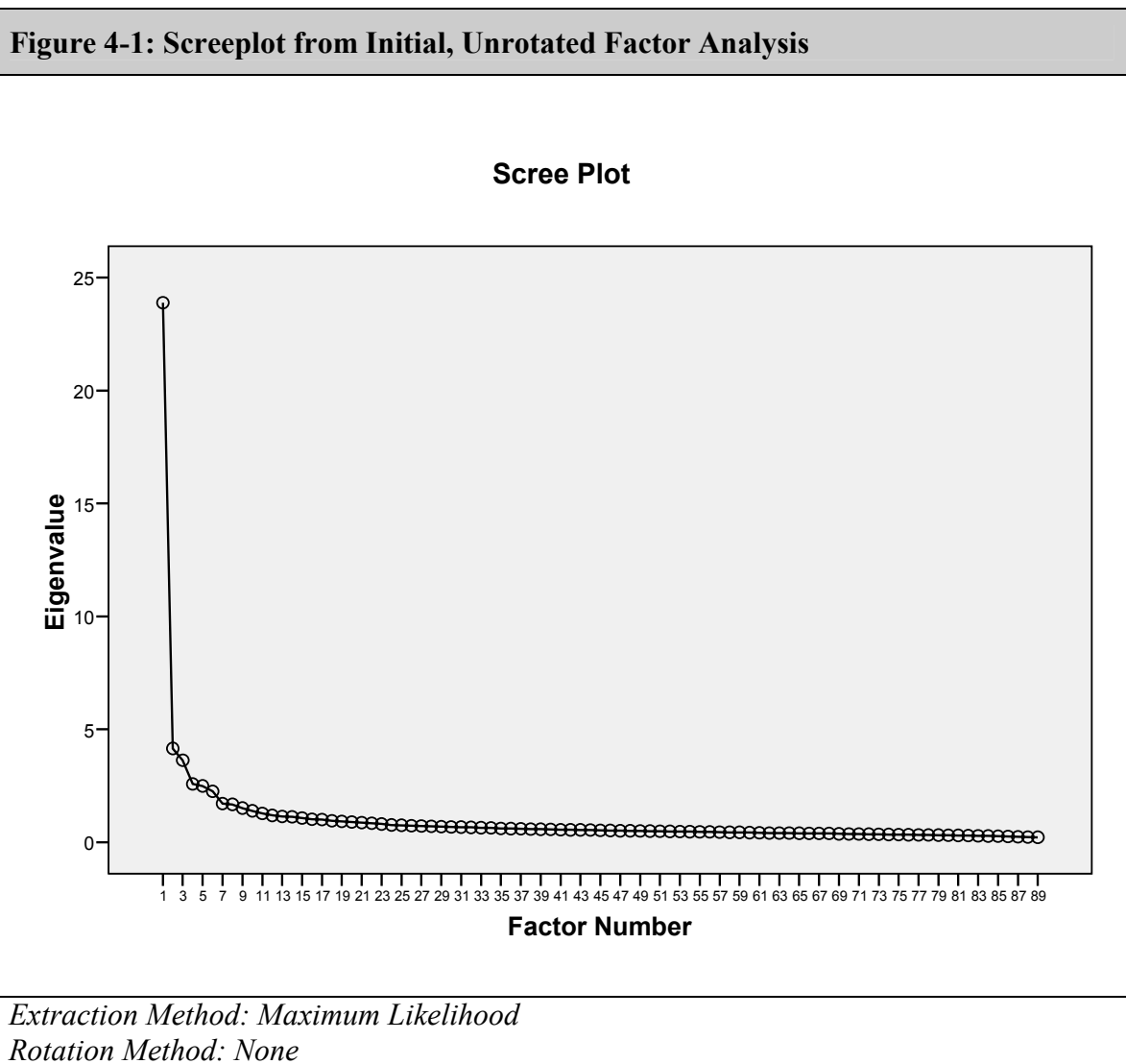
Finally, a parallel analysis was conducted using Monte Carlo PCA for Parallel

Analysis (Watkins, 2000). Parallel analysis is a procedure that generates a number of sets

of random data that are the same size as the dataset being tested and then calculates the

average eigenvalues for those random samples. The random eigenvalues are then

compared to the actual eigenvalues; factors are retained if the actual value exceeds the

random value. Although many scholars now suggest that parallel analysis may be the

most accurate way to determine the number of factors to retain (Costello & Osborne,

2005; Lance, Butts, & Michels, 2006; Pallant, 2005; Tinsley & Tinsley, 1987; Zwick &

Velicer, 1986), parallel analysis is not a perfect process and can result in either over- or

under-extraction of factors under different conditions (Beauducel, 2001). The output

generated by the parallel analysis conducted in this case can be found below in Table 4-3.

By comparing the random eigenvalues values from the parallel analysis in Table 4-3 to

the list of actual eigenvalues from Table 4-1 above, the first random eigenvalue from the

parallel analysis to exceed the actual eigenvalue from the initial analysis was factor 12,

thus suggesting that 11 factors be retained when conducting the final factor analysis.

Table 4-3: Output from the Parallel Analysis		
Factor Random Eigenvalue Standard Dev		
1	1.3909	.0136
2	1.3654	.0111
3	1.3475	.0102
4	1.3326	.0090
5	1.3191	.0090
6	1.3061	.0077
7	1.2938	.0065
8	1.2828	.0069
9	1.2708	.0069
10	1.2605	.0065
11	1.2502	.0070
12	1.2405	.0064
13	1.2313	.0063
14	1.2220	.0058
15	1.2134	.0057
16	1.2041	.0053
17	1.1960	.0054
18	1.1866	.0057
19	1.1775	.0058
20	1.1695	.0054
21	1.1613	.0058
22	1.1527	.0053
23	1.1447	.0048
24	1.1374	.0045
25	1.1290	.0048
26	1.1228	.0049
27	1.1140	.0047
28	1.1060	.0046
29	1.0990	.0045
30	1.0922	.0046
31	1.0850	.0047
32	1.0774	.0047
33	1.0699	.0046
34	1.0630	.0043
35	1.0561	.0043
36	1.0488	.0040
37	1.0419	.0043
38	1.0349	.0040
39	1.0284	.0038
40	1.0216	.0047
41	1.0149	.0049
42	1.0087	.0046

43	1.0019	.0042
44	0.9957	.0044
45	0.9891	.0042
46	0.9831	.0046
47	0.9757	.0044
48	0.9688	.0041
49	0.9624	.0042
50	0.9563	.0045
51	0.9494	.0045
52	0.9431	.0044
53	0.9370	.0044
54	0.9305	.0041
55	0.9241	.0042
56	0.9171	.0041
57	0.9107	.0038
58	0.9044	.0042
59	0.8984	.0044
60	0.8919	.0043
61	0.8855	.0046
62	0.8790	.0041
63	0.8725	.0039
64	0.8664	.0046
65	0.8597	.0048
66	0.8534	.0049
67	0.8468	.0046
68	0.8402	.0047
69	0.8344	.0047
70	0.8277	.0044
71	0.8207	.0046
72	0.8141	.0045
73	0.8076	.0052
74	0.8008	.0048
75	0.7941	.0044
76	0.7868	.0043
77	0.7788	.0049
78	0.7722	.0047
79	0.7653	.0040
80	0.7577	.0051
81	0.7495	.0053
82	0.7420	.0052
83	0.7339	.0053
84	0.7257	.0061
85	0.7174	.0065
86	0.7074	.0067
87	0.6964	.0065
88	0.6844	.0075

89	0.6697	.0080

Monte Carlo PCA for Parallel Analysis (Watkins, 2000)
Number of variables: 89
Number of subjects: 2500 (maximum)
Number of replications: 100

Reviewing and Comparing Possible Models. As a result of these various statistical analyses, it appeared that three, six, eight, or 11 factors could be retained in the final analysis. Rather than deciding on a single solution, four separate factor analyses were generated, using the maximum likelihood extraction method and using an oblique rotation, to generate separate three-, six-, eight-, and 11-factor models. These models were then compared and analyzed to identify the best solution.

The three-factor solution, the results of which can be found in Appendix E, was rejected because it did not appear to provide enough specificity and detail. The vast majority of variables (68 of 89) loaded most strongly onto the first factor, which appeared to include the vast majority of the items from the SLRS scales, plus many items from the LID, cognitive complexity, and efficacy scales. Thus, this first factor contained over three-quarters of the total variables, accounted for 22.4% of the variance, and grouped together items that appeared to relate to a number of different dimensions or elements, including cognitive, intrapersonal, interpersonal, and societal variables. On the other hand, the other two factors were made up of far fewer variables and seemed to relate to only one specific arena or dimension. The second factor, which accounted for 9.0% of the variance, included just eight items, all of which came from one of the MSL's two diversity scales. The third factor was composed of only 13 items, were mostly drawn from the SLRS change scale, and accounted for just 7.6% of the variance. Overall, therefore, the three-factor model was rejected because it was not well balanced and did

not appear to identify the dimensions of self-authorship with enough specificity to provide meaningful results.

On the other hand, the 11-factor model (its data are found in Appendix G) was rejected because its factors began to blur together and overlap, making it hard to identify distinct dimensions or elements of self-authorship. The first factor included seven items that appeared to relate most strongly to issues of personal responsibility; it accounted for 10.1% of the variance. The second factor was composed of the six items from the discussions of socio-cultural issues scale and explained 9.2% of the variance. The third factor included eight variables, mostly from the change scale, and accounted for 5.3% of the variance. The fourth factor was entirely composed of the four items from the cognitive complexity scale; they explained 9.3% of the variance. The fifth factor had 9 variables drawn from a variety of scales, but mostly from the SLRS's citizenship and controversy with civility scales. These variables accounted for 13.5% of the variance. The sixth factor, composed of five variables, centered on teamwork and mentoring; they explained 7.7% of the variance. The seventh factor included eight variables, were largely associated with issues of congruence, and accounted for 12.7% of the variance. The eighth factor appeared to relate to openness to new ideas and experiences, had 14 variables, and explained 8.9% of the variance. The ninth factor contained only three items, all from the diversity outcomes scale; they accounted for 1.9% of the variance. The tenth factor, made up of 10 variables, appeared to contain items related to self-confidence and self-awareness; these items explained 10.9% of the variance. Finally, the eleventh factor, containing 15 variables, related to collaboration and teamwork. This last factor explained 9.3% of the variance. Thus, two of the factors appeared to relate to diversity

(the second and ninth), two seemed to relate to issues of collaboration (the sixth and eleventh), and two dealt with issues of responsibility and congruence (the first and seventh). Additionally, a comparison of the explained variance revealed that the factors were rather unequal; two items explained comparatively large amounts of variance (13.5% and 12.7%, for example), and two items explained comparatively small amounts of variance (1.9% and 5.3%). Thus, the factors do not seem particularly well balanced. The use of an 11-factor model appeared at odds with this study's goal to achieve a parsimonious explanation of the dimensions of self-authorship. Ultimately, eleven factors proved too unwieldy.

Thus, the researcher had to choose between the six- and eight-factor models. Eventually, the six-factor model was also rejected because, like the three-factor model, it proved rather unbalanced and imprecise (the full data for the six-factor model can be found in Appendix F). The first factor contained 37 (41.5%) of the 89 total variables and accounted for 18.6% of the variance. The variables that loaded most strongly on this first factor include many of the congruence items, but this factor also includes variables that relate to collaboration, teamwork, and civic responsibility, which seemed to create a rather imprecise and hard-to-identify factor. On the other extreme, the sixth factor (which appeared to be made up variables associated with efficacy and confidence) accounted for just 2.1% of the variance and was made up of just eight variables, all but two of which loaded with absolute values under .40. The other four factors all explained between 9.2% and 14.4% of the variance. The second factor included the six items from the diversity discussion scale; the third factor included 14 variables associated with change; the fourth factor had seven variables including the four cognitive complexity items and three items

from the appreciation of diversity scale; and the fifth factor had 17 variables that largely included items from the controversy with civility and the citizenship scales from the SLRS. Thus, although the six factor solution provided more specificity than the three-factor model, it too remained unbalanced and appeared too unwieldy and imprecise.

The Eight Factor Model

Ultimately, the eight-factor model – produced using the maximum likelihood method – was selected as providing the most balanced, robust, and parsimonious model. The pattern matrix of the eight-factor model was extracted after four iterations, and the goodness of fit test was significant ($\chi^2 = 20{,}293.052$; df = 3232; p < 0.001). As seen in Tables 4-4 and 4-5 , virtually every one of the 89 variables loaded most strongly on only one factor in the pattern matrix (only seven variables had a loading with an absolute value of .30 or above on two factors, and none loaded this strongly on three or more factors). Each factor had at least six and no more than 17 variables that loaded most strongly on it. Only 16 variables failed to load with an absolute value of .30 or greater on any factor; of these, 10 had an absolute value between .250 - .299; five had absolute values between .200 - .249, and only one had an absolute value under .200. Two of the eight factors generally produced negative loadings; although the remaining factors had a few variables that loaded negatively on it, they were all generally produced positive loadings. The implications of the two negatively loading (and negatively related) factors will be discussed in more detail in Chapter 5. In terms of the variance explained, four factors each explained at least 10% of the variance (with a maximum of 13.5%), another three factors each explained over 8% of the variable, and the remaining factor still

explained almost 6% of the variance. (Because the factors were rotated obliquely, it is not possible to provide a total variance explained by this model.)

Table 4-4: Pattern Matrix of the Eight-Factor Model								
Variable	**Factor**							
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**
I work effectively with others to accomplish shared goals	**.518**	-.024	.098	.065	.050	-.155	.022	.050
I can be counted on to do my part	**.450**	-.066	.049	.022	-.015	-.064	**.343**	-.043
Teamwork skills are important in any organization	**.446**	-.020	.059	.102	.061	-.067	.043	.028
Others would describe me as a cooperative group member	**.443**	.027	.098	.072	.079	-.094	.105	.054
I am seen as someone that works well with others	**.403**	.007	.122	.054	.165	-.111	.045	.083
I support what the group is trying to accomplish	**.391**	-.007	-.035	.057	.144	-.043	.087	.199
I contribute to the goals of the group	**.343**	.006	.009	.053	.090	-.168	.221	.150
It is important to me to act on my beliefs	**.340**	.003	-.116	.046	.055	-.105	.155	.123
I am willing to devote time and energy to things that are important to me	**.306**	-.025	.049	.029	.285	-.065	.185	.062
Collaboration produces better results	**.306**	.011	.007	.050	.246	-.020	-.034	.121
I know I can be an effective member of any group I choose	**.289**	-.027	.096	.060	.043	-.246	.063	.063
I can make a difference when I work with others on a task	**.284**	-.048	-.006	.034	.193	-.188	.029	.219
Change brings new life to an organization	**.264**	-.036	-.104	.062	.145	-.119	.142	.173

I stick with others through the difficult times	**.250**	-.082	.028	.003	.101	-.040	.225	.153
Common values drive an organization	**.227**	.022	-.137	.068	.130	-.052	.188	.088
Discussions with students with values different than own	.040	**-.855**	.016	-.021	-.070	-.028	-.049	-.007
Discussions with students with different religious beliefs	-.050	**-.850**	-.018	-.050	-.056	-.016	-.013	.006
Discussed views about multiculturalism	-.050	**-.835**	.017	.024	.054	.038	-.046	.003
Discussed major social issues	-.091	**-.821**	.006	.023	.051	.028	.009	-.024
Discussions with students with different political views	-.070	**-.812**	-.022	-.029	-.053	-.078	.009	-.006
Talked about different lifestyles/ customs	.050	**-.760**	.028	.048	.015	.032	-.031	-.052
Change makes me uncomfortable	-.128	.030	**.689**	.016	.070	-.102	-.078	.128
Transition makes me uncomfortable	-.053	.021	**.667**	-.029	.079	-.146	-.127	.065
I struggle when group members have ideas that are different from mine	.130	-.022	**.590**	-.006	.002	.081	-.040	.007
New ways of doing things frustrate me	-.009	-.008	**.587**	.044	.048	-.016	-.037	.102
I am uncomfortable when someone disagrees with me	-.009	-.071	**.489**	-.039	-.023	.016	.050	.000
I have low self-esteem	-.008	.007	**.381**	.022	.025	**-.356**	.112	-.128
When there is a conflict between two people, one will win and the other will lose	.136	-.044	**.342**	.061	.054	.101	.037	-.043
Self-reflection is difficult for me	-.056	-.056	**.339**	.022	-.022	-.077	.157	-.018
Ability to critically analyze ideas	-.079	.025	.037	**.858**	-.096	-.074	.057	-.048
Ability to learn on own, pursue ideas, find information	-.011	.051	.043	**.849**	-.084	-.018	.042	-.084

Ability to put together ideas and see relationships	-.056	.015	.026	**.804**	-.050	-.029	.028	.002
Learning more about things that are new	.030	-.007	.030	**.729**	-.086	.002	.068	-.006
Learned about other racial/ethnic groups	-.005	-.159	-.031	**.379**	.094	.102	-.077	.067
Awareness of complexities of inter-group understanding	-.004	-.110	-.088	**.343**	.148	.032	-.086	.045
Greater commitment to racial identity	-.028	-.013	-.104	**.298**	.176	-.001	-.136	.049
I believe I have responsibilities to my community	-.028	-.022	.065	.029	**.772**	.063	.099	-.105
I am comfortable with conflicts	-.052	-.003	.125	.027	**.736**	-.002	.073	.039
My contributions are recognized by others in the groups I belong to	-.024	-.051	.038	-.013	**.699**	-.016	-.013	.025
Greater harmony can come out of disagreements	-.087	-.031	.011	.044	**.699**	.002	.117	-.027
I participate in activities that contribute to the common good	.153	-.050	.023	-.011	**.514**	-.068	.086	-.002
I have the power to make a difference in my community	.066	-.080	.037	.023	**.462**	-.130	.054	.051
I give time to make a difference for someone else	.116	-.084	.001	.002	**.408**	-.073	.094	.095
I enjoy working with others towards common goals	**.358**	-.021	.025	.011	**.369**	-.135	-.069	.141
I am willing to act for the rights of others	.032	-.177	.040	.007	**.271**	-.001	.164	.128
I am able to trust the people with whom I work	.096	.037	.055	.066	**.215**	-.144	.043	.164
I feel inter-dependent with others in a group	.111	.013	-.137	.043	**.173**	.016	-.009	.116
Organizing groups tasks to accomplish goal	.132	-.116	.027	.087	.031	**-.693**	.008	-.114
Taking initiative to improve something	.027	-.113	.039	.105	.029	**-.641**	.027	-.002

Working with a team on a group project	**.340**	-.065	.085	.136	.046	**-.511**	-.089	-.093
I am usually self-confident	-.064	.012	.149	.032	.013	**-.475**	.174	.134
I am comfortable expressing myself	-.093	-.103	.103	.022	.002	**-.397**	.178	.198
I have helped to shape the mission of a group	.177	-.086	-.067	.014	.135	**-.345**	.129	.096
I spend time mentoring other group members	.014	-.130	-.093	-.006	.250	**-.317**	.024	.007
I work with others to make my communities better places	.187	-.035	-.012	.074	.052	**-.294**	.072	.144
I share my ideas with others	.043	-.120	.004	.028	.044	**-.284**	.117	.268
My behaviors reflect my beliefs	-.108	-.020	-.028	.011	.098	.004	**.809**	-.023
I am able to articulate my priorities	-.107	-.008	.000	.017	.147	.041	**.769**	-.015
My actions are consistent with my values	-.034	.018	-.009	.016	.107	-.001	**.733**	.046
It is important to develop a common direction in a group in order to get anything done	-.054	-.045	-.114	.018	.161	.000	**.550**	.067
I am genuine	.155	-.048	.037	.062	-.044	-.069	**.467**	.056
I follow through on my promises	**.309**	-.011	.079	.031	-.040	-.051	**.463**	-.051
I hold myself accountable for responsibilities I agree to	**.349**	-.045	.067	.042	.010	.016	**.441**	-.077
I know myself pretty well	.024	.010	.075	.056	-.056	-.211	**.428**	.116
I am open to others ideas	.015	-.041	.059	.060	.034	-.187	**.403**	.135
The things about which I feel passionate have priority in my life	.135	-.075	-.029	.076	.027	-.037	**.388**	.093
It is easy for me to be truthful	.144	-.006	.119	.035	-.020	-.042	**.383**	.120
I am focused on my responsibilities	.227	.014	.045	.083	.017	-.065	**.374**	.081
Being seen as a person of integrity is important to me	.255	-.063	-.002	.046	.131	-.014	**.362**	-.043

I could describe my personality	.045	-.019	.021	.055	.016	-.171	**.330**	.110
I am committed to a collective purpose in those groups to which I belong	.282	-.044	.089	.074	.076	-.013	**.329**	.038
I believe I have a civic responsibility to the greater public	.070	-.054	.021	.063	.087	-.043	**.244**	.236
I know the purpose of the groups to which I belong	.208	-.040	.024	.045	.130	-.138	**.210**	.153
I am open to new ideas	.221	-.045	.236	.045	-.057	.072	.027	**.466**
I value differences in others	.117	-.107	.122	.066	.037	.083	.091	**.464**
I look for new ways to do something	-.064	-.018	.084	.040	.084	-.148	.044	**.464**
There is energy in doing something a new way	.091	-.031	.038	.074	.105	-.001	-.030	**.442**
Hearing differences in opinions enriches my thinking	.193	-.141	.090	.087	.060	.143	.045	**.433**
I am comfortable initiating new ways of looking at things	.006	-.105	.117	.010	-.005	-.237	.015	**.430**
My behaviors are congruent with my beliefs	.234	-.057	.222	.076	.009	.142	.071	**.429**
I work well when I know the collective values of a group	.039	.027	.042	.060	.144	.011	-.002	**.405**
Creativity can come from conflict	-.024	-.073	-.062	.042	-.042	.017	.053	**.389**
I can identify the differences between positive and negative change	-.050	-.071	-.009	.016	.057	-.005	.037	**.362**
I work well in changing environments	-.039	.032	**.356**	.015	.134	-.193	-.023	**.358**
I value opportunities that allow me to contribute to my community	-.176	-.042	.185	-.034	-.001	-.236	.012	**.341**
I actively listen to what others have to say	.232	-.057	.120	.062	.071	.105	.183	**.305**
I respect opinions other than my own	.260	-.098	.159	.071	-.017	.139	.142	**.291**

| I can describe how I am similar to other people | .077 | -.004 | -.037 | .014 | .086 | -.185 | .130 | **.287** |
| I think it is important to know other peoples priorities | .219 | -.082 | -.098 | .040 | .134 | .011 | .185 | **.222** |

Extraction Method: Maximum Likelihood
Rotation Method: Oblimin (Oblique) with Kaiser Normalization

Bold type represents the highest loading for each variable, plus all other loadings with an absolute value of .30 or higher.

Table 4-5: Variance Explained and Factor Loadings for the Eight-Factor Model			
Factor	**Variance Explained by Factor (Rotation Sums of Squared Loadings)**	**Number of Variables Loading Strongest on this Factor**	**Range of Loadings (# of Variables with Loadings < |.30|)**
1	11.5%	15	.518 – .227 (5)
2	9.3%	6	-.855 – -.760 (0)
3	5.8%	7	.689 – .339 (0)
4	8.3%	8	.858 – .298 (1)
5	12.3%	11	.772 – .173 (3)
6	8.7%	9	-.693 – -.284 (2)
7	13.5%	17	.809 – .210 (2)
8	12.6%	16	.466 – .222 (3)

Extraction Method: Maximum Likelihood
Rotation Method: Oblimin (Oblique) with Kaiser Normalization

N.B. When factors are correlated and rotated obliquely (as in this case), sums of squared loadings cannot be added to obtain a total variance explained

To better understand the factors, Oblimin rotation with Kaiser normalization (an oblique rotation method) was used; the rotation converged in 14 iterations. As summarized in Tables 4-6 and 4-7, these analyses produced a structure matrix revealing that the factors were strongly intercorrelated. Indeed, two of the eight factors had moderate levels of correlation ($r > |.30|$) with five other factors; another three factors correlated moderately with four other factors; and one additional factor correlated moderately with three other factors. Of the two remaining factors, one correlated moderately with one other factor, and only one factor failed to correlate at least moderately with any of the other factors. Two of the factors, while producing moderate levels of correlation, were negatively correlated with other factors. In particular, the second factor was moderately and negatively correlated with the fourth, fifth, and eighth factors, and the sixth factor was moderately and negatively correlated with the seventh factor. The specific implications of these two negatively relating factors will be discussed in detail in Chapter 5. All other factors with moderate correlations were positively correlated with one another.

Variable	Factor							
Table 4-6: Structure Matrix of the Eight-Factor Model								
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**
I work effectively with others to accomplish shared goals	**.639**	-.229	.260	.322	.363	-.350	.394	.369
I can be counted on to do my part	**.625**	-.238	.220	.275	.316	-.300	.582	.303
Others would describe me as a cooperative group member	**.595**	-.186	.242	.306	.363	-.301	.422	.357
I contribute to the goals of the group	**.584**	-.252	.212	.337	.439	-.402	.540	.465
I support what the group is trying to accomplish	**.579**	-.241	.129	.335	.454	-.260	.416	.464
I am seen as someone that works well with others	**.576**	-.227	.265	.316	.431	-.329	.398	.402
Teamwork skills are important in any organization	**.559**	-.201	.185	.315	.329	-.246	.347	.309
I am willing to devote time and energy to things that are important to me	**.557**	-.279	.199	.330	.540	-.322	.500	.425
I can make a difference when I work with others on a task	**.507**	-.303	.183	.337	.498	-.395	.398	.504
It is important to me to act on my beliefs	**.492**	-.175	.044	.267	.340	-.260	.399	.343
Change brings new life to an organization	**.480**	-.260	.072	.326	.444	-.309	.425	.430
I know I can be an effective member of any group I choose	**.448**	-.225	.258	.276	.315	-.407	.365	.338
Collaboration produces better results	**.448**	-.186	.104	.276	.429	-.188	.260	.354
Common values drive an organization	**.400**	-.152	-.010	.259	.353	-.200	.372	.294
Discussed views about multiculturalism	.090	**-.839**	.150	.328	.312	-.151	.159	.298

Discussions with students with values different than own	.131	**-.824**	.173	.282	.225	-.192	.165	.272
Discussed major social issues	.061	**-.821**	.137	.314	.297	-.157	.181	.270
Discussions with students with different religious beliefs	.048	**-.802**	.129	.235	.205	-.164	.148	.248
Discussions with students with different political views	.049	**-.785**	.137	.251	.216	-.222	.176	.251
Talked about different lifestyles/customs	.161	**-.763**	.155	.328	.275	-.147	.176	.252
Change makes me uncomfortable	.045	-.159	**.713**	.093	.116	-.300	.122	.294
Transition makes me uncomfortable	.072	-.137	**.687**	.053	.103	-.313	.088	.239
New ways of doing things frustrate me	.145	-.183	**.617**	.141	.136	-.225	.163	.287
I struggle when group members have ideas that are different from mine	.198	-.127	**.585**	.069	.056	-.109	.127	.180
I am uncomfortable when someone disagrees with me	.082	-.148	**.503**	.026	.024	-.142	.147	.143
Self-reflection is difficult for me	.089	-.162	**.393**	.094	.075	-.225	.238	.152
When there is a conflict between two people, one will win and the other will lose	.221	-.144	**.349**	.144	.129	-.066	.169	.144
Ability to critically analyze ideas	.186	-.275	.107	**.803**	.217	-.221	.212	.212
Ability to learn on own, pursue ideas, find information	.220	-.231	.089	**.783**	.204	-.161	.191	.173
Ability to put together ideas and see relationships	.203	-.282	.093	**.777**	.252	-.185	.198	.250
Learning more about things that are new	.265	-.278	.105	**.725**	.231	-.165	.238	.245
Learned about other racial/ethnic groups	.140	-.311	.006	**.453**	.266	-.022	.072	.228

Awareness of complexities of inter-group understanding	.136	-.262	-.047	**.420**	.292	-.063	.066	.204
Greater commitment to racial identity	.076	-.148	-.087	**.336**	.252	-.047	-.009	.149
I am comfortable with conflicts	.307	-.319	.187	.336	**.780**	-.281	.371	.437
I believe I have responsibilities to my community	.285	-.283	.085	.306	**.752**	-.186	.335	.300
Greater harmony can come out of disagreements	.245	-.299	.062	.317	**.724**	-.232	.344	.341
My contributions are recognized by others in the groups I belong to	.260	-.304	.090	.279	**.716**	-.234	.266	.368
I participate in activities that contribute to the common good	.411	-.292	.124	.292	**.637**	-.294	.384	.367
I have the power to make a difference in my community	.340	-.330	.154	.313	**.607**	-.344	.354	.396
I enjoy working with others towards common goals	.558	-.282	.172	.335	**.598**	-.348	.345	.473
I give time to make a difference for someone else	.379	-.322	.126	.299	**.582**	-.295	.381	.416
I am willing to act for the rights of others	.295	-.376	.165	.276	**.471**	-.235	.382	.406
I am able to trust the people with whom I work	.310	-.192	.176	.265	**.400**	-.310	.297	.380
I feel inter-dependent with others in a group	.199	-.093	-.084	.162	**.266**	-.054	.120	.202
Organizing groups tasks to accomplish goal	.306	-.305	.252	.296	.305	**-.752**	.342	.232
Taking initiative to improve something	.245	-.326	.266	.311	.314	**-.723**	.342	.305
I am usually self-confident	.202	-.223	.351	.213	.268	**-.614**	.408	.368
Working with a team on a group project	.461	-.264	.271	.347	.325	**-.605**	.299	.258
I am comfortable expressing myself	.185	-.324	.316	.235	.289	**-.558**	.408	.422

I have helped to shape the mission of a group	.402	-.301	.141	.286	.426	**-.498**	.429	.390
I have low self-esteem	.153	-.144	.476	.119	.133	**-.478**	.286	.135
I work with others to make my communities better places	.381	-.246	.174	.294	.341	**-.436**	.360	.382
I spend time mentoring other group members	.195	-.281	.046	.211	.396	**-.403**	.249	.251
My behaviors reflect my beliefs	.291	-.230	.135	.214	.352	-.283	**.788**	.291
My actions are consistent with my values	.358	-.219	.163	.238	.385	-.297	**.772**	.356
I am able to articulate my priorities	.292	-.228	.147	.222	.380	-.255	**.761**	.302
I follow through on my promises	.522	-.185	.236	.235	.260	-.289	**.616**	.266
I hold myself accountable for responsibilities I agree to	.554	-.214	.210	.261	.301	-.234	**.605**	.262
I am genuine	.419	-.243	.212	.267	.276	-.308	**.603**	.335
It is important to develop a common direction in a group in order to get anything done	.276	-.240	.035	.231	.391	-.232	**.600**	.321
I am open to others ideas	.335	-.282	.255	.284	.346	-.422	**.579**	.413
I know myself pretty well	.313	-.208	.265	.236	.248	-.419	**.566**	.357
I am focused on my responsibilities	.478	-.208	.211	.295	.328	-.303	**.564**	.364
I am committed to a collective purpose in those groups to which I belong	.523	-.262	.241	.315	.375	-.275	**.553**	.367
Being seen as a person of integrity is important to me	.482	-.246	.135	.281	.385	-.246	**.542**	.287
The things about which I feel passionate have priority in my life	.395	-.270	.137	.292	.330	-.264	**.539**	.356
It is easy for me to be truthful	.394	-.208	.275	.231	.266	-.282	**.537**	.363
I know the purpose of the groups to which I belong	.462	-.281	.204	.312	.431	-.365	**.486**	.444

I could describe my personality	.300	-.218	.189	.240	.283	-.357	**.481**	.338
I stick with others through the difficult times	.473	-.286	.193	.272	.394	-.275	**.475**	.424
I value differences in others	.379	-.360	.289	.330	.379	-.194	.372	**.627**
Hearing differences in opinions enriches my thinking	.426	-.380	.244	.360	.401	-.135	.343	**.610**
My behaviors are congruent with my beliefs	.463	-.311	.368	.327	.346	-.154	.373	**.608**
I am open to new ideas	.423	-.283	.392	.280	.281	-.193	.331	**.602**
I look for new ways to do something	.215	-.282	.261	.264	.362	-.347	.306	**.583**
I am comfortable initiating new ways of looking at things	.254	-.344	.325	.258	.319	-.428	.316	**.577**
There is energy in doing something a new way	.312	-.272	.183	.301	.379	-.203	.252	**.560**
I work well in changing environments	.230	-.250	.498	.227	.348	-.418	.287	**.543**
I actively listen to what others have to say	.478	-.299	.270	.322	.390	-.180	.448	**.533**
I work well when I know the collective values of a group	.257	-.204	.161	.255	.361	-.174	.234	**.504**
I respect opinions other than my own	.458	-.301	.295	.303	.302	-.130	.391	**.490**
I share my ideas with others	.299	-.345	.218	.284	.364	-.461	.393	**.486**
I can describe how I am similar to other people	.310	-.224	.141	.238	.355	-.349	.367	**.454**
I believe I have a civic responsibility to the greater public	.340	-.281	.182	.291	.371	-.271	.446	**.453**
I think it is important to know other peoples priorities	.442	-.287	.062	.304	.426	-.204	.423	**.447**
I can identify the differences between positive and negative change	.134	-.229	.107	.181	.254	-.147	.193	**.415**

I value opportunities that allow me to contribute to my community	.028	-.215	.323	.108	.175	-.358	.187	**.405**
Creativity can come from conflict	.135	-.210	.059	.182	.184	-.106	.182	**.400**

Extraction Method: Maximum Likelihood
Rotation Method: Oblimin (Oblique) with Kaiser Normalization

Bold type represents the highest coefficient for each variable.

Table 4-7: Factor Correlation Matrix for the Final Eight Factor Model

Factor	1	2	3	4	5	6	7	8
1		-.164	.166	.320*	.383*	-.212	.455*	.357*
2			-.188	-.379*	-.351*	.227	-.252	-.364*
3				.083	.056	-.289	.220	.267
4					.384*	-.209	.251	.337*
5						-.286	.368*	.469*
6							-.358*	-.292
7								.375*
8								

Extraction Method: Maximum Likelihood
Rotation Method: Oblimin (Oblique) with Kaiser Normalization

* Correlation coefficients with absolute values between 0.30 and 0.49 indicate a medium-strength relationship (Pallant, 2005, citing Cohen, 1988)

Conclusion

This section outlined the rationale for selecting the eight-factor model, as well as the statistical results obtained from that analysis. The next chapter will describe and analyze these factors in more detail, connecting them to the current scholarly literature on self-authorship, as well as identifying certain key findings and their implications for future research and student affairs policy and practice.

Introduction

After summarizing the purpose, methodology and key findings from this study,

this chapter will then describe, analyze, and discuss the results of the factor analysis,

connecting the findings of this study with existing scholarship and literature on self-

authorship. This chapter will then conclude by discussing the possible implications of this

study on higher education policy and practice, identify avenues for additional research,

and outline several of the limitations of this study.

Review of the Study & the Findings

The purpose of this study was to explore the factor structure of *self-authorship*

(Baxter Magolda, 2001b; Kegan, 1994) using a diverse array of college students and, by

doing so, to identify the dimensions of self-authorship and clarify the interconnections

between those dimensions. Self-authorship is defined as the development and exercise of

an individual's conscious, internal, and consistent ability to identify, evaluate, and

(re)construct one's own identity and sense of self, one's own knowledge and values, and

one's own interactions with others and the external world.

To achieve this purpose, this study consisted of an exploratory factor analysis of

responses on 89 variables associated with self-authorship from 3,578 college students,

who were all at least 22 years of age and who attended 52 institutions of higher education

across the United States. Both the individual participants and the institutions they

attended represented a full spectrum of diversity in terms of student demographics (e.g.,

race, class, sexuality) and in terms of institutional type (e.g., size, location, population served).

After conducting various preliminary analyses and reviewing several possible factor structures, this study finally produced an eight-factor solution using a maximum likelihood exploratory factor analysis and rotated obliquely. The result was a factor structure that proved to be well balanced, parsimonious, and largely intercorrelated. Each of the eight factors was composed of between six and 17 variables and accounted for between 5.8 to 13.5% of the total variance. Six of the eight factors were moderately correlated with at least three other factors (with two of the factors correlated with five other factors), and only one factor failed to show a moderate correlation with any other factor. The next section of this chapter describes these results in detail and discusses the findings from the factor analysis in more detail.

Discussion of the Findings

Overview of the Eight Factor Model of Self-Authorship

The factor analysis produced a model of self-authorship that was composed of eight components. These component factors have been named: (1) Interdependence; (2) Engaging Diverse Views; (3) Dissonance and Change; (4) Cognitive Complexity; (5) Engaged Responsibility; (6) Personal and Communal Efficacy; (7) Congruence; and (8) Openness to New Ideas and Experiences. All but one of these factors (Dissonance and Change) was moderately correlated (i.e., had correlation coefficients with an absolute value between .30 and .49) with at least one other factor, and the vast majority (six of eight) were correlated with at least three other components. Almost all of the correlations that did exist in the model were positive; however, two of the factors (Engaging Diverse

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Views; Personal and Communal Efficacy) were negatively correlated with other factors.

Figure 5-1, below, illustrates the eight-factor model of self-authorship, showing both the factors and the correlations between the factors.

Figure 5-1: Model of the Eight Factors of Self-Authorship with Intercorrelations

Note: Values in plain text represent the correlation coefficient (*r*) between factors; only coefficients that had an absolute value of at least .30 or above (i.e., moderate or above level of correlation) are reported. Values in *italics* and in parentheses represent the amount of total variance explained by that factor.

As Figure 5-1 indicates, the model of self-authorship that emerges from the factor analysis conducted in this study is quite complex, involving a variety of components and relationships. The next section of this chapter describes and analyzes these components and their relationships in further detail.

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Understanding the Eight Factors and the Relationships Between Them

  Factor 1: Interdependence. The first factor to emerge from the data analysis was a

15-item component: *Interdependence*. This label was selected because the variables that

loaded most strongly on it all involved shared goals, responsibility to others, and the

value of teamwork, cooperation, and collaboration. (See Table 5-1, below, for a list of the

variables and loadings associated with this factor, as well as the correlations between this

factor and other factors.) It should be noted, however, that five variables, although they

were included in this factor because they loaded most strongly here, did not load strongly

on this factor (i.e., they had loadings under .30). Nonetheless, virtually all the items

included in this factor emphasized shared effort, communal values, and mutual

responsibility between oneself and others. In addition, this factor is positively correlated

with four other factors: Cognitive Complexity (Factor 4), Engaged Responsibility (Factor

5), Congruence (Factor 7), and Openness to New Ideas and Experiences (Factor 8).

Table 5-1: Factor 1 – Interdependence – Variables, Loadings & Correlations	
Variable	**Loading**
I work effectively with others to accomplish shared goals	.518
I can be counted on to do my part	.450
Teamwork skills are important in any organization	.446
Others would describe me as a cooperative group member	.443
I am seen as someone that works well with others	.403
I support what the group is trying to accomplish	.391
I contribute to the goals of the group	.343
It is important to me to act on my beliefs	.340
I am willing to devote time and energy to things that are important to me	.306
Collaboration produces better results	.306
I know I can be an effective member of any group I choose	.289
I can make a difference when I work with others on a task	.284
Change brings new life to an organization	.264
I stick with others through the difficult times	.250
Common values drive an organization	.227

Correlations to other factors greater than the 0.30/-0.30 level:

- Factor 4 – Cognitive Complexity: 0.320
- Factor 5 – Engaged Responsibility: 0.383
- Factor 7 – Congruence: 0.455
- Factor 8 – Openness to New Ideas & Experiences: 0.357

Neither the emergence of an Interdependence factor nor its relative significance (it explained 11.5% of the total variance, one of only four factors above 10%) is surprising. Indeed, both Kegan (1994) and Baxter Magolda (2001) have emphasized that the shift to a self-authored level of development involves primarily a shift away from relying on external relationships and formulas to guide one's life and instead toward an understanding that one has the capability to mutually define one's relationship with others and the external world:

The ability to self-reflect and author one's own sense of self played out in the

interpersonal dimension of participants' lives. Prior to this point, relating to others

had been defined on others' terms, with the internal voice in the background….

Renegotiation of relationships was necessary to allow participants' self-authored

identities to join the other as an equal partner. (Baxter Magolda, p. 134).

Similarly, Jordan (1991) noted that development, rather than being a process of

individuation ("movement away from and out of relationship"), should instead be

understood as "growth through and toward relationship" (p. 81). Indeed, the items that

make up this factor collectively emphasize what Jordan called the achievement of

mutuality: "a kind of matching of intensity of involvement and interest, an investment in

the exchange that is for both the self and the other" (p. 83).

It is also not surprising that the Interdependence factor was related to a number of

other factors associated with self-authorship. A number of theorists – among them

Gilligan (1982), Belenky, Clinchy, Goldberger, and Tarule (1986; Goldberger, Tarule,

Clinchy, & Belenky, 1996), and Baxter Magolda (1992) – have identified that

development along the cognitive, moral, and epistemological dimensions often occurs

alongside and intertwined with one's relationships with others. And identity development

theory has long emphasized the negotiation of self in relationship to others and one's

environment (Chickering, 1969; Chickering & Reisser, 1993; Fassinger, 1998; Helms,

1993; Josselson, 1996). "We know ourselves," Josselson stated, "both through our shared

identities and our distinctiveness from others" (p. 29). She went on:

We identify ourselves with others who share our goals or values and thereby feel

affirmed in who we are. But we also know ourselves through contrasting

ourselves with others, feeling the edges of our individuality in noting what so

uniquely belongs to us. (p. 29)

Thus, in many ways, Interdependence stands at the heart of self-authorship, not only as a

developmental feat in and of itself, but also as an important process through which other

facets of development and growth occur.

Factor 2: Engaging Diverse Views. The second factor that emerged in this study

was a component made up of six variables that accounted for 9.3% of the total variation

in the sample. The variables making up this *Engaging Diverse Views* factor – all of which

had loadings with absolute values of .760 to .855 – included the six variables that made

up the diversity discussion scale included in the MSL and first developed as part of the

NSLLP (Inkelas et al., 2006). This scale asked students to indicate the frequency with

which they engaged in discussions or conversations either with students who had

different characteristics from themselves (values, religions, politics) or about topics

involving diversity (multiculturalism, social issues, lifestyles/customs). Below, Table 5-2

lists the variables making up this factor, their loadings, and the other factors that are

correlated to this factor.

Table 5-2: Factor 2 – Engaging Diverse Views – Variables, Loadings & Correlations	
Variable	**Loading**
Discussions with students with values different than own	-.855
Discussions with students with different religious beliefs	-.850
Discussed views about multiculturalism	-.835
Discussed major social issues	-.821
Discussions with students with different political views	-.812
Talked about different lifestyles/ customs	-.760
Correlations to other factors greater than the 0.30/-0.30 level: - Factor 4 – Cognitive Complexity: -0.379 - Factor 5 – Engaged Responsibility: -0.351 - Factor 8 – Openness to New Ideas & Experiences: -0.364	

Again, the existence of a "diversity dimension" to self-authorship is not surprising. Numerous scholars, specifically including Kegan (1994) and King and Baxter Magolda (2005), have noted the connections between self-authorship and engaging in a diverse, intercultural society. Kegan has noted that being able to "contravene our tendencies toward ethnocentrism [and] gendercentrism," and being able to "*look at* and evaluate the values and beliefs of our psychological and cultural inheritance rather than being captive of those values and beliefs" both require fourth-order, self-authored levels of development (p. 302; emphasis in original). Similarly, King and Baxter Magolda based their developmental model of intercultural maturity on Kegan's notion of holistic development and self-authorship:

> We argue that the developmental ability that undergirds regarding another cultural favorably is grounded in the same ability that undergirds one's ability to regard an interpersonal difference favorably. That is, the developmental complexity that

allows a learner to understand and accept the general idea of difference from self

without feeling threat to self enables a person to offer positive regard to others

across may types of difference, such as race, ethnicity, social class, gender, sexual

orientation, and religion. (p. 572-73)

This connection, however, at first appeared *not* to be supported by the results of

this study. After all, this factor, Engaging Diverse Views, was *negatively* correlated with

three other factors associated with self-authorship (Cognitive Complexity [Factor 4],

Engaged Responsibility [Factor 5], and Openness to New Ideas and Experiences [Factor

8]) and not positively correlated with *any* factors. This appears at first to suggest that

diverse interactions might retard development of self-authorship, rather than reinforce it.

This apparent discrepancy, however, can be explained by viewing this finding as a result

of the *developmental* process of achieving self-authorship.

Emerging research from two different studies of self-authorship have confirmed

that, although appreciation of diverse perspectives may be a hallmark of one who has

achieved self-authorship, students who have not yet achieved such sophisticated levels of

development may not initially experience such interactions in a positive manner.

Research conducted through the on-going Wabash National Study of Liberal Arts

Education, which is using self-authorship as its theoretical frame, recently found:

Encountering diverse perspectives was uncomfortable for externally defined

students who often reported that they did not know how to respond. However,

encountering this dissonance and sustained interactions with peers helped them

feel more open-minded and begin to apply new perspectives to themselves and

their culture. (Baxter Magolda, King, Stephenson et al., 2007, p. 16)

Researchers at Virginia Tech, studying women's career choices and analyzing these experiences through the lens of self-authorship, reached a similar conclusion:

> Our findings indicate that simply exposing students to divergent views and sources of knowledge, without supporting true engagement with those views, may not be the most effective way to foster development because students may not be open to considering perspectives that differ from their own. (Laughlin & Creamer, 2007, p. 50)

Similarly, scholars in the field of multicultural affairs have noted that, for students at lower developmental levels, intercultural experiences and interactions with diversity may be destabilizing and met with (at best) disequilibrium or (at worst) resistance (Bennett, 1993; King & Baxter Magolda, 2005).

Seen from this frame, the negative correlations between Engaging Diverse Ideas and several other dimensions of self-authorship may be explained as stemming from the developmental stage of the participants. Although steps were taken to use only a sample of students who were older (at least 22 years of age), the vast majority of students in this sample (70+%) were still under the age of 25. Since research continues to suggest that few individuals achieve fully self-authored stages of development until their late 20s or early 30s – if at all (Baxter Magolda, 2001; Kegan, 1994; King, 2007) – it can assumed that many of the students who participated in this study had not yet achieved self-authorship. Thus, students at these lower levels of development initially appear not to be able to positively associate diverse interactions with their personal development, but instead to experience such interactions as threatening or disconcerting. With greater

exposure and assistance, however, it is hoped that these students would be able to capitalize on such experiences to further propel them toward self-authorship.

Factor 3: Dissonance and Change. The third factor to emerge from the data was themed *Dissonance and Change*, included eight variables, and accounted for 5.8% of the total variance in the sample (the smallest amount of variance explained by any of the factors). The variables that loaded most strongly on this factor addressed the students' comfort with change and transition, their ease in dealing with divergent or conflicting ideas, and their level of distress when confronted with disagreement. Of the eight factors, five loaded relatively strongly with values between .49 and .69, and three loaded with values between .34 and .38. Interestingly, this factor did not correlate at a moderate or higher level with any other factor in the study. Table 5-3, below, summarizes these findings.

Table 5-3: Factor 3 – Dissonance & Change – Variables, Loadings & Correlations	
Variable	**Loading**
Change makes me uncomfortable	.689
Transition makes me uncomfortable	.667
I struggle when group members have ideas that are different from mine	.590
New ways of doing things frustrate me	.587
I am uncomfortable when someone disagrees with me	.489
I have low self-esteem	.381
When there is a conflict between two people, one will win and the other will lose	.342
Self-reflection is difficult for me	.339
Correlations to other factors greater than the 0.30/-0.30 level: - None	

One of the most surprising results from this study is that this Dissonance and Change factor did not correlate with any other factor to at least a moderate degree. This is surprising because all constructive-developmental theory, which includes self-authorship, is premised on the notion that individuals learn to reconstruct and develop themselves in response to dissonance, disequilibrium, and discomfort (Baxter Magolda, 1992, 1998, 2001; Kegan, 1982, 1994; King & Kitchener, 1994; Perry, 1970, 1979, 1981; Piaget, 1950; Wadsworth, 1989). As Kegan explained in an interview:

> [T]here's a big third force in the univers[e], which I would call dynamic equilibrium. It is neither about everything falling apart or becoming more complex. It's not about fixity or stasis, either. It's about the dynamic, ongoing, countervailing processes that hold things pretty much as they are….
>
> We run up against perturbing, disturbing experiences which throw the balance off temporarily, but the balance is very hardy and it tends to wave its big arms and right itself. We keep assimilating experience to this balance.
>
> Eventually, though, we come up against experiences that actually disturb the balance sufficiently that, although it feels to us like going off a cliff, actually lead to some higher-order balance. I think the self is participating in these powerful processes, kind of endlessly, restlessly, creatively, ceaselessly. (Scharmer, 2000, p. 15)

Thus, the fact that Dissonance and Change are not linked to any other factor in this study appeared surprising given that such processes appeared to underlie the development of self-authorship. Two possible explanations exist to address this phenomenon.

First, the lack of correlation between the Dissonance and Change factor may suggest that dissonance is not actually a *component* of self-authorship but is rather the underlying *mechanism* by which development occurs. As indicated above, dissonance and disequilibrium provide the impetus and means for development. Indeed, Strange (1994), in reviewing all student development theories, has suggested that responding to dissonance and challenging situations represents the very heart of how development occurred. According to this line of analysis, the Dissonance and Change factor is qualitatively different than the other factors that emerged from this study. Rather than being a dimension of self-authorship or one of its lines of development, Dissonance and Change should rather be viewed as an underlying mechanism or instrument that students must harness in order to develop.

There is, however, another possible explanation for the relative independence of the Dissonance and Change factor. This explanation recognizes that dissonance and disequilibrium play fundamental – but not sufficient – role in the development process, but that more is required for development to occur. As seen earlier in Chapter 2, it is not merely the presence of dissonance or disequilibrium that characterizes self-authored identities; rather, it is one's ability to capitalize and catalyze those experiences in a way that promotes their further self-awareness, relationship with the world, and development. Self-authored individuals have achieved a "genuine maturity" that allows them to "see the world, themselves, and their own agency in more sophisticated and enabling ways and … appropriately draw upon that understanding as the need arises" (King & Baxter Magolda, 2005, p. 586).

Thus, the results achieved in this study – in which Dissonance and Change were not correlated to other factors – can be explained once again by recognizing the likely developmental stage of the students who participated in the study. Since they likely have not yet achieved full self-authorship, they may have not yet achieved the capability to *catalyze* the dissonance that is occurring in their life in a way that propels development or change along one of the other dimensions or factors. This idea is supported both by traditional notions of student development – "New situations threaten current stability, and due to the inevitable discomfort accompanying such experiences, they are usually resisted or avoided" (Strange, 1994, p. 405) – and emerging research showing that, as students advance toward self-authorship, they become more capable and comfortable addressing discomfort and challenging situations in various aspects of their lives and deliberately integrating those experiences into their own grounded sense of identity (Baxter Magolda, King, Stephenson et al., 2007).

Interestingly, this argument finds support from the fact that the lowest loading variable in this factor concerns self-reflection. Many scholars note that self-reflection is perhaps they key process through which dissonance can be leveraged and made developmental (Baxter Magolda & King, 2007; Baxter Magolda, King, Stephenson et al., 2007; King, 2007; King & Kitchener, 1994). Baxter Magolda (2001), in her study of self-authorship, credited students' "increased sophistication at self-reflection" as a driving force in achieving a strong, self-authored identity (p. 183), and Strange (1994), in reviewing student development theory as a whole, concluded, "The extent to which learning opportunities are developmentally dissonant is a matter of *personal construction*" (p. 405; emphasis added).

Yet, scholars have also advised that self-reflection, particularly around possible learning situations, has rarely been promoted or used in higher education (Baxter Magolda & King, 2007; Baxter Magolda, King, Stephenson et al., 2007). Thus, it would appear that, although self-reflection may be a key component in transforming dissonance into development, the low loading of the self-reflection variable on this factor would indicate that students have not yet begun to correlate these two phenomena. Seen in this way, the lack of correlation between the Dissonance and Change factor and the other factors that emerged from this research, as well as the relatively low amount of variance explained by this factor, suggests that students may need to better learn to reflect upon disequilibrium and challenging experiences in order to catalyze their lessons and promote their development.

Factor 4: Cognitive Complexity. The next factor that emerged from the research has been titled *Cognitive Complexity*, which is summarized in Table 5-4 below. This factor accounted for 8.9% of the total variance in the study and is made up of seven variables. Four of the variables (those that loaded most strongly – all were .729 or higher) came directly from cognitive complexity scale included in the MSL and developed for the NSLLP (Inkelas et al., 2006), which directly addressed the students' ability to critically analyze, investigate, and integrate ideas. Interestingly, the other three items that loaded on this factor (although to a lesser degree – their loadings ranged from .298 to .379) were variables from the diversity outcomes scale (also from the NSLLP). These items addressed students' awareness, knowledge, and comprehension of their own cultural/racial background, other cultural groups, and the complexities of intercultural understanding. This factor was also highly intercorrelated with other dimensions of self-

authorship, being moderate correlated with four other factors: Interdependence (Factor 1); Engaging Diverse Views (Factor 2; negative relationship); Engaged Responsibility (Factor 5); and Openness to New Ideas & Experiences (Factor 8).

Table 5-4: Factor 4 – Cognitive Complexity – Variables, Loadings & Correlations	
Variable	**Loading**
Ability to critically analyze ideas	.858
Ability to learn on own, pursue ideas, find information	.849
Ability to put together ideas and see relationships	.804
Learning more about things that are new	.729
Learned about other racial/ethnic groups	.379
Awareness of complexities of inter-group understanding	.343
Greater commitment to racial identity	.298
Correlations to other factors greater than the 0.30/-0.30 level: - Factor 1 – Interdependence: 0.320 - Factor 2 – Engaging Diverse Views: -0.379 - Factor 5 – Engaged Responsibility: 0.384 - Factor 8 – Openness to New Ideas & Experiences: 0.337	

The most significant finding associated with this factor is that this component included, not only variables that measured "purely" cognitive variables, but also included variables that measured one's understanding and appreciation of racial, ethnic, and social differences and interactions. Scholarship, however, has increasingly emphasized that developing mature views of social identity and cultural differences requires a certain level of cognitive complexity (Bennett, 1993; Kegan, 1982, 1994; King & Baxter Magolda, 2005; Reason & Davis, 2005). Put another way, the "ability to comprehend cultural diversity depends on understanding the idea of 'culture' itself" (Bennett & Bennett, 2001, p. 7). Indeed, one of the main findings from Torres' (2003; Torres & Baxter Magolda, 2004; Torres, Hernandez, & De Sawal, 2007) longitudinal study of

Latino/a identity development (a study that used self-authorship as its conceptual framework) was that the ability to both *recognize* cultural differences, acts of discrimination, and systems of power and oppression and then *reconstruct* those notions in a positive way were key cognitive functions that were necessary to achieve before a positive and fully informed sense of cultural identity could be achieved.

This intimate relationship between cognitive ability and understanding racial and cultural difference also helps explain findings from earlier scholarship. This literature revealed that individuals from socially under-privileged groups may develop self-authored ways of reasoning or cognitive complexity earlier than dominant groups because they must address and make meaning of various forms of discrimination, oppression, and varying cultural norms (Abes & Jones, 2004; Baxter Magolda, 2007; Fassinger, 1998; Pizzolato, 2003). Socially dominant groups, on the other hand, are "rarely called on to examine their dominant characteristic and the benefits that accompany it" (Reason & Davis, 2005, p. 7). Thus, the Cognitive Complexity factor includes not only variables associated with tradition notions of cognitive development but also a set of items that relate to the recognition and understanding of racial and social dynamics.

Factor 5: Engaged Responsibility. The next factor to emerge from the data, called *Engaged Responsibility*, was given this name because of the blend of 11 variables and items that compose this dimension. Overall, the items shared a theme of responsibility to something larger and greater than oneself. The responsibility is *engaged*, however, because the component variables appear to involve putting this responsibility to practice in two key ways. First, the several component variables reflect one's personal obligations

to give time and effort to make a positive difference in one's community and contribute to the common good. Second, fulfilling one's responsibilities requires one to overcome conflict and controversy that inevitably occurs when engaging with the outside world and to recognize that those disagreements can actually lead to greater harmony. Significantly, this dimension was highly correlated with five other factors of self-authorship (which, along with one other factor, was more than any other dimension that emerged from this study), and it also accounted for one of the highest amounts of total variance (12.3%). Table 5-5 summarizes the variables, loadings and inter-factor correlations of *Engaged Responsibility.*

Table 5-5: Factor 5 – Engaged Responsibility – Variables, Loadings & Correlations	
Variable	**Loading**
I believe I have responsibilities to my community	.772
I am comfortable with conflicts	.736
My contributions are recognized by others in the groups I belong to	.699
Greater harmony can come out of disagreements	.699
I participate in activities that contribute to the common good	.514
I have the power to make a difference in my community	.462
I give time to make a difference for someone else	.408
I enjoy working with others towards common goals	.369
I am willing to act for the rights of others	.271
I am able to trust the people with whom I work	.215
I feel inter-dependent with others in a group	.173
Correlations to other factors greater than the 0.30/-0.30 level: - Factor 1 – Interdependence: 0.383 - Factor 2 – Engaging Diverse Views: -0.351 - Factor 4 – Cognitive Complexity: 0.384 - Factor 7 – Congruence: 0.368 - Factor 8 – Openness to New Ideas & Experiences: 0.469	

Several interesting findings emerged from this Engaged Responsibility factor. On one hand, it was not surprising that the individual items making up this factor were associated with self-authorship. After all, Kegan (1994) noted that self-authored identities allow an individual to be a more responsible and engaged citizen, one who is able "to take out loyalty to or membership in a wider human community than the one defined by [one's] own self-interest" (p. 23) and to share "in the idea and activity of preserving the societal bonds of the commonwealth" (p. 26). Similarly, Kegan also recognized that self-authorship allows individuals to move beyond conflict or difference to achieve a larger purpose. For example, when discussing how self-authored romantic partners deal with conflict, he noted:

> As self-possessed persons who share a commitment to sustaining a relationship they treasure, they do not seem surprised by the appearance of difference, nor do they take them as a suspension of their connection, nor expect that the differences will be resolved if one of them simply molds herself or himself to the preference of the other. Not only does the relationship continue in the face of difference, but they seem to find their successful, collaborative handling of the differences to be an especially satisfying aspect of the relationship. (p. 310-11)

Thus, it was not odd to find that variables associated with civic engagement or productive controversy were associated with self-authorship. After all, "[s]elf-authorship could be described as 'self-in-context,' indicating that the self acknowledges external forces and takes them into account as appropriate…. The shift to internal self-definition allows the self … to join the external world in a mutual, interdependent partnership" (Baxter Magolda, 2001, p. 15-16).

It did appear odd, however, that this one factor contained *both* types of variables, variables that at first glance may appear quite different. Baxter Magolda (2000), however, presents a useful framework within which to understand these seemingly divergent items. Citing the work of Bakan (1966) and Jordan (1997), Baxter Magolda suggested that the achievement of self-authorship in the interpersonal realm requires an integration of *agency* and *communion* to engage in *mutuality*: "Presenting one's own experience in the relationship represents agency, whereas responding to and encouraging authenticity in the other represents communion. Mutuality is a blend of agency and communion; too much of either does not constitute mutuality" (p. 144). Seen in this light, the variables associated with constructive controversy and the variables associated with civic responsibility both reflect a sense of mutuality. Both sets of variables require clear, intentional action by the individual (agency), but they also recognize the impact of the individual on others (communion). Thus, they share an underlying notion of mutuality, "an effective combination of individual authenticity and connection to others" (p. 144).

Factor 6: Personal and Communal Efficacy. The sixth factor to emerge from the data, as seen in Table 5-6 below, was composed of nine variables, accounted for 8.7% of the total variance of the sample, and was correlated (negatively) with just one other factor, Congruence (Factor 7). This factor was named *Personal and Communal Efficacy* because the items that make up this scale relate both to one's self-confidence and self-effectiveness, as well as one's ability to work successfully with and in a group. Three of the items in this group loaded strongly (absolute values of over .500); four of the items had moderate loadings (absolute values between .300 and .500), and two of the items had relatively weak loadings (absolute values under .300).

Table 5-6: Factor 6 – Personal & Communal Efficacy – Variables, Loadings & Correlations

Variable	Loading
Organizing group tasks to accomplish goal	-.693
Taking initiative to improve something	-.641
Working with a team on a group project	-.511
I am usually self-confident	-.475
I am comfortable expressing myself	-.397
I have helped to shape the mission of a group	-.345
I spend time mentoring other group members	-.317
I work with others to make my communities better places	-.294
I share my ideas with others	-.284

Correlations to other factors greater than the 0.30/-0.30 level:

- Factor 7 – Congruence: -0.358

The fact that this efficacy factor was related (negatively, nonetheless) to only one factor was surprising given that the scholarly literature has generally agreed that self-authored individuals wield a more informed, more intentional, and more directive capability to interact in various ways with the world around them (Baxter Magolda, 2001; Kegan, 1994; Josselson, 1996). For example, Josselson described one of the groups in her study, the Pathfinders, as being "self-authored" and characterized by having "taken some risk and tried out new ways of experience themselves that led them to integrate a stable sense of personal independence and make choices on their own terms…. These women chartered their own course. They had enough inner strength to tolerate crisis and uncertainty and to design their lives to suit themselves" (p. 37). Similarly, Baxter Magolda stressed that the achievement of self-authorship allows a student to "tak[e] on adult responsibilities, manag[e] one's life effectively, and mak[e] informed decision as a

member of a community" (p. 14). Both Josselson's and Baxter Magolda's descriptions suggest that, with the development of self-authorship, individuals also achieve a broad sense of efficacy and agency across a variety of dimensions.

The Efficacy factor in this study, however, had only one noteworthy correlation – a *negative* relationship with the Congruence factor. Again, at first blush, this negative relationship appears inconsistent with the development of self-authorship. However, like the Engaging Diverse Views factor and Dissonance and Change factor, when this factor is viewed from a developmental perspective, the negative relationship makes more sense. Recent research into self-authorship has found that, if a student in an early stage of development is confronted with a difficult action or task, that student may become stuck, become uncertain what to do, and be rendered unable to act (Baxter Magolda, King, Stephenson et al., 2007). These findings reinforce Baxter Magolda's (2001) earlier results showing that individuals in the crossroads phase of development, in particular, often struggle to find the confidence to follow their internal voices; individuals in these phases simply found it "hard to accept that one could know based on one's experience" (p. 115) and continued "trying to convince themselves that they really were going to stand up for themselves, that they really were going to start following their own voices" (p. 116). Furthermore, Pizzolato's (2003, 2004) research on self-authorship in "high-risk" college students suggested that, although students may develop certain self-authored capabilities, these initial achievements may prove rather fragile. When confronted by significant obstacles that challenged her students' perceptions of efficacy and accomplishment, several of her students actually retreated to lower-levels of development and meaning making.

Thus, when viewed from a developmental perspective, the lack of correlation to most other factors and the negative correlation with the Congruence factor make more sense. A firm and sustained sense of efficacy in a variety of fields and dimensions may not develop steadily *along with* self-authorship; rather, it may only be an *outgrowth of* self-authorship; that is, a characteristic of one who has largely achieved an internal foundation upon which a self-authored identity is constructed. Because a majority of students in this sample have likely not yet achieved this level of development (Baxter Magolda, 2001; Kegan, 1994), this may account for the peculiar findings that emerged regarding the Personal and Communal Efficacy factor.

Factor 7: Congruence. The seventh factor to emerge from the data was a 17-item dimension called *Congruence*. This factor, which accounted for 13.5% of the total variance in the sample (the highest amount of any factor), is composed of a variety of variables that measure the level of harmony between students' values, beliefs, priorities, responsibilities, behaviors, and actions (including harmony between the student and any groups he or she may associate). Several items also related to students' self-awareness. The Congruence factor had moderate levels of correlation to four other factors: Interdependence (Factor 1); Engaged Responsibility (Factor 5); Personal & Communal Efficacy (Factor 6; negative relationship); and Openness to New Ideas & Experiences (Factor 8). The specific details of this factor are presented in Table 5-7.

Table 5-7: Factor 7 – Congruence – Variables, Loadings & Correlations	
Variable	**Loading**
My behaviors reflect my beliefs	.809
I am able to articulate my priorities	.769
My actions are consistent with my values	.733
It is important to develop a common direction in a group in order to get anything done	.550
I am genuine	.467
I follow through on my promises	.463
I hold myself accountable for responsibilities I agree to	.441
I know myself pretty well	.428
I am open to others ideas	.403
The things about which I feel passionate have priority in my life	.388
It is easy for me to be truthful	.383
I am focused on my responsibilities	.374
Being seen as a person of integrity is important to me	.362
I could describe my personality	.330
I am committed to a collective purpose in those groups to which I belong	.329
I believe I have a civic responsibility to the greater public	.244
I know the purpose of the groups to which I belong	.210

Correlations to other factors greater than the 0.30/-0.30 level:

- Factor 1 – Interdependence: 0.455
- Factor 5 – Engaged Responsibility: 0.368
- Factor 6 – Personal & Communal Efficacy: -0.358
- Factor 8 – Openness to New Ideas & Experiences: 0.375

The emergence of a Congruence factor and its intercorrelations with various other factors associated with self-authorship was not surprising given that virtually the entire body of scholarly literature had stressed that the achievement of self-authorship involves the integration and alignment of one's cognitive, intrapersonal, and interpersonal dimensions (e.g., Baxter Magolda, 2001b; Jones & Abes, 2004; Kegan 1994; Pizzolato,

2006). The development of self-authorship, at its heart, represents the drive to make one's "inner and outer experiences cohere … [and] to become identified with that principle of coherence" (Kegan, as quoted in Scharmer, 2001, pp. 14-15; emphasis removed).

Factor 8: Openness to New Ideas and Experiences. Sixteen variables made up the eighth and final factor to emerge from the data. This factor, *Openness to New Ideas and Experiences*, accounted for 12.6% of the total variance (the second most of any factor) and was moderately correlated to five other factors (tied with one other factor for the most intercorrelations): Interdependence (Factor 1); Engaging Diverse Views (Factor 2; negative relationship); Cognitive Complexity (Factor 4); Engaged Responsibility (Factor 5); and Congruence (Factor 7). The variables that load most strongly on this factor address students' receptivity to new, novel, and creative viewpoints and incidents. Additional items that loaded less strongly on this factor appeared to address a variety of other items, such as congruence, understanding of and comfort with change, and establishing active connections with others. All of the items loading on this factor, along with other details, are outlined in Table 5-8 below.

Table 5-8: Factor 8 – Openness to New Ideas & Experiences – Variables, Loadings & Correlations

Variable	Loading
I am open to new ideas	.466
I value differences in others	.464
I look for new ways to do something	.464
There is energy in doing something a new way	.442
Hearing differences in opinions enriches my thinking	.433
I am comfortable initiating new ways of looking at things	.430
My behaviors are congruent with my beliefs	.429
I work well when I know the collective values of a group	.405
Creativity can come from conflict	.389
I can identify the differences between positive and negative change	.362
I work well in changing environments	.358
I value opportunities that allow me to contribute to my community	.341
I actively listen to what others have to say	.305
I respect opinions other than my own	.291
I can describe how I am similar to other people	.287
I think it is important to know other peoples priorities	.222

Correlations to other factors greater than the 0.30/-0.30 level:

- Factor 1 – Interdependence: 0.357
- Factor 2 – Engaging Diverse Views: -0.364
- Factor 4 – Cognitive Complexity: 0.337
- Factor 5 – Engaged Responsibility: 0.469
- Factor 7 – Congruence: 0.375

Again, the emergence of a factor that relates to Openness to New Ideas and Experiences was not surprising given the strong link between this outcome and self-authorship. After all, the self-authored order of consciousness "can internalize multiple points of view, reflect on them, and construct them into one's own theory about oneself and one's experiences" (Ignelzi, 2000, p. 8). Furthermore, self-authorship is

characterized, not only by the ability of individuals to comfortably process and integrate new experiences, but also by the desire to actively seek out and cherish such experiences. In her longitudinal study of the development of self-authorship, Baxter Magolda (2001b) concluded:

> Rather than working toward answers or a 'finished product,' as was the case in the earlier portions of the journey [toward self-authorship], participants in the latter portions of the journey were working toward increasingly satisfying definitions of themselves. In doing so they welcomed new experiences for their contributions to the evolving definition. Because participants had solidified an internal sense of self and belief, their sense of self was no longer threatened by new experience. (p. 183)

Additionally, because new ideas and experiences occur in a variety of contexts and dimensions, it is not surprising that this factor is correlated with numerous other dimensions of self-authorship and accounted for such a high proportion of variance in the study. Thus, the emergence of this final factor, Openness to New Ideas and Experiences, confirms some of the main tenets of earlier scholarship on self-authorship.

Integrating the Eight-Factor Model of Self-Authorship with the Three-Dimensional Model of Self-Authorship

To date, virtually all the scholarly literature on self-authorship has accepted or adopted the three-dimensional model of self-authorship first developed by Kegan (1994) and expounded upon by Baxter Magolda (1999a, 1999d, 2000; 2001b). As outlined in detail in Chapter 2, these three dimensions are: (1) the cognitive-epistemological dimension; (2) the intrapersonal-identity dimension; and (3) the interpersonal-relationship

dimension. Although the literature (as seen in Chapter 2) also revealed a variety of other

elements and themes associated with self-authorship, virtually all of these additional

items have been either implicitly or explicitly subsumed within the three-dimensional

model of self-authorship (cf. Baxter Magolda, 2004d). Thus, it seems appropriate to

integrate and compare the eight-factor model of self-authorship that emerged from this

study with the dominant three-dimensional model of Kegan and Baxter Magolda. A

visual depiction of this integration may be found in Figure 5-2, below.

Figure 5-2: Mapping the Eight Factors onto the Three Dimensions of Self-Authorship
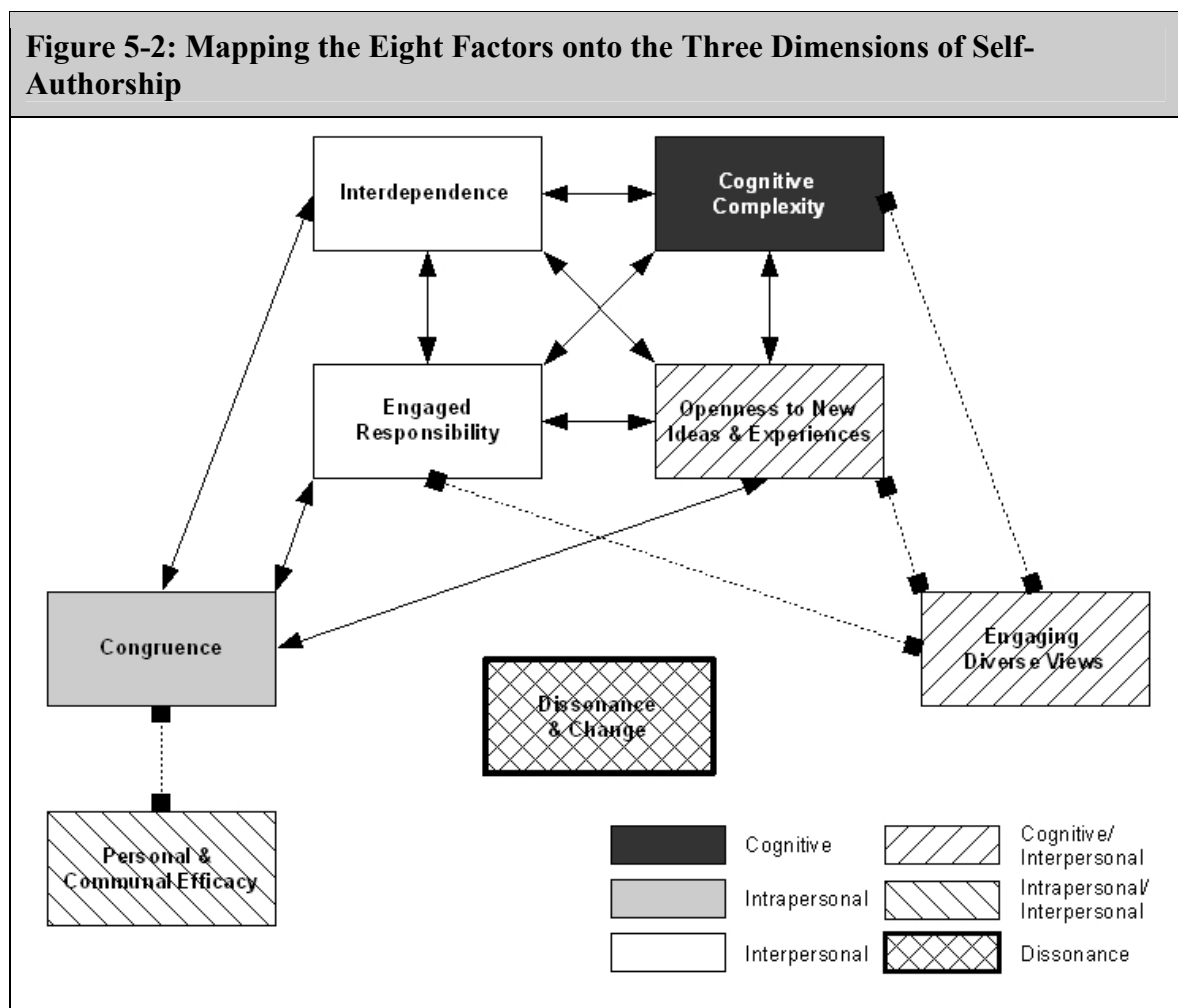
With regard to the cognitive dimension, the Cognitive Complexity factor from

this study overlapped with that dimension. In addition, two other factors from this study,

Engaging Diverse Views and Openness to New Ideas and Experiences, appear to overlap with the cognitive dimension. Both these factors include variables and items associated with students' recognition of and engagement with differing ideas, values, and viewpoints – capabilities associated with cognitive growth and development (Baxter Magolda, 1992, 2001b; Belenky et al., 1986; Kegan, 1982, 1994; King & Kitchener, 1994; Perry, 1970, 1981). However, these last two factors are not purely cognitive in nature. Rather, both also involve students' interactions and relationships with others and the outside world, making them interpersonal in nature. Thus, these factors straddle two of the three dimensions: cognitive and interpersonal. Given the overlapping nature of these factors, it is not surprising that these three factors each were correlated to the others.

As for the intrapersonal dimension, only one factor, Congruence, appeared to fit squarely within this domain. This factor addressed a student's capability to establish a coherent sense of self and a grounded identity that remains largely consistent across thoughts, behaviors, and settings. The Congruence factor thus appears to coincide with the central components of the intrapersonal dimension outlined by Baxter Magolda (2004d): the establishment of a coherent, stable, and enduring identity, personally chosen values, and self-regulation and interpretation of one's experience and conduct. One additional factor, Personal and Communal Efficacy, also appeared to overlap with this dimension. Although this efficacy factor certainly included certain elements of the intrapersonal dimension (notably, achieving self-confidence and the capacity for autonomous action), it also involved one's sense of capability within a group setting as well, suggesting that this factor straddles the intrapersonal and interpersonal dimensions.

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However, because the efficacy factor only correlated with one other factor – Congruence – and not with any of the factors that fit within the interpersonal dimension (described below), it may be more appropriate to place this factor wholly within the intrapersonal dimension. If this were the case, one might view the variables from this factor that relate to communal (as opposed to personal) efficacy as relating primarily to the students' perceptions of their *own* capabilities *within* a group setting and not measuring any type of collective or group efficacy. Ultimately, however, there appears enough overlap between the efficacy factor and the interpersonal dimension to suggest that it straddles both dimensions.

Another significant finding concerning the intrapersonal dimension is its relative isolation from the cognitive dimension. Although the factors associated with the *interpersonal* dimensions were largely intercorrelated with the cognitive factors (as discussed above), the factors associated with the cognitive and *intrapersonal* dimensions were almost wholly independent of one another. Between the three cognitive factors and the two intrapersonal factors, there is only one relationship: Congruence is moderately correlated with Openness to New Ideas and Experiences. Neither Cognitive Complexity nor Engaging Diverse Views was directly correlated with either Congruence or Personal and Communal Efficacy. This lack of relationship between the cognitive and intrapersonal dimensions seems rather antithetical when compared to the scholarly literature suggesting that these two domains are highly interrelated (e.g., Baxter Magolda, 2001b; Chickering & Reisser, 1993; Fassinger, 1998; Kegan, 1994). The best explanation for this separation appears to be that the students participating in this study – who had likely not yet achieved self-authorship – had not yet harnessed the ability to integrate

their cognitive capabilities with their personal senses of identity. For example, it appeared that students had not taken the opportunity to reflect and make meaning of their own identities and chosen paths. This suggests that the intrapersonal or identity dimension may be the last (or hardest) dimension to develop an internal, self-authored foundation.

The interpersonal dimension clearly encompasses two of the factors from this study: Interdependence and Engaged Responsibility. Both of these factors reflect the importance of engaging in mature relationships with the outside world, relationships that are "characterized by respect for both one's own and others' particular identities and cultures as well as by productive collaboration to negotiate and integrate multiple perspectives and needs" (Baxter Magolda, 2004d, pp. 9-10). In addition, two other factors that were discussed earlier – Openness to New Ideas and Experiences and Engaging Diverse Views – also appear to overlap with this dimension, particularly with regard to its emphasis on respect for and collaboration with other cultures and perspectives. The Personal and Communal Efficacy factor also appears to overlap with the interpersonal dimension because of its emphasis on "productive collaboration." It is intriguing, however, that while all of these factors appear to fall within the interpersonal dimension, they are not all correlated to one another. Interdependence and Engaged Responsibility are related to one another, and both are related to Openness to New Ideas and Experiences. But Engaging with Diverse Ideas is only related to Engaged Responsibility and not to Interdependence. Personal and Communal Efficacy, as discussed above, is not related to any of the other factors associated with the interpersonal dimension.

Finally, there is the issue of the Dissonance and Change factor. This factor does not fit neatly within any of the three dimensions. In some ways it straddles them all;

dissonance and disequilibrium can occur in any one or all three dimensions at once, and the variables that make up this factor appear to relate to all three dimensions. But in another way, the Dissonance and Change factor appears to represent a fourth dimension. After all, this factor did not correlate to any other factor the emerged from the study. Again, this might suggest (as discussed earlier) that, rather than being a new dimension of self-authorship, Dissonance and Change should instead be viewed as the mechanism undergirding the developmental process. Further study might be necessary before coming to a definitive conclusion as to whether to include the Dissonance and Change factor within the three-dimensional model and, if so, how it is incorporated.

Implications for the Theory of Self-Authorship

The results of this study provide two key insights into the theory of self-authorship. First, this study appears to provide further information regarding self-authorship's developmental process, particularly its lines of development and how the various dimensions of self-authorship relate to one another. The second major finding involves the structure and dimensions of self-authorship and suggests that, in addition to the cognitive, intrapersonal, and interpersonal dimensions, self-authorship may have a fourth dimension: dissonance resolution.

Identifying the Dimensions along which Self-Authorship Develops

The first major implication of this study is that it appears to identify the lines along which self-authorship develops. As seen in the first part of this chapter, several of the factors that emerged from this study appeared to closely mirror and be characteristic of self-authored individuals. Other factors – notably Engaging Diverse Views,

Dissonance and Change, and Personal and Communal Efficacy – produced results (particularly in their negative, or non-existent, correlation with other factors) that did not appear consistent with individuals who had *achieved* self-authorship. Instead, these findings appeared more consistent with individuals who were still in the process of *developing* self-authorship. Given that previous and on-going research suggests that many (if not most) of the students in this study had not achieved self-authorship (Baxter Magolda, 2001; King, 2007), the results of this study might better be characterized as a factor analysis, not of self-authorship itself, but of the *development of* self-authorship. In other words, rather than revealing the structure and components of self-authorship, this study identified the *dimensions along which self-authorship develops*.

Seen in this light, this study provides solid insight into the developmental process of achieving self-authorship. For one, it reveals that, although students' cognitive and interpersonal dimensions are highly interrelated along this journey, students' intrapersonal dimensions remain less well integrated with the other domains (particularly the cognitive domain). This intrapersonal, or identity, dimension may thus represent either the final or the most difficult dimension in which students must establish their internal foundations. Indeed, Baxter Magolda (2001) indicated that the journey to self-authorship is largely a journey to find one's own internal voice and to allow that voice to serve as the foundation for an enduring and self-authored sense of self.

Similarly, the fact that the Engaging Diverse Views factor was negatively correlated with three other factors indicates that, although understanding and engaging with diversity and diverse viewpoints is ultimately a hallmark of self-authorship (King & Baxter Magolda, 2005; Baxter Magolda, King, Stephenson et al., 2007), the achievement

of this level of development may not constitute a smooth trajectory. Instead, it appears that exposure to diverse viewpoints can initially upset students' journeys, as represented by the negative correlations with the Cognitive Complexity, Openness to New Ideas and Experiences, and Informed and Engagement Commitment factors. Put another way, students must learn to make sense of the new views and to see things from new vantage points before furthering their development (Perry, 1981; Baxter Magolda, 1992; Belenky et al., 1986; Kohlberg, 1975). Until students' gain that capacity (and confidence in their ability to do so), they may struggle on their developmental journey, as evidenced by this study. Similarly, the fact that the Dissonance and Change factor remains uncorrelated to any other factor in this study suggests, as indicated above, that students on their journey to self-authorship must learn to harness dissonance in a constructive manner and relate to themselves in a productive manner. (However, it is important to keep in mind that the sample in this study was largely White, upper-middle-class, and from large, public predominantly White institutions; thus, this finding in particular may not be generalizable to students who do not share these predominant characteristics or identities.)

Thus, although this study may not provide the specific factor structure of individuals who have *achieved* self-authorship, it may very well present an excellent snap-shot of many students' *journeys toward* self-authorship (although given the demographics of this sample, this same journey may not be shared by all students). By doing so, it highlights that one of the main developmental processes that college students encounter in developing self-authorship is to deal with the complexities and meanings of diverse viewpoints and to harness disequilibrium in a constructive, developmental manner.

Self-Authorship's Fourth Dimension: Dissonance Resolution?

The second, and perhaps more surprising, outcome of this study is its suggestion that self-authorship may be composed of more than simply the three main dimensions previously identified by Kegan (1994) and Baxter Magolda (1999a, 1999d, 2000, 2001b). These scholars found that the three main domains – cognitive, intrapersonal, and interpersonal – became fused and "interwoven" in a self-authored identity, with development in any individual dimension spurring and fostering development in the other dimensions, as well (Baxter Magolda, 2001b, pp. 162). In this study, seven of the eight factors that emerged from the exploratory factor analysis either fit squarely within one of the three dimensions or straddled two of those dimensions, thus largely confirming the basic tenets of the interwoven three-dimensional model of self-authorship.

One factor – *Dissonance and Change* – does not appear to fit in this three-dimensional model. This factor does not squarely fit within the cognitive, intrapersonal or interpersonal domains, as described by Baxter Magolda (2001b) or Kegan (1994). Additionally, this factor was not even moderately correlated with any other factor in the study. Together, this suggests that Dissonance and Change may represent a separate domain associated with self-authorship.

Indeed, earlier scholarship may actually support the conclusion that the Dissonance and Change factor represents a fourth domain of self-authorship. In the first article that Baxter Magolda (1998) published specifically on self-authorship, she identified *four* dimensions to self-authorship. In addition to the cognitive, intrapersonal, and interpersonal dimensions, she added a fourth: the confidence to make meaning of one's experiences and direct one's own life. Although Baxter Magolda stated that

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confidence in one's meaning-making capabilities was a characteristic of self-authored individuals, this capability was grounded and rooted in feelings of dissonance:

> Locating the source of authority "inside" oneself was prompted by dissonance in various forms…. Facing complex realities was [one] form of dissonance. Juggling multiple responsibilities in work roles, balancing work and personal lives, and experiencing the accompanying stress and pressure jolted participants to reevaluate the way they made meaning of their experiences. Their ability to proceed hinged on the reframing of their thinking…. Experiencing these complexities firsthand demanded some sort of resolution; the participants … resolved this dissonance by becoming authors of the meaning of their own life experiences. (p. 152)

In this early article, Baxter Magolda appeared to suggest that self-authorship contained a fourth dimension, a dimension that was rooted in dissonance and that eventually evolved into sophisticated meaning-making abilities. Therefore, the emergence of the distinct Dissonance and Change factor may confirm Baxter Magolda's (1998) initial impression that self-authorship is composed of four dimensions, not the *three* dimensions (cognitive, intrapersonal, and interpersonal) that she later settled upon (Baxter Magolda, 2001b; 2004d).

This fourth dimension, what may be called *dissonance resolution*, also appears to have support in other scholarship. For example, it appears consistent with Kegan's (1994) general developmental framework. Individuals at lower stages of development – such as Kegan's third order of consciousness – would appear to recognize and resolve dissonance in fundamentally and qualitatively different manners than those at higher levels of

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development (like self-authorship). Kegan, for example, suggested that individuals at the third-order of consciousness might only recognize dissonance that occurs in one's interpersonal relationships and then seek to resolve that dissonance by finding new relationships or by acting like a chameleon to constantly mold and change oneself to fit into different environments and social roles. On the other hand, individuals who are moving toward self-authorship might, as suggested in Baxter Magolda's (2001) research, increasingly experience dissonance between external and internal voices, as she illustrated in describing the crossroads phase:

> The process of developing internal sources of making meaning – or voice – was most often a struggle in light of concern regarding others' expectations and how one's internal voice would affect one's relations with others. Conflicts between what participants were coming to determine they wanted and what they thought others expected of them were commonplace. The crossroads was a turning point that called for letting go of external control and beginning to replace it with one's internal voice. *All three dimensions required work on the internal voice*. (pp. 93-94; emphasis added)

The final sentence in this quotation is emphasized because it highlights two key points related to this discussion. First, it indicates – as was expressly stated in Baxter Magolda's (1998) first article on self-authorship – that meaning making and dissonance resolution are somehow separate or distinct from the three main dimensions of self-authorship. Second, this sentence suggests that the emergence of one's "internal voice" is the specific *method* of dissonance resolution associated with self-authorship. This method

is qualitatively different than the dissonance resolution technique – external formulas – used in the earlier phase.

Thus, the emergence of the distinct and separate Dissonance and Change factor through this study, when reviewed in context of the previous literature on self-authorship, suggests that self-authorship actually has a fourth dimension – dissonance resolution. The implications of all this and many other findings from this study on higher education practice are presented in the following section.

Implications for Practice, Pedagogy, and Policy

The results of this study present three major implications for higher education practice, pedagogy, and policy. First, this study suggests students need a great deal of assistance in, not just managing the dissonance in their lives, but in directing and focusing this dissonance in a way that promotes development. In particular, this study suggests that self-reflection may be an effective tool that should be encouraged in a variety of contexts to facilitate student development. Second, this study also provides a variety of suggestions for how higher education should teach and address issues of diversity, multiculturalism, and social justice. And finally, this study suggests that, if higher education is serious about the holistic development of its students, it must make real change, not only in institutional policy, but in how institutional policy is developed.

First, perhaps the most significant finding in this study is the emergence of the factor related to Dissonance and Change – a factor that did not correlate in any meaningful way with any of factor in the study. This finding suggests that college students may need support and assistance as they attempt to make meaning of the dissonance, disequilibrium, and challenges they face in their development processes.

Dissonance can be experienced in multiple ways, as this study helped reveal. Dissonance can arise through the fear of change, anxiety about the unknown, and the challenge of a new situation, as reflected in the Change and Dissonance factor. Dissonance can also arise as students confront challenging new viewpoints and knowledge that challenge their current thinking, a type of dissonance that was reflected in this study through the negative correlations associated with the Engaging Diverse Views factor and identified by earlier scholars, as well (Baxter Magolda, King, Stephenson et al., 2007; Laughlin & Creamer, 2007). Finally, dissonance can also result from the developmental process itself:

> When we leave the way we aw the world, in which everything was just so and just as we thought, and we see it all differently, we move into a world where all of what was solid and known is crumbling.... It may be a great joy to discover a new and more complex way of thinking and seeing, but what do we do about all the hopes that we had invested and experienced in those simpler terms? When we leave those terms behind, are we to leave hope, too? (Perry, 1979, pp. 270-271)

Given the challenges students may undergo while experiencing these various forms of dissonance, it is increasingly important for all higher education professionals (including faculty, academic support, and student affairs) to support students in their developmental process, as various scholars have previously suggested. For example, Kegan (1994) called on counselors and educators to "collaboratively build the bridge to the fourth order" with their clients and students (pp. 259-260); Baxter Magolda (1999b, 2001b; Baxter Magolda & King, 2004) has suggested that higher education construct *learning partnerships* to promote self-authorship in students; and Meszaros (2007a) uses

the metaphor of the tandem bike (with the student in front) to describe how higher education professionals should be assisting students on their trek toward self-authorship.

Fortunately, a growing body of research is providing evidence that higher education can use a variety of interventions and supports to facilitate this developmental process. For example, research is illuminating innovative new approaches to curricular design (Baxter Magolda 1999b; Bekken & Marie, 2007); academic advising (Pizzolato & Ozaki, 2007); career advising (Creamer & Laughlin, 2004; Laughlin & Creamer, 2007); study abroad and immersion programs (Yonkers-Talz, 2004); and internship programs (Egart & Healy, 2004).

Another important practice that this study suggests might help students' development of self-authorship is the more frequent, deliberate, and sustained use of self-reflection and reflective techniques with students. Numerous scholars have emphasized the critical nature of self-reflection in the development of self-authorship and other higher forms of development (Baxter Magolda, 2001; Baxter Magolda & King, 2007; King, 2007; King & Kitchener, 1994; Pizzolato & Ozaki, 2007). However, several findings from this study suggest that self-reflection and other reflection techniques are not currently being used productively. Most notably the lack of correlation between the cognitive factors and the intrapersonal factors suggests a gap in the use of reflective practices that might have served to unite these domains. Additionally, it is significant that the lowest loading variable on the Dissonance and Change factor was the variable addressing self-reflection. These findings were similarly echoed in the on-going Wabash National Study of Liberal Arts Education:

[M]any students reported at the end of the interviews that this was the first time they had encountered the opportunity to reflect on their experiences and to explain to someone else what they were learning and how their learning had affected their thinking, being, and social relationships. Many reported that they enjoyed this process and were eager to engage in this kind of deep reflection, but that it was so unfamiliar to that they struggled to convey the effects they felt. (Baxter Magolda, King, Stephenson et al. 2007, p. 34)

If higher education can promote the more frequent and sustained practice of self-reflection and other reflection techniques, these approaches may assist students process and overcome their dissonance, make meaning of their experiences, and better integrate their cognitive, intrapersonal, and interpersonal domains.

Another major implication of this study concerns the pedagogical approach used by higher education to address and promote diversity, multicultural, and social justice education. Interestingly, this study – like several other recent findings (Endicott, Bock, & Narvaez, 2003; Torres, Hernandez, & De Sawal, 2007) – indicates that cognitive development and cultural awareness are deeply interwoven: "[F]lexible thinking marks the critical developmental shift for both [cognitive] and intercultural development" (Endicott, Bock & Narvaez, p. 415). However, the challenge associated with this finding is illustrated by the negative correlations between the Engaging with Diverse Views factor and various other factors, specifically Cognitive Complexity (which included several appreciation of diversity variables) and Openness to New Ideas and Experiences. Emerging scholarship surrounding self-authorship has suggested that colleges and universities should construct sequential, developmental curricula around issues such as

diversity and multiculturalism to better target, promote, and support personal develop in these areas (Baxter Magolda, King, Stephenson et al., 2007). These sequences would be targeted to students in different developmental phases, with earlier interventions focusing on exposure to complex and diverse viewpoints that are combined with active reflection, meaning making, and attempts to view alternative viewpoints. Later, at higher levels of development, higher education professional can help students evaluate various perspectives, assess the meaning and implications of their own cultural background, and experience more sustained and substantive interactions with new and varying cultures. Finally, for students who have advanced closer to self-authorship, educators can help build students' confidence in their ability to critique different points of view, to address their feelings of responsibility, and help students find channels to apply and exercise their growing desire for diverse interactions (Baxter Magolda, King, Stephenson et al.).

In all, this study supports the conclusion that, rather than having occasional or short-term interventions to increase students' exposure to diverse cultures, ideas, and viewpoints, students need prolonged and sustained exposure to diverse views combined with assistance in working through and addressing the challenges that may result. Rather than allowing a few diverse experiences to harden into a permanent negative relationship with other developmental dimensions, higher education must work to assist students overcome their initial discomfort or disequilibrium. In this way, diverse interactions may better assist students' development of cognitive complexity and self-authored orientations.

Finally, this study suggests that, if higher education is indeed committed to the holistic development of its students and in promoting self-authorship in its graduates,

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institutions must refocus their policies to better affect such goals. As this study further illuminated, the developmental process that ends in self-authorship is quite complex, with a variety of interrelated factors creating a matrix of developmental possibilities. Additionally, the research and literature to date has shown that the vast majority of students do not achieve self-authorship during their college experiences (Baxter Magolda, 2001b; Baxter Magolda, King, Stephenson, et al., 2007; King, 2007). Thus, it would appear that higher education must change its overall policies and assumptions if it wishes to focus more intentionally on student development.

To this end, Baxter Magolda (1992, 1999b, 2001b, 2004b) has devised the *learning partnerships model* (LPM), a comprehensive set of practices and principles that should be incorporated into university policies to intentionally support the development of self-authorship in college students. The LPM rests on three assumptions, which relate to the three dimensions of self-authorship (cognitive, intrapersonal, and interpersonal): (1) knowledge is complex and socially constructed; (2) the self is central to knowledge construction; and (3) learning is a shared process of mutually constructing meaning. From these core assumptions, Baxter Magolda devised her three principles for educational practice: (1) "validating learners' capacity to know"; (2) "situating learning in learners' experiences"; and (3) "mutually constructing meaning" (Baxter Magolda, 2004b, pp. 42-43). These three principles should thus serve as the foundational policies for higher education institutions.

Baxter Magolda and her collaborators (Baxter Magolda & King, 2004; Meszaros, 2007b) have devised a whole series of initiatives that revolve around the LPM. But even beyond these particular examples, the principles should form the basis of institutional

policy. For example, the first principle – validating students' capacity to know – could be incorporated into university policy by incorporating a form of discussion or debate into all classes. Classes in which students are required to "defend multiple positions" or "develop and support" their own arguments have been identified as prime examples of putting this principle into action (Baxter Magolda, 2004b, p. 45). Thus, institutional policy could be implemented to train instructors to use these techniques and encourage them in all upper level classes.

The second principle – situating learning in the students' experiences – could be incorporated into institutional policy in several ways, but most notably through policies that make experiential educational opportunities available to all students. For example, the University of Maryland has implemented the President's Promise Initiative, a program that guarantees all undergraduate students the opportunity to participate in special programs that actively involve students in developmental and learning experiences: living-learning programs, research initiatives, study abroad experiences, service-learning, and internships (University of Maryland, n.d.). Additionally, recent scholarly literature focusing on student learning in higher education, such as *Learning Reconsidered* (Keeling, 2004), have emphasized that many student learning outcomes are addressed or targeted outside of the traditional classroom through co-curricular initiatives or other environments. Thus, higher education policies and resources should focus on leveraging these out-of-classroom experiences to encourage development. These types of policies, if coupled with resources and support, could help students learn from their own experiences and involvement in educational pursuits, thus promoting development.

Various policies could also be implemented to promote the third principle –

viewing learning and education as mutually constructing meaning. Most notably,

institutional policies would have to encourage higher education faculty and staff to avoid

relying on traditional educational paradigm that view students as vessels to be filled and

instructors as being the expert who provide knowledge to the students. This banking

model of education, unfortunately, deemphasizes the growth, development, and liberation

of students and instead perpetuates socially unjust principles in education (Freire, 2000).

Instead, policies that encourage instructors to focus on student-learning (ACPA, 1996) or

on subject-centered learning approaches (Palmer, 1998), better allow for students to

recognize their own role in creating knowledge and gaining confidence in their ability to

create and manage their own lives, as well.

To achieve the goal of fostering development toward self-authorship, however, it

is not sufficient for higher education simply to *revise* its policies to better align with the

learning partnership model; it must also change the way in which it actually *develops*

these policies:

> Most institutional policy is created without significant student involvement.
>
> Student conduct rules are created more out of concern for control and liability
>
> than for helping students develop values compatible with community living and
>
> directing their own lives. Advising and career services policy and practice are
>
> often mediated more by a need for efficiency than for educating students to
>
> establish their own priorities. Policy regarding curriculum, budgeting, and staffing
>
> is generally regarded as beyond the purview of students; the assumption here is
>
> that students do not know anything about these areas and would not care about

them. Yet these are opportunities for students to encounter diverse perspectives, to see staff balancing priorities, and to see how decisions are made in complex contexts. Including students in the workings of the institution and in creating policies that prompt them to develop their own beliefs in the community context can make these aspects of higher education an opportunity for learning. (Baxter Magolda, 1998, pp. 154-155)

Indeed, allowing students to be intimate and vital partners in the creation and modification of institutional policies that promote their own development could provide one of the strongest avenues for encouraging self-authorship in college students. Thus, ultimately, this study provides strong support for the reformation of higher education practice, pedagogy, and policy.

Implications for Future Research

Although this study produced several important findings, it also provokes many additional questions regarding self-authorship and college student development. Most notably, the most logical first step would be to use the results of this factor analysis to construct scales to measure students' progress along the various factors (i.e., lines of development) identified in this study. Such scales, especially when combined with other emerging qualitative and quantitative measures of self-authorship, may help provide the "even stronger measure of self-authorship" that researchers in the field have been seeking (Pizzolato, 2007, p. 41).

Additionally, because the sample used in this study was particularly robust (3500+ students age 22 or over and another 10,000 students between the ages of 18-21), the creation of scales may allow for further analysis and comparison across different

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demographic (e.g., race, class, sexual orientation, gender) and institutional (public-private, large-small, community college-research universities) lines. Such research could be particularly helpful since the vast majority of research on self-authorship, as seen in Chapter 2, focused on small, largely homogenous samples from a single institution (e.g., Baxter Magolda, 2001; Pizzolato, 2003, 2004; but cf. Torres & Baxter Magolda, 2004 [multi-institutional]; Wawrzynski & Pizzolato, 2006 [large sample]). These scales could also be used to test students from various age groups to see if, indeed, there appears to be development along these factors and thus identify developmental sequence of these various factors in college students. Additional research could be conducted to compare students using the scales derived from this study and those evaluated by existing quantitative measures of self-authorship (Ferencevych, 2004; Pizzolato, 2007).

Further analysis of the data from this study could be conducted in order to determine the variables and experiences that most contribute to development on each of these individual factors, such as through a series of regression analyses. In this way, research could identify the most effective interventions and collegiate environments that promote development toward self-authorship. Additionally, alternative statistical procedures, such as a Q-mode factor analysis or cluster analysis, could be used to group the students (rather than the variables) from this sample into various groups and then study these groups. These approaches could help identify the characteristics of the most advanced students, thus gaining further insight into the skills, knowledge, and abilities of both highly developed and the most challenged students.

Finally, the most intriguing arena for additional research may concern exploring the Dissonance and Change factor in more detail (as well as the discomfort that appears

to be generated from Engaging with Diverse Views). Future research could investigate whether dissonance and dissonance resolution truly are a fourth dimension of self-authorship and otherwise clarify what the role of dissonance is in the development process.

Limitations of Study

Three main limitations (and several additional limitations) exist for this study. First, despite the efforts to select an older, more experienced group of students to participate in this study, it appears (from both the results of the analysis and the literature on self-authorship) that many – if not most – of the students may not have achieved self-authorship at the time they participated in the study. Although the literature reviewed in Chapter 2 has increasingly indicated that college students can and do advance toward, and some even achieve, self-authorship during their college years (e.g., Abes & Jones, 2004; Pizzolato, 2003), recent studies appear to confirm that only a small fraction (i.e., under 10%) of students achieve anything close to self-authored orientations or capabilities during their college careers (King, 2007; Torres, Hernandez, & De Sawal, 2007). Similarly, Kegan (1994) has suggested that only about 50% of all adults may have achieved self-authorship, and Baxter Magolda's (2001) research confirmed that many individuals do not achieve self-authorship until their late 20's and early 30's. Thus, even though this sample included individuals from age 22 to 60, over 70% of them were between the ages of 22 and 25, thus making it very likely that only a small minority of the students have achieved self-authored orientations.

That being said, however, earlier studies into self-authorship that involved large, general samples of college students have faced similar dilemmas (Pizzolato, 2005a;

Wawrzynski & Pizzolato, 2006). These studies emphasized – as this one does – that they do not attempt to measure the students' actual *development* of self-authorship, but rather to focus on a *snapshot* of what students' progression toward self-authorship may look like at one point in time. Furthermore, even if this study may not produce an exact factor structure of self-authorship itself, this study may have great value in identifying the dimensions along which self-authorship develops, as well as an indication of what challenges and obstacles college students may face in their developmental trajectory.

The second main limitation to this study involved using pre-existing data and data that were drawn from a test designed to measure leadership, not self-authorship. Although the MSL contained many variables and items that appeared to reflect self-authorship and although the scholarly literature has suggested the existences of strong links between self-authorship and the constructs measured on the MSL, that study was designed primarily to measure leadership values, efficacy, diversity, and cognitive complexity and not self-authorship. Additionally, because this was a pre-existing dataset, certain elements, themes, and components of self-authorship that were identified in Chapter 2 (in particular, a range of variables concerning locus of control, social identity, and liberation) were not included in a manner that most reflected how those components were associated with self-authorship. And, because this study utilized an *ex post facto* design, there was no ability to reconstruct the instrument or variables to further align them with the themes of self-authorship. Nonetheless, this study had several strengths as well: it used a large number (89) of variables that addressed a whole range of themes and elements of self-authorship (and that none of them used the words *leadership*, *leader*, or

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lead) and a robust sample to highlight factors or themes that may not have been readily apparent. These strengths should have helped to ameliorate the impact of this limitation.

A third major limitation concerns the demographics of the students who were included in the study. Although the sample included in this study was robust and rather diverse, it remained a primarily White (65+%), female (58+%), heterosexual (92+%), non-disabled (80+%), U.S.-born (83+%), and non-first-generation college student (85+%) sample that was primarily drawn from large, public, research institutions (all 60+%). These demographic characteristics have certainly skewed the results and therefore may not reflect the emerging research suggesting that students from under-represented populations experience self-authorship differently than those from privileged populations (e.g., Abes & Jones, 2004; Pizzolato, 2003, Torres & Baxter Magolda, 2005; Wawrzynski & Pizzolato, 2006). In addition, because the sample purposefully only included older students (those at least 22 years of age), its results may not be generalizable to younger populations of students, particularly traditionally aged students in the first, second, or third year of college. As indicated above, further study with this dataset can assess how these different populations of students score on these factors.

In addition to these three main limitations, it is important to at least mention several others. For example, this study involved responses from students at only one point in time; given the developmental and constructive nature of self-authorship, it is important to recognize that the dimensions and components of self-authorship (and their relationships with one another) may change or become fused during the developmental process (Baxter Magolda, 2001b). This also implies a limitation that is inherent in the tension, discussed earlier in Chapter 2, between the epistemological and empirical

assumptions of this study: self-authorship being a constructivist concept and factor analysis being an analytical methodology. Another limitation of this study concerns the fact that all responses to the MSL were self-reported by the students; thus, their scores may not truly represent an objective evaluation of their achievement on these variables. Finally, although a broad assortment of institutions were selected purposefully for the study, those colleges and universities were not selected randomly; thus, the results of this study may not be fully generalizable to the institutional types that were under-represented (particularly community colleges). Despite these concerns, it is believed that the outcome of this study greatly contributes to the current literature on self-authorship and responds to the policy impetus calling for a better understanding of this concept.

Conclusion

Kegan (1994) referred to the development of self-authorship as the emergence of "this new whole" (p. 185), and he characterized this new whole identity as achieving extraordinarily broad and robust capacities to reason and persist through the complexities of modern life. It is believed that this study, through the use of an equally broad and robust sample and set of variables, also produced a "new whole" in the form of a complex yet parsimonious structure for self-authorship.

The new whole revealed in this study revealed that self-authorship is composed of, or develops along, eight different dimensions or factors. Seven of those factors – Interdependence, Engaging Diverse Views, Cognitive Complexity, Engaged Responsibility, Personal and Communal Efficacy, Congruence, and Openness to New Ideas and Experiences – are highly intercorrelated with and related to one another. However, one factor – Dissonance and Change – remains independent of all the others.

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Two possible conclusions can be drawn from this independent factor: either that Dissonance and Change represent the underlying mechanism or process through which students develop toward self-authorship or that dissonance and its resolution remain an unexplored and largely undeveloped fourth domain of self-authorship. Resolution of this conflict requires further study and research.

In addition, the results of this study suggest that, when moving toward self-authorship, students may encounter stumbling blocks and disequilibrium, especially around factors such as Engaging Diverse Views and in developing Personal and Communal Efficacy. These stumbles appear, at least temporarily, to negatively relate to other aspects or dimensions of a student's development toward self-authorship. The hope, however, is that this study will assist higher education professionals to support students on their overall journey toward self-authorship and ultimately achieve "this new whole" (Kegan, 1994, p. 185).

Appendices

Appendix A   MSL Final Instrument

Appendix B   MSL Master Variable List

Appendix C   SLRS-R2 Variables

Appendix D   MSL Institutional Participants & Their Characteristics

Appendix E   Three Factor Rotated Solution – Raw Data

Appendix F   Six Factor Rotated Solution – Raw Data

Appendix G   11 Factor Rotated Solution – Raw Data

Appendix A: MSL Final Instrument

The MSL instrument was administered on the web; thus, the web format was different than what appears here. This version was formatted particularly for use in the IRB approval processes.

> **Shaded sections/ items comprise sub-studies and were not administered to all participants. Approximately 25% of the total sample from each participating campus was selected for each of the four sub-studies: activism, employment, government, and cognitive development/leadership identity development.**

[NOTE: The Instrument Begins on the Next Page]

NOTE:

This is a paper and pencil version of what will be presented as an on-line web survey. Skip patterns will automatically take the respondent to the appropriate section. Shaded sections/items will be used in split samples and will not be asked of all participants.

COLLEGE INFORMATION

1. Did you begin college at your current institution or elsewhere? (Choose One)

- o Started here
- o Started elsewhere

2. Thinking about this academic term, how would you characterize your enrollment? (Choose One)

- o Full-Time
- o Less then Full-Time

3. What is your current class level? (Choose One)

- o First year/freshman
- o Sophomore
- o Junior
- o Senior
- o Graduate student
- o Other

4. Are you currently working OFF CAMPUS?
(Circle one) YES NO
If NO skip to #5

4a. Approximately how many hours do you work off campus in a typical 7 day week?

4b. In your primary off campus position, how frequently do you: (Circle one for each item)

| 1 = Never | 3 = Often |
| 2 = Sometimes | 4 = Very Often |

Perform repetitive tasks	1	2	3	4
Consider options before making decisions	1	2	3	4
Perform structured tasks	1	2	3	4
Have the authority to change the way some things are done	1	2	3	4
Coordinate the work of others	1	2	3	4
Work with others on a team	1	2	3	4

5. Are you currently working ON CAMPUS?
(Circle one) YES NO
if NO skip to #6

5a. Approximately how many hours do you work on campus in a typical 7 day week?

5b. In your primary position, how frequently do you: (Circle one for each item)

| 1 = Never | 3 = Often |
| 2 = Sometimes | 4 = Very Often |

Perform repetitive tasks	1	2	3	4
Consider options before making decisions	1	2	3	4
Perform structured tasks	1	2	3	4
Have the authority to change the way some things are done	1	2	3	4
Coordinate the work of others	1	2	3	4
Work with others on a team	1	2	3	4

6. In an average academic term, do you engage in any community service?
YES NO
if NO skip to #7

In an average academic term, approximately how many hours do you engage in community service? (circle one for each category).

As part of a class
0 1-5 6-10 11-15 16-20 21-25 26-30

With a student organization
0 1-5 6-10 11-15 16-20 21-25 26-30

As part of a work study experience
0 1-5 6-10 11-15 16-20 21-25 26-30

On your own
0 1-5 6-10 11-15 16-20 21-25 26-30

7. Check all the following activities you engaged in during your college experience.

- o Studied abroad

- o Experienced a practicum, internship, field experience, co-op experience, or clinical experience

- o Participated in a learning community or some other formal program where groups of students take two or more classes together.

- o Enrolled in a culminating senior experience (capstone course, thesis etc.)

○ None of the above

YOUR PERCEPTIONS BEFORE ENROLLING IN COLLEGE

8. Looking back to _before you started college_, how confident were you that you would be successful at the following:
(Circle one response for each.)

| 1 = Not at all confident | 3 = Confident |
| 2 = Somewhat confident | 4 = Very confident |

Handling the challenge of college-level work	1	2	3	4
Feeling as though you belong on campus	1	2	3	4
Analyzing new ideas and concepts	1	2	3	4
Applying something learned in class to the "real world"	1	2	3	4
Enjoying the challenge of learning new material	1	2	3	4
Appreciating new and different ideas, beliefs	1	2	3	4
Leading others	1	2	3	4
Organizing a group's tasks to accomplish a goal	1	2	3	4
Taking initiative to improve something	1	2	3	4
Working with a team on a group project	1	2	3	4

9. Looking back to _before you started college_, how often did you engage in the following activities:
(Circle one response for each.)

| 1 = Never | 3 = Often |
| 2 = Sometimes | 4 = Very Often |

Performing volunteer work	1	2	3	4
Participating in student clubs/ groups	1	2	3	4
Participating in varsity sports	1	2	3	4
Took leadership positions in student clubs, groups or sports	1	2	3	4
Participating in community organizations (e.g. church youth group, scouts)	1	2	3	4
Taking leadership positions in community organizations	1	2	3	4
Participating in activism in any form (e.g. petitions, rally, protest)	1	2	3	4
Getting to know people from backgrounds different than your own	1	2	3	4
Learning about cultures different from your own	1	2	3	4

Participating in training or education that developed your leadership skills 1   2   3   4

10. Looking back to _before you started college_, please indicate your agreement with the following items by choosing the number that most closely represented your opinion about that statement AT THAT TIME:
(Circle one response for each.)

1 = Strongly disagree	4 = Agree
2 = Disagree	5 = Strongly Agree
3 = Neutral	

Hearing differences in opinions enriched my thinking	1	2	3	4	5
I had low self esteem	1	2	3	4	5
I worked well in changing environments	1	2	3	4	5
I enjoyed working with others toward common goals	1	2	3	4	5
I held myself accountable for responsibilities I agree to	1	2	3	4	5
I worked well when I knew the collective values of a group	1	2	3	4	5
My behaviors reflected my beliefs	1	2	3	4	5
I valued the opportunities that allowed me to contribute to my community,	1	2	3	4	5
I thought of myself as a leader ONLY if I was the head of a group (e.g. chair, president)	1	2	3	4	5

11a. Before you started college, **how would you describe the amount of leadership experience you have had (e.g., student clubs, performing groups, service organizations, jobs)?** Please circle the appropriate number
No experience 1   2   3   4   5   Extensive experience

11b. Before you started college, **how often did others give you positive feedback or encourage your leadership ability (e.g., teachers, advisors, mentors)?**
Please circle the appropriate number
Never 1   2   3   4   5   frequently

11c. Before you started college, **How would you have reacted to being chosen or appointed the leader of a group?** Please circle the appropriate number
Very   1   2   3   4   5   very
uncomfortable   comfortable

11d. Before you started college, **how often did you see others be effective leaders?**
Please circle the appropriate number
Never 1   2   3   4   5   frequently

11e. Before you started college, **how often did you think of yourself as a leader**
Please circle the appropriate number
Never 1   2   3   4   5   frequently

YOUR EXPERIENCE IN COLLEGE

12. How often have you engaged in the following activities during your college experience:
(Circle one for each item)

1 = Never   3 = Often
2 = Sometimes   4 = Very Often

Paid attention to national issues 1   2   3   4

Paid attention to global issues…………………1   2   3   4

Was aware of the current issues facing the
community surrounding your institution..... 1   2   3   4

Signed a petition or sent an email about a
social or political issue................................ 1   2   3   4

Bought or did not buy a product or service
because of your views about the social or
political values of the company that produces
or provides it 1   2   3   4

Contacted a public official, newspaper,
magazine, radio, or television talk show to
express your opinion................................... 1   2   3   4

Took part in a protest, rally, march, or
demonstration... 1   2   3   4

13. Since starting college, how often have you:

been an involved member or active participant in college organizations?
        Never 1   2   3   4   5   Much of the time

held a leadership position in a college organization? (for example, serving as an officer or a club or organization, captain of an athletic team, first chair in a musical group, section editor of the newspaper, chairperson of a committee)
        Never 1   2   3   4   5   Much of the time

been an involved member or active participant in an off-campus community organization (e.g. PTA, church group)?
        Never 1   2   3   4   5   Much of the time

held a leadership position in a community organization? (for example, serving as an officer or a club or organization, leader in a youth group, chairperson of a committee)
        Never 1   2   3   4   5   Much of the time

YOUR STUDENT GROUP INVOLVEMENTS

14. Which of the following kinds of student groups have you been involved with during college?
(Check all the categories that apply)

o   Academic/ Departmental/ Professional (e.g., Pre-Law Society, an academic fraternity, Engineering Club)

o   Arts/Theater/Music (e.g., Theater group, Marching Band)

o   Campus-wide programming groups (e.g., program board, film series board, a multicultural programming committee)

o   Cultural/ International (e.g., Black Student Union, German Club)

o   Honor Society (e.g., Omicron Delta Kappa [ODK], Mortar Board, Phi Beta Kappa)

o   Living-learning programs (e.g., language house, leadership floors, ecology halls)

o   Leadership (e.g., Peer Leadership Program, Emerging Leaders Program)

o   Media (e.g., Campus Radio, Student Newspaper)

o   Military (e.g., ROTC)

o   New Student Transitions (e.g., admissions ambassador, orientation advisor)

o   Para professional group (e.g., Resident assistants, peer health educators)

o   Political/ Advocacy (e.g., College Democrats, Students Against Sweatshops)

o   Religious (e.g., Campus Crusades for Christ, Hillel)

o   Service (e.g., Circle K, Alpha Phi Omega [APO])

o   Culturally based fraternities and sororities (e.g., National Pan-Hellenic Council (NPHC) groups such as Alpha Phi Alpha Fraternity Inc., or Latino Greek Council groups such as Lambda Theta Alpha)

o   Social fraternities or sororities (e.g. Panhellenic or Interfraternity Council groups such as Sigma Phi Epsilon or Kappa Kappa Gamma)

o   Sports- Intercollegiate or Varsity (e.g., NCAA Hockey, Varsity Soccer)

o   Sports- Club (e.g., Club Volleyball)

○ Sports- Leisure or Intramural (ex: Intramural flag football, Rock Climbing)

○ Special Interest (ex: Comedy Group)

○ Student governance group (ex: Student Government Association, Residence Hall Association, Interfraternity Council) IF CHECKED go to item 14A

14A. Were you involved in your campus-wide student government association? (Circle one) YES   NO

If No, skip to item 15.

Thinking about your student government experience, indicate your level of agreement with the following items:
(Circle one response for each.)

1 = Strongly disagree	**4 = Agree**
2 = Disagree	**5 = Strongly agree**
3 = Neutral	

I found it hard to represent my constituents'
concerns... 1 2 3 4 5

I successfully initiated change on behalf of
my constituents (e.g., policy, institutional,
or social) 1 2 3 4 5

My motivation for involvement was about
gaining influence.. 1 2 3 4 5

My motivation for involvement was to receive
recognition 1 2 3 4 5

My motivation for involvement was to
help others... 1 2 3 4 5

I have witnessed effective constituency-based
efforts for change 1 2 3 4 5

Effective constituency-based efforts for
change have influenced my own actions...... 1 2 3 4 5

I held a constituency-based position prior to
this college SGA experience (e.g. high school
or other governance group).......................... 1 2 3 4 5

Experience with previous constituency
based positions did NOT make me more
effective in my college SGA work............... 1 2 3 4 5

15. At any time during your college experience, how often have you been in mentoring relationships where another person intentionally assisted your growth or connected you to opportunities for career and personal development?
Indicate how many times

Student affairs staff
(e.g., a student organization advisor, career counselor, the Dean of Students, or residence hall coordinator):
....**never once several many**

Faculty ....**never once several many**

Employers ....**never once several many**

Community members ....**never once several many**
Other students ....**never once several many**

16. During interactions with other students outside of class, how often have you done each of the following in an average school year?   (Circle one for each.)
    1 = Never   3 = Often
    2 = Sometimes   4 = Very Often

Talked about different lifestyles/
customs..1   2   3   4

Held discussions with students whose
personal values were very different
from your own 1   2   3   4

Discussed major social issues such as
peace, human rights, and justice.............1   2   3   4

Held discussions with students whose
religious beliefs were very different
from your own 1   2   3   4

Discussed your views about
multiculturalism and diversity................1   2   3   4

Held discussions with students whose
political opinions were very different
from your own 1   2   3   4

DEVELOPING YOUR LEADERSHIP ABILITIES

17. **Since starting college**, how many times have you participated in the following types of training or education that developed your leadership skills (ex: courses, Resident Assistant training, organization retreats, job training) (Circle one for each.)

17a- Short-Term Experiences (ex: individual or one-time workshops, retreats, conferences, lectures, or training)
        Never   once   several   many

17b-Moderate-Term Experiences (ex: a single course, multiple or ongoing retreats, conferences, institutes, workshops, and/or training.
        Never   once   several   many

If NEVER skip to 17c;

Did your experience involve any academic courses?
YES NO

If no, skip to 17c

a.   How many leadership courses have you completed?

[   ]

b. How many other courses have you taken that contributed to your leadership abilities (e.g. ethics course, personal development courses, management courses)? *Keep in mind you might have taken such a course but it did not contribute to your leadership.*

[ ]

17c- Long-Term Experiences (ex: multi-semester leadership program, leadership certificate program, leadership minor or major, emerging leaders program, living-learning program),

Never   once   several   many

if NEVER skip to 18

Which of the following Long-Term Activities did you experience? (check all that apply)

- o   Emerging or New Leaders Program
- o   Peer Leadership Program
- o   Leadership Certificate Program
- o   Multi-Semester Leadership Program
- o   Senior Leadership Capstone Experience
- o   Residential Living-learning leadership program
- o   Leadership Minor
- o   Leadership Major
- o   Other

ASSESSING LEADERSHIP DEVELOPMENT

18. Please indicate your agreement or disagreement with the following items by choosing the number that most closely represents your opinion about that statement.
(Circle <u>one</u> response for each.)

For the statements that refer to a group, think of the most effective, functional group of which you have been a part. **This might be a formal organization or an informal study group. For consistency, use the same group in all your responses.**

1 = Strongly disagree	4 = Agree
2 = Disagree	5= Strongly Agree
3 = Neutral	

I am open to others' ideas........................... 1 2 3   4   5

Creativity can come from conflict............. 1 2 3   4   5

I value differences in others 1 2 3   4   5

I am able to articulate my priorities........... 1 2 3   4   5

Hearing differences in opinions enriches
my thinking... 1   2   3   4   5

I have low self esteem 1   2   3   4   5

I struggle when group members have
ideas that are different from mine.......... 1   2   3   4   5

Transition makes me uncomfortable.......... 1   2   3   4   5

I am usually self confident......................... 1   2   3   4   5

I am seen as someone who works
well with others 1   2   3   4   5

Greater harmony can come out of
disagreement... 1   2   3   4   5

I am comfortable initiating new ways of
looking at things 1   2   3   4   5

My behaviors are congruent with my
beliefs.. 1   2   3   4   5

I am committed to a collective purpose in
those groups to which I belong 1   2   3   4   5

It is important to develop a common
direction in a group in order to get
anything done... 1   2   3   4   5

I respect opinions other than my own 1   2   3   4   5

Change brings new life to an
organization... 1   2   3   4   5

The things about which I feel passionate
have priority in my life........................... 1   2   3   4   5

I contribute to the goals of the group 1   2   3   4   5

There is energy in doing something a
new way 1   2   3   4   5

I am uncomfortable when someone
disagrees with me................................... 1   2   3   4   5

I know myself pretty well 1   2   3   4   5

I am willing to devote the time and energy
to things that are important to me........... 1   2   3   4   5

I stick with others through difficult
times.. 1   2   3   4   5

When there is a conflict between two
people, one will win and the other
will lose... 1   2   3   4   5

Change makes me uncomfortable.............. 1   2   3   4   5

It is important to me to act on my beliefs... 1   2   3   4   5

I am focused on my responsibilities........... 1   2   3   4   5

I can make a difference when I work
with others on a task............................... 1   2   3   4   5

I actively listen to what others have to
say 1   2   3   4   5

I think it is important to know other
people's priorities.................................... 1   2   3   4   5

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My actions are consistent with my
   values...................................... 1   2   3   4   5

I believe I have responsibilities to my
   community............................... 1   2   3   4   5

I could describe my personality................. 1   2   3   4   5

I have helped to shape the mission of
   the group................................ 1   2   3   4   5

New ways of doing things frustrate me..... 1   2   3   4   5

Common values drive an organization...... 1   2   3   4   5

I give time to making a difference for
   someone else.......................... 1   2   3   4   5
I work well in changing environments 1   2   3   4   5

I work with others to make my
   communities better places...................... 1   2   3   4   5
I can describe how I am similar to
   other people 1 2   3   4   5
I enjoy working with others toward
   common goals........................ 1 2   3   4   5

I am open to new ideas............................ 1 2   3   4   5

I have the power to make a difference in
   my community....................... 1 2   3   4   5

I look for new ways to do something 1 2   3   4   5

I am willing to act for the rights of
   others 1 2   3   4   5

I participate in activities that contribute
   to the common good 1 2   3   4   5

Others would describe me as a
   cooperative group member 1 2   3   4   5

I am comfortable with conflict................. 1 2   3   4   5

I can identify the differences between
   positive and negative change................. 1 2   3   4   5

I can be counted on to do my part 1 2   3   4   5

Being seen as a person of integrity is
   important to me...................... 1 2   3   4   5

I follow through on my promises 1 2   3   4   5

I hold myself accountable for
   responsibilities I agree to 1 2   3   4   5

I believe I have a civic responsibility to
   the greater public 1 2   3   4   5

Self-reflection is difficult for me.............. 1 2   3   4   5

Collaboration produces better results 1 2   3   4   5

I know the purpose of the groups to
   which I belong 1 2   3   4   5

I am comfortable expressing myself.......... 1 2   3   4   5

My contributions are recognized by
   others in the groups I belong to 1 2   3   4   5

I work well when I know the collective
   values of a group 1 2   3   4   5

I share my ideas with others........................1 2   3   4   5

My behaviors reflect my beliefs.................1 2   3   4   5

I am genuine...1 2   3   4   5

I am able to trust the people with
   whom I work 1 2   3   4   5

I value opportunities that allow me to
   contribute to my community...................1 2   3   4   5

I support what the group is trying to
   accomplish..1 2   3   4   5

It is easy for me to be truthful....................1 2   3   4   5

THINKING MORE ABOUT YOURSELF

19.   How would you characterize your political views?
(Mark One)
- o   Far left
- o   Liberal
- o   Middle-of-the-road
- o   Conservative
- o   Far right

20. In thinking about how you have changed <u>during</u> <u>college</u>, to what extent do you feel you have grown in the following areas? (Circle <u>one</u> response for each.)

    1 = Not grown at all   **3 = Grown**
    2 = Grown somewhat   **4 = Grown very much**

Ability to put ideas together and to see
   relationships between ideas 1   2   3   4

Ability to learn on your own, pursue
   ideas, and find information you need 1   2   3   4

Ability to critically analyze ideas and
   information 1   2   3   4

Learning more about things that are new
to you 1   2   3   4

21. Please indicate the extent to which you agree or disagree with the following statements.
    (Circle <u>one</u> response for each.)

    1 = Strongly disagree   **3 = Agree**
    2 = Disagree   **4 = Strongly agree**

Since coming to college, I have learned a
   great deal about other racial/ethnic
   groups...1   2   3   4

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I have gained a greater commitment to my
racial/ethnic identity since coming to college .. 1   2   3   4

My campus's commitment to diversity fosters
more division among racial/ethnic groups
than inter-group understanding 1   2   3   4

Since coming to college, I have become aware
of the complexities of inter-group
understanding.. 1   2   3   4

THINKING ABOUT LEADERSHIP

**22. How confident are you that you can be successful at the
following:** (Circle <u>one</u> response for each.)
     1 = Not at all confident   3 = Confident
     2 = Somewhat confident 4 = Very confident

Leading others... 1   2   3   4

Organizing a group's tasks to accomplish a goal. 1   2   3   4

Taking initiative to improve something 1   2   3   4

Working with a team on a group project.......   1   2   3   4

23.   To what degree do you agree with these items?
     (Circle <u>one</u> response for each.)

     1 = Strongly disagree
     2 = Disagree
     3 = neither agree or disagree
     4 = Agree
     5 = Strongly agree

It is the responsibility of the head of a group
to make sure the job gets done 1   2   3   4   5

A person can lead from anywhere in the
organization, not just as the head of
the organization 1   2   3   4   5

I spend time mentoring other group
members... 1   2   3   4   5

I think of myself as a leader ONLY if I am
the head of a group (e.g. chair, president) 1   2   3   4   5

Group members share the responsibility
for leadership 1   2   3   4   5

I am a person who can work effectively
with others to accomplish our shared
goals... 1   2   3   4   5

I do NOT think of myself as a leader
when I am just a member of a group 1   2   3   4   5

Leadership is a process all people in the
group do together 1   2   3   4   5

I feel inter-dependent with others in a
group. 1   2   3   4   5

I know I can be an effective member of
any group I choose to join..................... 1   2   3   4   5

Teamwork skills are important in all
organizations 1   2   3   4   5

The head of the group is the leader and
members of the group are followers.......1   2   3   4   5

YOUR COLLEGE CLIMATE

24. Select the number that best represents <u>your experience</u>
with your overall college climate

Closed, hostile,   Open, inclusive,
intolerant,   1   2   3   4   5   6   7   supportive,
unfriendly   friendly

BACKGROUND INFORMATION

25. What were your average grades in High School?
(Choose One)

- ○   A or A+
- ○   A- or B+
- ○   B
- ○   B- or C+
- ○   C
- ○   C- or D+
- ○   D or lower

26. Did your high school require community service for
graduation? (Circle One) ....   YES NO

27. What is your age?

                  [   ]

28. What is your gender?

- ○   Female
- ○   Male
- ○   Transgender

29. What is your sexual orientation?

- ○   Heterosexual
- ○   Bisexual
- ○   Gay/Lesbian
- ○   Rather not say

30. Indicate your citizenship and/ or generation status:
(Choose One)

- ○   Your grandparents, parents, <u>and</u> you were born in the
U.S.
- ○   Both of your parents AND you were born in the U.S.
- ○   You were born in the U.S., but at least one of your
parents was not
- ○   You are a foreign born, naturalized citizen

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○   You are a foreign born, resident alien/ permanent
      resident
○   You are on a student visa

31. Please indicate your racial or ethnic background. (Mark all
that apply)
○   White/Caucasian
○   African American/Black
○   American Indian/Alaska Native
○   Asian American/Asian
○   Native Hawaiian/Pacific Islander
○   Mexican American/Chicano
○   Puerto Rican
○   Cuban American
○   Other Latino American
○   Multiracial or multiethnic
○   Race/ethnicity not included above

**32. Do you have a mental, emotional, or physical condition
that now or in the past affects your functioning in daily
activities at work, school, or home?**
                                                Yes   No
if Yes   Please indicate all that apply:

○   Deaf/Hard of Hearing
○   Blind/Visually Impairment
○   Speech/language condition
○   Learning Disability
○   Physical or musculoskeletal (e.g. multiple sclerosis)
○   Attention Deficit Disorder/ Attention Deficit
     Hyperactivity Disorder
○   Psychiatric/Psychological condition (e.g. anxiety
     disorder, major depression)
○   Neurological condition (e.g. brain injury, stroke)
○   Medical (e.g. diabetes, severe asthma)
○   Other

33. What is your current religious affiliation?
(Choose One)

○   None
○   Agnostic
○   Atheist
○   Buddhist
○   Catholic
○   Hindu
○   Islamic
○   Jewish
○   Mormon
○   Quaker
○   Protestant (e.g. Baptist, Methodist, Presbyterian)
○   Other
○   Other Christian
○   Rather not say

**34. What is your best estimate of your grades so far in
college? [Assume 4.00 = A]**   (Choose One)

○   3.50 – 4.00
○   3.00 – 3.49

○   2.50 – 2.99
○   2.00 – 2.49
○   1.99 or less
○   No college GPA

**35. What is the HIGHEST level of formal education
obtained by any of your parent(s) or guardian(s)?**
(Choose one)

○ Less than high school diploma or GED
○ High school diploma or GED
○ Some college
○ Associates degree
○ Bachelors degree
○ Masters degree
○ Doctorate or professional degree (e.g., JD, MD, PhD)
○ Don't know

**36. What is your best estimate of your parent(s) or
guardian(s) combined total income from last year? If you
are independent from your parents, indicate your income.**
(Choose one)

○ Less than $12,500
○ $12,500 - $24,999
○ $25,000 – $39,999
○ $40,000 – $54,999
○ $55,000 - $74,999
○ $75,000 - $99,999
○ $100,000 - $149,999
○ $150,000 - $199,999
○ $200,000 and over
○ Don't know
○ Rather not say

**37. Which of the following best describes where are you
currently living while attending college?** (Choose one)

○   Parent/guardian or other relative home
○   Other private home, apartment, or room
○   College/university residence hall
○   Other campus student housing
○   Fraternity or sorority house
○   Other

INDIVIDUAL CAMPUS ITEMS
1.
2.
3.
4.
5.
6.
7.
8.
9.
10.

N.B.: Items in *italics* reflect negative response items and were recoded.

Variable	Question	Descriptor	SCALE
Respid		Case Id Number	
samptype		Random or comparative sample response	
Dispmain		Case Disposition (complete, partial, visitor)	
Gender		Institutionally reported gender	
Race		Institutionally reported race	
Ethnicity		Institutionally reported ethnicity	
Class		Institutionally reported class	
Pctcompl		The percent of the survey completed	
Grad_fla		Did respondent identify as a Grad Student at DEM3?	
Resp_non		Responder or Non-Responder	
Srls_90		Were at least 90 percent of the SRLS questions answered?	
Qconsent		Consent release	
DEM1	Q1	Transfer Status	
DEM2	Q2	Enrollment Status	
DEM3	Q3	Class Standing (includes grads and others)	
DEM3.1		Class Standing (4 categories)	
DEM4	Q4	OFF Campus Employment	
DEM4a	Q4a	OFF Campus Employment: Hours worked per week	
DEM4b	Q4b.1	OFF Campus Employment: Perform repetitive tasks	
DEM4c	Q4b.2	OFF Campus Employment: Consider options before making decisions	
DEM4d	Q4b.3	OFF Campus Employment: Perform structured tasks	
DEM4e	Q4b.4	OFF Campus Employment: authority to change way things are done	
DEM4f	Q4b.5	OFF Campus Employment: Coordinate the work of others	
DEM4g	Q4b.6	OFF Campus Employment: work with others on a team	
DEM5	Q5	ON Campus Employment	

Variable	Question	Descriptor	SCALE
DEM5a	Q5a	ON Campus Employment: Hours worked per week	
DEM5b	Q5b.1	ON Campus Employment: Perform repetitive tasks	
DEM5c	Q5b.2	ON Campus Employment: Consider options before making decisions	
DEM5d	Q5b.3	ON Campus Employment: Perform structured tasks	
DEM5e	Q5b.4	ON Campus Employment: authority to change way things are done	
DEM5f	Q5b.5	ON Campus Employment: Coordinate the work of others	
DEM5g	Q5b.6	ON Campus Employment: work with others on a team	
ENV1	Q6	In an average academic term do you engage in any community service?	
ENV1a	Q6.1	Hours as part of a class	
ENV1b	Q6.2	Hours as part of student organization	
ENV1c	Q6.3	Hours as part of a work study experience	
ENV1d	Q6.4	Hours on own	
ENV2	Q7	Special Experiences in College (study abroad, internship, etc.)	
ENV2.1	Q7.1	Study Abroad YES/ NO	
ENV2.2	Q7.2	Internship YES/ NO	
ENV2.3	Q7.3	Learning Community YES/ NO	
ENV2.4	Q7.4	Senior Experience YES/ NO	
ENV2.5	Q7.5	None of the Above YES/ NO	
PRE1a	Q8.1	Handling the challenge of college-level work	Cognitive development pre-test
PRE1b	Q8.2	Feeling as though you belong on campus	Cognitive development pre-test
PRE1c	Q8.3	Analyzing new ideas and concepts	Cognitive development pre-test
PRE1d	Q8.4	Applying something learned in class to the real world	Cognitive development pre-test

Variable	Question	Descriptor	SCALE
PRE1e	Q8.5	Enjoying the challenge of learning new material	Cognitive development pre-test
PRE1f	Q8.6	Appreciating new and different ideas	Cognitive development pre-test
PRE2a	Q8.7	Leading others	Leadership efficacy pre-test
PRE2b	Q8.8	Organizing a group's task to accomplish a goal	Leadership efficacy pre-test
PRE2c	Q8.9	Taking initiative to improve something	Leadership efficacy pre-test
PRE2d	Q8.10	Working with a team on a group project	Leadership efficacy pre-test
PRE3a	Q9.1	Performing volunteer work	Pre-College Involvement Off Campus
PRE3b	Q9.2	Participating in student clubs/ groups	Pre-College Involvement On Campus
PRE3c	Q9.3	Participating in varsity sports	Pre-College Involvement On Campus
PRE3d	Q9.4	Taking leadership positions in student clubs, groups, or sports	Pre-College Involvement On Campus
PRE3e	Q9.5	Participating in community organizations	Pre-College Involvement Off Campus
PRE3f	Q9.6	Taking leadership positions in community organizations	Pre-College Involvement Off Campus
PRE4	Q9.7	Participation in activism in any form	Activism pre-test
PRE5a	Q9.8	Getting to know people with backgrounds different than your own	Diversity pre-test
PRE5b	Q9.9	Learning about cultures different than your own	Diversity pre-test
PRE5c	Q9.10	Participating in training or education that developed your leadership skills	Leadership education exper. pre-test
PRE6a	Q10.1	Hearing differences in opinions enriched my thinking	Civility pre-test

Variable	Question	Descriptor	SCALE
PRE6b	*Q10.2*	*I had low self esteem*	*Consciousness of Self pre-test*
PRE6c	Q10.3	I worked well in changing environments	Change pre-test
PRE6d	Q10.4	I enjoyed working with others toward common goals	Collaboration pre-test
PRE6e	Q10.5	I hold myself accountable for responsibilities I agree to	Commitment pre-test
PRE6f	Q10.6	I worked well when I knew the collective values of a group	Common Purpose pre-test
PRE6g	Q10.7	My behaviors reflected my beliefs	Congruence pre-test
PRE6h	Q10.8	I value the opportunities that allow me to contribute to my community	Citizenship pre-test
PRE7	Q10.9	I thought of myself as a leader ONLY if I was the head of a group	LID pre-test
PRE8a	Q11a	How would you describe the amount of leadership experience you had prior to college	Pre-antecedents for leadership Scale
PRE8b	Q11b	How often have others given you positive feedback or encouraged your leadership abilities prior to college	Pre-antecedents for leadership Scale
PRE8c	Q11c	How would you react to being chosen or appointed the leader of a group prior to college	Pre-antecedents for leadership Scale
PRE8d	Q11d	How often have you seen others be effective leaders prior to college	Pre-antecedents for leadership Scale
PRE8e	Q11e	How often did you think of yourself as a leader prior to college	Pre-antecedents for leadership Scale
ENV3a	Q12.1	Paid attention to national issues	Passive Activism Scale
ENV3b	Q12.2	Paid attention to global issues	Passive Activism Scale
ENV3c	Q12.3	Was aware of the current issues facing the community surrounding your institution	Passive Activism Scale
ENV3d	Q12.4	Signed a petition or sent an email about a social or political issue	Active Activism Scale

Variable	Question	Descriptor	SCALE
ENV3e	Q12.5	Bought or did not buy a product or service because of your views about the social or political beliefs of the company that produces or provides it	Active Activism Scale
ENV3f	Q12.6	Contacted a public official, newspaper, magazine, radio, or televisions talk show to express your opinion on a political issue	Active Activism Scale
ENV3g	Q12.7	Took part in a protest, rally, march, or demonstration	Active Activism Scale
ENV4a	Q13.1	Involvement in college organizations	
ENV4b	Q13.2	Held a leadership position in college organization	
ENV4c	Q13.3	Involvement in off-campus community organization	
ENV4d	Q13.4	Held a leadership position in off-campus community organization	
ENV5a	Q14.1	Academic/ Department/ professional groups	
ENV5b	Q14.2	Arts/ theater/ music groups	
ENV5c	Q14.3	Camps-wide programming groups	
ENV5d	Q14.4	Cultural/ international groups	
ENV5e	Q14.5	Honor Societies	
ENV5f	Q14.6	Living learning programs	
ENV5g	Q14.7	Leadership programs	
ENV5h	Q14.8	Media groups	
ENV5i	Q14.9	Military groups	
ENV5j	Q14.10	New student transitions	
ENV5k	Q14.11	Para professional groups	
ENV5l	Q14.12	Political/ advocacy groups	
ENV5m	Q14.13	Religious groups	
ENV5n	Q14.14	Service groups	
ENV5o	Q14.15	Culturally-based fraternities and sororities	
ENV5p	Q14.16	Social fraternities and sororities	
ENV5q	Q14.17	Sports- intercollegiate or varsity	
ENV5r	Q14.18	Sports- Club	
ENV5s	Q14.19	Sports- Intramural	
ENV5t	Q14.20	Special Interest groups	
ENV5u	Q14.21	Student governance groups	

Variable	Question	Descriptor	SCALE
ENV5u1	Q14a	Involved in campus-wide student government association	
ENV5u1a	*Q14a.1*	*I found it hard to represent my constituents' concerns*	
ENV5u1b	Q14a.2	I successfully initiated change on behalf of my constituents	
ENV5u1c	*Q14a.3*	*My motivation for involvement was about gaining influence*	
ENV5u1d	*Q14a.4*	*My motivation for involvement was to receive recognition*	
ENV5u1e	Q14a.5	My motivation for involvement was to help others	
ENV5u1f	Q14a.6	I have witnessed effective constituency-based efforts for change	
ENV5uf1	Q14a.7	These models have influenced my own actions	
ENV5U1G	Q14a.8	I held a constituency-based position prior to this college SGA experience	
ENV5U1G1	*Q14a.9*	*Experience with previous constituency based position did NOT make me more effective in my college SGA experience*	
ENV6a	Q15.1	Mentoring by student affairs staff	
ENV6b	Q15.2	Mentoring by faculty	
ENV6c	Q15.3	Mentoring by employers	
ENV6d	Q15.4	Mentoring by community members	
ENV6e	Q15.5	Mentoring by other students	
ENV7a	Q16.1	Talked about different lifestyles	Socio-Cultural Discussions Scale
ENV7b	Q16.2	Held discussions with students whose personal values were very different from your own	Socio-Cultural Discussions Scale
ENV7c	Q16.3	Discussed major social issues such as peace, human rights, and justice	Socio-Cultural Discussions Scale
ENV7d	Q16.4	Held discussions with students whose religious beliefs were very different from your own	Socio-Cultural Discussions Scale
ENV7e	Q16.5	Discussed your views about multiculturalism and diversity	Socio-Cultural Discussions Scale
ENV7f	Q16.6	Held discussions with students whose political opinions were very different from your own	Socio-Cultural Discussions Scale

Variable	Question	Descriptor	SCALE
ENV8a	Q17a	Short Term Leadership Experiences	
ENV8b	Q17b	Moderate Term Leadership Experiences	
ENV8b1	Q17b.1	Moderate experiences with courses YES/ NO	
ENV8b2	Q17b.1a	How many leadership courses completed	
ENV8b3	Q17b.1b	How many other courses that contributed to your leadership development	
ENV8c	Q17c	Long Term Leadership Experiences	
ENV8c1	Q17c.1	Types of long-term leadership experiences	
ENV8c1.1	Q17c.1a	Emerging or new leaders programs YES/ NO	
ENV8c1.2	Q17c.1b	Peer Leadership Programs YES/ NO	
ENV8c1.3	Q17c.1c	Leadership Certificate Program YES/ NO	
ENV8c1.4	Q17c.1d	Multi-Semester Leadership Program YES/ NO	
ENV8c1.5	Q17c.1e	Senior Leadership Capstone YES/ NO	
ENV8c1.6	Q17c.1f	Residential Living Learning Leadership Program YES/ NO	
ENV8c1.7	Q17c.1g	Leadership Minor YES/ NO	
ENV8c1.8	Q17c.1h	Leadership Major YES/ NO	
ENV8c1.9	Q17c.1i	Other YES/ NO	
SRLS1	Q18.1	I am open to others' ideas	Controversy with Civility Scale
SRLS2	Q18.2	Creativity can come from conflict	Controversy with Civility Scale
SRLS3	Q18.3	I value differences in others	Controversy with Civility Scale
SRLS4	Q18.4	I am able to articulate my priorities	Consciousness of Self Scale
SRLS5	Q18.5	Hearing differences in opinions enriches my thinking	Controversy with Civility Scale
SRLS6	*Q18.6*	*I have low self esteem*	*Consciousness of Self Scale*
SRLS7	*Q18.7*	*I struggle when group members have ideas that are different from mine*	*Controversy with Civility Scale*
SRLS8	*Q18.8*	*Transition makes me uncomfortable*	*Change Scale*

Variable	Question	Descriptor	SCALE
SRLS9	Q18.9	I am usually self confident	Consciousness of Self Scale
SRLS10	Q18.10	I am seen as someone who works well with others	Collaboration Scale
SRLS11	Q18.11	Greater harmony can come out of disagreement	Controversy with Civility Scale
SRLS12	Q18.12	I am comfortable initiating new ways of looking at things	Change Scale
SRLS13	Q18.13	My behaviors are congruent with my beliefs	Congruence Scale
SRLS14	Q18.14	I am committed to a collective purpose in those groups to which I belong	Common Purpose Scale
SRLS15	Q18.15	It is important to develop a common direction in a group in order to get anything done	Common Purpose Scale
SRLS16	Q18.16	I respect opinions other than my own	Controversy with Civility Scale
SRLS17	Q18.17	Change brings new life to an organization	Change Scale
SRLS18	Q18.18	The things about which I feel passionate have priority in my life	Consciousness of Self Scale
SRLS19	Q18.19	I contribute to the goals of the group	Common Purpose Scale
SRLS20	Q18.20	There is energy in doing something a new way	Change Scale
SRLS21	*Q18.21*	*I am uncomfortable when someone disagrees with me*	*Controversy with Civility Scale*
SRLS22	Q18.22	I know myself pretty well	Consciousness of Self Scale
SRLS23	Q18.23	I am willing to devote the time and energy to things that are important to me	Commitment Scale
SRLS24	Q18.24	I stick with others through difficult times	Commitment Scale
SRLS25	*Q18.25*	*When there is a conflict between two people, one will win and the other will lose*	*Controversy with Civility Scale*
SRLS26	*Q18.26*	*Change makes me uncomfortable*	*Change Scale*
SRLS27	Q18.27	It is important to me to act on my beliefs	Congruence Scale
SRLS28	Q18.28	I am focused on my responsibilities	Commitment Scale

Variable	Question	Descriptor	SCALE
SRLS29	Q18.29	I can make a difference when I work with others on a task	Collaboration Scale
SRLS30	Q18.30	I actively listen to what others have to say	Collaboration Scale
SRLS31	Q18.31	I think it is important to know other people's priorities.	Common Purpose Scale
SRLS32	Q18.32	My actions are consistent with my values	Congruence Scale
SRLS33	Q18.33	I believe I have responsibilities to my community	Citizenship Scale
SRLS34	Q18.34	I could describe my personality	Consciousness of Self Scale
SRLS35	Q18.35	I have helped to shape the mission of the group	Common Purpose Scale
SRLS36	*Q18.36*	*New ways of doing things frustrate me*	*Change Scale*
SRLS37	Q18.37	Common values drive an organization	Common Purpose Scale
SRLS38	Q18.38	I give my time to making a difference for someone	Citizenship Scale
SRLS39	Q18.39	I work well in changing environments	Change Scale
SRLS40	Q18.40	I work with others to make my communities better places	Citizenship Scale
SRLS41	Q18.41	I can describe how I am similar to other people	Consciousness of Self Scale
SRLS42	Q18.42	I enjoy working with others toward common goals	Collaboration Scale
SRLS43	Q18.43	I am open to new ideas	Change Scale
SRLS44	Q18.44	I have the power to make a difference in my community	Citizenship Scale
SRLS45	Q18.45	I look for new ways to do something	Change Scale
SRLS46	Q18.46	I am willing to act for the rights of others	Citizenship Scale
SRLS47	Q18.47	I participate in activities that contribute to the common good	Citizenship Scale
SRLS48	Q18.48	Others would describe me as a cooperative group member	Collaboration Scale
SRLS49	Q18.49	I am comfortable with conflict	Controversy with Civility Scale
SRLS50	Q18.50	I can identify the difference between positive and negative change	Change Scale

Variable	Question	Descriptor	Scale
SRLS51	Q18.51	I can be counted on to do my part	Commitment Scale
SRLS52	Q18.52	Being seen as a person of integrity is important to me	Congruence Scale
SRLS53	Q18.53	I follow through on my promises	Commitment Scale
SRLS54	Q18.54	I hold myself accountable for responsibilities I agree to	Commitment Scale
SRLS55	Q18.55	I believe I have a civic responsibility to the greater public	Citizenship Scale
SRLS56	*Q18.56*	*Self-reflection is difficult for me*	*Consciousness of Self Scale*
SRLS57	Q18.57	Collaboration produces better results	Collaboration Scale
SRLS58	Q18.58	I know the purpose of the groups to which I belong	Common Purpose Scale
SRLS59	Q18.59	I am comfortable expressing myself	Consciousness of Self Scale
SRLS60	Q18.60	My contributions are recognized by others in the groups I belong to	Collaboration Scale
SRLS61	Q18.61	I work well when I know the collective values of a group.	Common Purpose Scale
SRLS62	Q18.62	I share my ideas with others	Controversy with Civility Scale
SRLS63	Q18.63	My behaviors reflect my beliefs	Congruence Scale
SRLS64	Q18.64	I am genuine	Congruence Scale
SRLS65	Q18.65	I am able to trust the people with whom I work	Collaboration Scale
SRLS66	Q18.66	I value opportunities that allow me to contribute to my community	Citizenship Scale
SRLS67	Q18.67	I support what the group is trying to accomplish	Common Purpose Scale
SRLS68	Q18.68	It is easy for me to be truthful	Congruence Scale
DEM6	Q19	Political Views	
OUT1a	Q20.1	Ability to put ideas together and to see relationships between ideas	Cognitive Development Scale
OUT1b	Q20.2	Ability to learn on your own, pursue ideas, and find information you need	Cognitive Development Scale

Variable	Question	Descriptor	SCALE
OUT1c	Q20.3	Ability to critically analyze ideas and information	Cognitive Development Scale
OUT1d	Q20.4	Learning more about things that are new to you	Cognitive Development Scale
OUT2a	Q21.1	I have learned a great deal about other racial/ethnic groups	Appreciation of Diversity Scale
OUT2b	Q21.2	I have gained a greater commitment to my racial/ethnic identity since coming to college	Appreciation of Diversity Scale
OUT2c	*Q21.3*	*My campus's commitment to diversity fosters more division among racial/ethnic groups than inter-group understanding*	
OUT2d	Q21.4	I have become aware of the complexities of inter-group understanding	Appreciation of Diversity Scale
OUT3a	Q22.1	Leading others	Leadership Efficacy Scale
OUT3b	Q22.2	Organizing a group's tasks to accomplish a goal	Leadership Efficacy Scale
OUT3c	Q22.3	Taking initiative to improve something	Leadership Efficacy Scale
OUT3d	Q22.4	Working with a team on a group project	Leadership Efficacy Scale
OUT4a	Q23.1	It is the responsibility of the head of a group to make sure the job gets done	Not used
OUT4b	Q23.2	A person can lead from anywhere in the organization	Not used
OUT4c	Q23.3	I spend time mentoring other group members	Lid filter
OUT4d	Q23.4	I think of myself as a leader only if I am the head of the group	LID Stage Three Scale
OUT4e	Q23.5	Group members share the responsibility for leadership	LID Stage Four Scale
OUT4f	Q23.6	I am a person who can work effectively with others to accomplish our shared goals	LID Stage Four Scale
OUT4g	Q23.7	I do not think of myself as a leader when I am just a member of a group	LID Stage Three Scale

Variable	Question	Descriptor	SCALE
OUT4i	Q23.8	Leadership is a process all people in the group do together	LID Stage Four Scale
OUT4j	Q23.9	I feel inter-dependent with others in a group	LID Stage Four Scale
OUT4k	Q23.10	I know I can be an effective member of any group I choose to join	LID Stage Four Scale
OUT4l	Q23.11	Teamwork skills are important in all organizations	LID Stage Four Scale
OUT4m	Q23.12	The head of the group is the leader and members of the group are followers	LID Stage Three Scale
ENV9	Q24	Campus Climate	
PRE9	Q25	High School Grades	
Pre10	Q26	High School requirement for community service	
DEM7	Q27	Age	
DEM8	Q28	Gender	
DEM8.1		Gender (Without Transgender)	
DEM9	Q29	Sexual Orientation	
DEM9.1	Q29.1	Heterosexual YES/ NO	
DEM9.2	Q29.2	Bisexual YES/ NO	
DEM9.3	Q29.3	Gay YES/ NO	
DEM9.4	Q29.4	Rather not say YES/ NO	
DEM10	Q30	Citizenship/ Generation Status	
DEM11	Q31	Race/ Ethnicity	
Dem11.1		Race (with Multiracial Unidentified)	
Dem11.2		Race (collapsed)	
DEM11.1	Q31.1	White YES/ NO	
DEM11.2	Q31.2	African American, Black YES/ NO	
DEM11.3	Q31.3	American Indian, Alaskan Native YES/ NO	
DEM11.4	Q31.4	Asian American, Asian YES/ NO	
DEM11.5	Q31.5	Native Hawaiian, Pacific Islander YES/ NO	
DEM11.6	Q31.6	Mexican American, Chicano YES/ NO	
DEM11.7	Q31.7	Puerto Rican YES/ NO	
DEM11.8	Q31.8	Cuban American YES/ NO	
DEM11.9	Q31.9	Other Latino American YES/ NO	
DEM11.10	Q31.10	Multiracial YES/ NO	
DEM11.11	Q31.11	Race, ethnicity not shown YES/ NO	

Variable	Question	Descriptor	Scale
DEM12	Q32	Disability Identifier YES/ NO	
DEM12a	Q32.1	Deaf, Hard of hearing YES/ NO	
DEM12b	Q32.2	Blind, Visual Impairment YES/ NO	
DEM12c	Q32.3	Speech, language condition YES/ NO	
DEM12d	Q32.4	Learning disability YES/ NO	
DEM12e	Q32.5	Physical, musculoskeletal YES/ NO	
DEM12f	Q32.6	ADD, ADHD YES/ NO	
DEM12g	Q32.7	Psychiatric, psychological YES/ NO	
DEM12h	Q32.8	Neurological YES/ NO	
DEM12i	Q32.9	Medical YES/ NO	
DEM12j	Q32.10	Other YES/ NO	
DEM13	Q33	Religious Affiliation	
DEM13.1	Q33.1	None YES/ NO	
DEM13.2	Q33.2	Agnostic YES/ NO	
DEM13.3	Q33.3	Atheist YES/ NO	
DEM13.4	Q33.4	Buddhist YES/ NO	
DEM13.5	Q33.5	Catholic YES/ NO	
DEM13.6	Q33.6	Hindu YES/ NO	
DEM13.7	Q33.7	Islamic YES/ NO	
DEM13.8	Q33.8	Jewish YES/ NO	
DEM13.9	Q33.9	Mormon YES/ NO	
DEM13.10	Q33.10	Quaker YES/ NO	
DEM13.11	Q33.11	Protestant YES/ NO	
DEM13.12	Q33.12	Other YES/ NO	
DEM13.13	Q33.13	Rather Not Say YES/ NO	
DEM13.14	Q33.14	Other Christian YES/ NO	
DEM14	Q34	College Grades	
DEM15	Q35	Parents' Education	
Dem15.1		First Generation College Student Status	
DEM16	Q36	Income	
ENV10	Q37	Living Situation	
ENV10.1		Living Situation (On vs. Off)	
Self		Consciousness of Self Scale	
Congru		Congruence Scale	
Commit		Commitment Scale	
Collab		Collaboration Scale	
Common		Common Purpose Scale	
Civil		Controversy with Civility Scale	

Variable	Question	Descriptor	SCALE
Citzen		Citizenship Scale	
Change		Change Scale	
Precog		Pretest Scale for Cognitive Development	
Preeff		Pretest Scale for Leadership Efficacy	
Prediv		Pretest for Appreciation of Diversity	
Pasact		Passive Activism Scale	
Actact		Active Activism Scale	
Divdis		Discussions of Socio-cultural Issues Scale	
Outcog		Outcome Scale for Cognitive Development	
Outdiv		Outcome Scale for Appreciation of Diversity	
Outeff		Outcome Scale for Leadership Efficacy	
Lid3		LID Stage Three Scale	
Lid4		LID Stage Four Scale	
Prinon		Pre-Involvement Scale- On Campus	
PRinof		Pre-Involvement Scale- Off Campus	
Preant		Pre-antecedents for leadership Scale	
Qend		Any feedback or comments about the survey	

Source: Komives & Dugan, 2006

Appendix C: Socially Responsible Leadership Scale Revised-2

Scale	No.	Question / Descriptor
Change	[-] 8	Transition makes me uncomfortable.
Change	12	I am comfortable initiating new ways of looking at things.
Change	17	Change brings new life to an organization.
Change	20	There is energy in doing something a new way.
Change	[-] 26	Change makes me uncomfortable.
Change	[-] 36	New ways of doing things frustrate me.
Change	39	I work well in changing environments.
Change	43	I am open to new ideas.
Change	45	I look for new ways to do something.
Change	50	I can identify the differences between positive and negative change.
Citizenship	33	I believe I have responsibilities to my community.
Citizenship	38	I give time to making a difference for someone else.
Citizenship	40	I work with others to make my communities better places.
Citizenship	44	I have the power to make a difference in my community.
Citizenship	46	I am willing to act for the rights of others.
Citizenship	47	I participate in activities that contribute to the common good.
Citizenship	55	I believe I have a civic responsibility to the greater public.
Citizenship	66	I value opportunities that allow me to contribute to my community.
Collaboration	10	I am seen as someone who works well with others.
Collaboration	29	I can make a difference when I work with others on a task.
Collaboration	30	I actively listen to what others have to say.
Collaboration	42	I enjoy working with others toward common goals.

Scale	No.	Question / Descriptor
Collaboration	48	Others would describe me as a cooperative group member.
Collaboration	57	Collaboration produces better results.
Collaboration	60	My contributions are recognized by others in the groups I belong to.
Collaboration	65	I am able to trust the people with whom I work.
Commitment	23	I am willing to devote time and energy to things that are important to me.
Commitment	24	I stick with others through the difficult times.
Commitment	28	I am focused on my responsibilities.
Commitment	51	I can be counted on to do my part.
Commitment	53	I follow through on my promises.
Commitment	54	I hold myself accountable for responsibilities I agree to.
Common Purpose	14	I am committed to a collective purpose in those groups to which I belong.
Common Purpose	15	It is important to develop a common direction in a group in order to get anything done.
Common Purpose	19	I contribute to the goals of the group.
Common Purpose	31	I think it is important to know other people's priorities.
Common Purpose	35	I have helped to shape the mission of the group.
Common Purpose	37	Common values drive an organization.
Common Purpose	58	I know the purpose of the groups to which I belong.
Common Purpose	61	I work well when I know the collective values of a group.
Common Purpose	67	I support what the group is trying to accomplish
Congruence	13	My behaviors are congruent with my beliefs.
Congruence	27	It is important to me to act on my beliefs.
Congruence	32	My actions are consistent with my values.
Congruence	52	Being seen as a person of integrity is important to me.
Congruence	63	My behaviors reflect my beliefs.
Congruence	64	I am genuine.
Congruence	68	It is easy for me to be truthful.

Scale	No.	Question / Descriptor
Consciousness of Self	4	I am able to articulate my priorities.
Consciousness of Self	[-] 6	I have a low self esteem.
Consciousness of Self	9	I am usually self confident.
Consciousness of Self	18	The things about which I feel passionate have priority in my life.
Consciousness of Self	22	I know myself pretty well.
Consciousness of Self	34	I could describe my personality.
Consciousness of Self	41	I can describe how I am similar to other people.
Consciousness of Self	[-] 56	Self-reflection is difficult for me.
Consciousness of Self	59	I am comfortable expressing myself.
Controversy with Civility	1	I am open to others' ideas.
Controversy with Civility	2	Creativity can come from conflict.
Controversy with Civility	3	I value differences in others.
Controversy with Civility	5	Hearing differences in opinions enriches my thinking.
Controversy with Civility	[-] 7	I struggle when group members have ideas that are different from mine.
Controversy with Civility	11	Greater harmony can come out of disagreement.
Controversy with Civility	16	I respect opinions other than my own.
Controversy with Civility	[-] 21	I am uncomfortable when someone disagrees with me.
Controversy with Civility	[-] 25	When there is a conflict between two people, one will win and the other will lose.
Controversy with Civility	49	I am comfortable with conflict.
Controversy with Civility	62	I share my ideas with others.

Source: Dugan, 2006

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Appendix D: MSL Institutional Participants & Characteristics

Institution's Name	Carnegie Type	Affiliation	Size*	Region[a]	Student Population°
Auburn University	Research Extensive	Public	Large	Southeast	PWI
Brigham Young University	Research Extensive	Private	Large	West	PWI
California State Univ., Northridge	Masters	Public	Large	West	HSI
California State Univ., San Marcos	Masters	Public	Medium	West	PWI
Claflin University	Baccalaureate	Private	Small	Southeast	HBCU
Colorado State University	Research Extensive	Public	Large	West	PWI
DePaul University	Research Intensive	Private	Medium	Midwest	PWI
Drake University	Masters	Private	Medium	Midwest	PWI
Drexel University	Research Intensive	Private	Medium	Northeast	PWI
Elon University	Masters	Private	Medium	Southeast	PWI
Florida International University	Research Extensive	Public	Large	Southeast	HSI
Florida State University	Research Extensive	Public	Large	Southeast	PWI
Franklin College	Baccalaureate	Private	Small	Midwest	PWI
Gallaudet University	Masters	Private	Small	Northeast	Deaf
George Mason University	Research Intensive	Public	Large	Southeast	PWI
Georgia State University	Research Extensive	Public	Large	Southeast	PWI
John Carroll University	Masters	Private	Medium	Midwest	PWI
Lehigh University	Research Extensive	Private	Medium	Northeast	PWI
Marquette University	Research Extensive	Private	Medium	Midwest	PWI
Meredith College	Masters	Private	Small	Southeast	Women

Institution's Name	Carnegie Type	Affiliation	Size*	Region[a]	Student Population°
Metro State University	Baccalaureate	Public	Large	West	PWI
Miami University of Ohio	Research Intensive	Public	Large	Midwest	PWI
Monroe Community College	Associates College	Public	Large	Northeast	PWI
Montgomery College	Associates College	Public	Large	Northeast	PWI
Moravian College	Baccalaureate	Private	Small	Northeast	PWI
Mount Union College	Baccalaureate	Private	Small	Midwest	PWI
North Carolina State University	Research Extensive	Public	Large	Southeast	PWI
Northwestern University	Research Extensive	Private	Medium	Midwest	PWI
Oregon State University	Research Extensive	Public	Large	West	PWI
Portland State University	Research Intensive	Public	Large	West	PWI
Rollins College	Masters	Private	Small	Southeast	PWI
Simmons College	Masters	Private	Small	Northeast	Women
St. Norbert College	Baccalaureate	Private	Small	Midwest	PWI
State Univ. of New York at Geneseo	Masters	Public	Medium	Northeast	PWI
Susquehanna University	Baccalaureate	Private	Small	Northeast	PWI
Syracuse University	Research Extensive	Private	Large	Northeast	PWI
Texas A & M University	Research Extensive	Public	Large	West	PWI
Texas Woman's University	Research Intensive	Public	Medium	West	Women
University of Arizona	Research Extensive	Public	Large	West	PWI
University of Arkansas	Research Extensive	Public	Large	Southeast	PWI
University of California, Berkeley	Research Extensive	Public	Large	West	PWI
Univ. of Illinois at Urbana-Champaign	Research Extensive	Public	Large	Midwest	PWI

Institution's Name	Carnegie Type	Affiliation	Size*	Region[a]	Student Population°
Univ. of Maryland, Baltimore County	Research Extensive	Public	Medium	Northeast	PWI
Univ. of Maryland, College Park	Research Extensive	Public	Large	Northeast	PWI
Univ. of Maryland, Eastern Shore	Research Intensive	Public	Medium	Northeast	HBCU
University of Minnesota	Research Extensive	Public	Large	Midwest	PWI
University of Nevada Las Vegas	Research Intensive	Public	Large	West	PWI
University of New Hampshire	Research Extensive	Public	Large	Northeast	PWI
University of North Carolina, Greensboro	Research Intensive	Public	Large	Southeast	PWI
University of North Dakota	Research Intensive	Public	Large	Midwest	PWI
University of Rochester	Research Extensive	Private	Medium	Northeast	PWI
University of Tampa	Masters	Private	Medium	Southeast	PWI

* Size was divided into three categories:

Small	Under 3,000 undergraduate students
Medium	3,001 – 10,000 undergraduate students
Large	Over 10,000 undergraduate students

[a] Region was divided into four categories:

Northeast:	ME, NH, VT, MA, RI, CT, NY, NJ, DE, PA, MD, DC
Southeast:	VA, NC, SC, GA, FL, WV, KY, TN, AL, MI, AR, LA
Midwest:	OH, MI, IN, IL, WI, MN, IA, MO, ND, SD, NE, KS, OK
West:	TX, NM, AR, CO, UT, WY, MT, ID, NV, WA, OR, CA, HI, AK

° Student Population was divided into five categories:

PWI:	Predominately White Institution
HBCU:	Historical Black College or University
HSI:	Hispanic-Serving Institutions
Deaf:	Institution Serving the Deaf and Hard-of-Hearing
Women:	Historically Women Serving Institution

Factor Matrix[a]

[a] 3 factors extracted. 5 iterations required.

Goodness-of-fit Test

Chi-Square	df	Sig.
40891.870	3652	.000

Pattern Matrix[b]

	Factor		
	1	2	3
SRLS: I contribute to the goals of the group	.715		
SRLS: I am willing to devote time and energy to things that are important to me	.699		
SRLS: My actions are consistent with my values	.696		
SRLS: I can be counted on to do my part	.676		
SRLS: I support what the group is trying to accomplish	.666		
SRLS: I hold myself accountable for responsibilities I agree to	.652		
SRLS: My behaviors reflect my beliefs	.646		
SRLS: I am able to articulate my priorities	.644		
SRLS: I enjoy working with others towards common goals	.643		
SRLS: I am committed to a collective purpose in those groups to which I belong	.637		

SRLS: Being seen as a person of integrity is important to me	.632		
SRLS: I follow through on my promises	.631		
SRLS: I am focused on my responsibilities	.631		
SRLS: Change brings new life to an organization	.627		
SRLS: Others would describe me as a cooperative group member	.618		
SRLS: I can make a difference when I work with others on a task	.612		
SRLS: I am seen as someone that works well with others	.607		
SRLS: I know the purpose of the groups to which I belong	.606		
OUT4F: OUTCOME LID: I work effectively with others to accomplish shared goals	.604		
SRLS: It is important to me to act on my beliefs	.600		
SRLS: I participate in activities that contribute to the common good	.597		
SRLS: It is important to develop a common direction in a group in order to get anything done	.589		
SRLS: I think it is important to know other peoples priorities	.585		
SRLS: I am genuine	.585		
SRLS: I stick with others through the difficult times	.580		
SRLS: I am comfortable with conflicts	.573		
SRLS: The things about which I feel passionate have priority in my life	.571		
SRLS: Common values drive an organization	.560		

SRLS: I give time to make a difference for someone else	.557			
SRLS: I actively listen to what others have to say	.553			
SRLS: I am open to others ideas	.548			
SRLS: I have helped to shape the mission of a group	.547			
OUT4L: OUTCOME LID: Teamwork skills are important in any organization	.546			
SRLS: I believe I have responsibilities to my community	.545			
SRLS: Greater harmony can come out of disagreements	.533			
SRLS: It is easy for me to be truthful	.526			
SRLS: I have the power to make a difference in my community	.522			
SRLS: I know myself pretty well	.509			
SRLS: Collaboration produces better results	.509			
SRLS: I believe I have a civic responsibility to the greater public	.504			
SRLS: My contributions are recognized by others in the groups I belong to	.483			
SRLS: I could describe my personality	.481			
SRLS: I work with others to make my communities better places	.479			
OUT4K: OUTCOME LID: I know I can be an effective member of any group I choose	.477			
SRLS: I can describe how I am similar to other people	.470			
SRLS: My behaviors are congruent with my beliefs	.465			
SRLS: I respect opinions other than my own	.461			

SRLS: Hearing differences in opinions enriches my thinking	.459			
SRLS: I value differences in others	.444			
SRLS: I am able to trust the people with whom I work	.441			
OUT3D: OUTCOME LEAD EFF: Working with a team on a group project	.439			
SRLS: I am willing to act for the rights of others	.435			
SRLS: I share my ideas with others	.429			
SRLS: I am open to new ideas	.400			
SRLS: There is energy in doing something a new way	.396			
SRLS: I work well when I know the collective values of a group	.373			
OUT3B: OUTCOME LEAD EFF: Organizing groups tasks to accomplish goal	.372			
SRLS: I look for new ways to do something	.357			
OUT3C: OUTCOME LEAD EFF: Taking initiative to improve something	.345			
OUT1D: OUTCOME COG: Learning more about things that are new	.343			
OUT4C: OUTCOME LID: I spend time mentoring other group members	.335			
OUT1A: OUTCOME COG: Ability to put together ideas and see relationships	.311			
OUT1B: OUTCOME COG: Ability to learn on own, pursue ideas, find information	.307			
OUT1C: OUTCOME COG: Ability to critically analyze ideas				

Item			
OUT4J: OUTCOME LID: I feel inter-dependent with others in a group			
SRLS: I can identify the differences between positive and negative change			
SRLS: Creativity can come from conflict			
OUT2B: OUTCOME DIV: Greater commitment to racial identity			
ENV7E: DIVERSITY: Discussed views about multiculturalism		-.855	
ENV7C: DIVERSITY: Discussed major social issues		-.836	
ENV7D: DIVERSITY: Discussions with students with different religious beliefs		-.820	
ENV7B: DIVERSITY: Discussions with students with values different than own		-.814	
ENV7F: DIVERSITY: Discussions with students with different political views		-.788	
ENV7A: DIVERSITY: Talked about different lifestyles/customs		-.748	
OUT2A: OUTCOME DIV: Learned about other racial/ethnic groups			
OUT2D: OUTCOME DIV: Awareness of complexities of inter-group understanding			
SRLS: Change makes me uncomfortable			.717
SRLS: Transition makes me uncomfortable			.699
SRLS: New ways of doing things frustrate me			.569
SRLS: I struggle when group members have ideas that are different from mine			.496

Item			
SRLS: I work well in changing environments			.491
SRLS: I have low self-esteem			.462
SRLS: I am uncomfortable when someone disagrees with me			.459
SRLS: I value opportunities that allow me to contribute to my community			.396
SRLS: I am usually self-confident	.357		.376
SRLS: Self-reflection is difficult for me			.348
SRLS: I am comfortable initiating new ways of looking at things	.327		.336
SRLS: I am comfortable expressing myself	.331		.333
SRLS: When there is a conflict between two people, one will win and the other will lose			

Extraction Method: Maximum Likelihood.
Rotation Method: Oblimin with Kaiser Normalization.

[b] Rotation converged in 6 iterations; all loadings with an absolute value of .30 or less were suppressed

Total Variance Explained

Factor	Rotation Sums of Squared Loadings[c] Total
1	22.363
2	8.984
3	7.643

Extraction Method: Maximum Likelihood.

[c] When factors are correlated, sums of squared loadings cannot be added to obtain a total variance.

Structure Matrix[d]

	Factor		
	1	2	3
SRLS: I contribute to the goals of the group	.703		
SRLS: I am willing to devote time and energy to things that are important to me	.689		
SRLS: I enjoy working with others towards common goals	.657		
SRLS: I can make a difference when I work with others on a task	.650		
SRLS: My actions are consistent with my values	.644		
SRLS: I can be counted on to do my part	.642		
SRLS: I support what the group is trying to accomplish	.639		
SRLS: I am committed to a collective purpose in those groups to which I belong	.633		
SRLS: I know the purpose of the groups to which I belong	.631		
SRLS: I am seen as someone that works well with others	.618		.302
SRLS: I am comfortable with conflicts	.617	-.348	
OUT4F: OUTCOME LID: I work effectively with others to accomplish shared goals	.613		.301
SRLS: Change brings new life to an organization	.610		
SRLS: I am focused on my responsibilities	.607		
SRLS: I participate in activities that contribute to the common good	.604	-.304	
SRLS: I hold myself accountable for responsibilities I agree to	.604		

SRLS: I actively listen to what others have to say	.602		
SRLS: My behaviors reflect my beliefs	.601		
SRLS: I stick with others through the difficult times	.600		
SRLS: I am open to others ideas	.600		.330
SRLS: I am able to articulate my priorities	.599		
SRLS: Others would describe me as a cooperative group member	.599		
SRLS: Being seen as a person of integrity is important to me	.595		
SRLS: I have helped to shape the mission of a group	.594		
SRLS: I give time to make a difference for someone else	.591	-.332	
SRLS: I follow through on my promises	.590		
SRLS: I am genuine	.583		
SRLS: I have the power to make a difference in my community	.578	-.344	
SRLS: I think it is important to know other peoples priorities	.578		
SRLS: The things about which I feel passionate have priority in my life	.570		
SRLS: My behaviors are congruent with my beliefs	.566		.386
SRLS: Hearing differences in opinions enriches my thinking	.564	-.376	
SRLS: I value differences in others	.561	-.351	.345
SRLS: I believe I have a civic responsibility to the greater public	.548		
SRLS: It is important to develop a common direction in a group in order to get anything done	.547		

SRLS: I share my ideas with others	.547	-.335	.356
SRLS: Greater harmony can come out of disagreements	.547	-.334	
SRLS: I believe I have responsibilities to my community	.545	-.316	
SRLS: It is easy for me to be truthful	.543		
SRLS: It is important to me to act on my beliefs	.542		
SRLS: I know myself pretty well	.542		.338
OUT4L: OUTCOME LID: Teamwork skills are important in any organization	.535		
SRLS: I respect opinions other than my own	.532		
SRLS: I work with others to make my communities better places	.529		
OUT4K: OUTCOME LID: I know I can be an effective member of any group I choose	.526		.332
OUT3D: OUTCOME LEAD EFF: Working with a team on a group project	.526		.376
SRLS: I am willing to act for the rights of others	.523	-.377	
SRLS: My contributions are recognized by others in the groups I belong to	.521	-.337	
SRLS: I am open to new ideas	.518		.434
SRLS: I can describe how I am similar to other people	.507		
SRLS: I could describe my personality	.507		
SRLS: I am comfortable initiating new ways of looking at things	.499	-.329	.467
OUT3B: OUTCOME LEAD EFF: Organizing groups tasks to accomplish goal	.498		.405

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OUT3C: OUTCOME LEAD EFF: Taking initiative to improve something	.494	-.308	.428
SRLS: Collaboration produces better results	.492		
SRLS: I am comfortable expressing myself	.490	-.301	.460
SRLS: Common values drive an organization	.487		
SRLS: I look for new ways to do something	.482		.388
SRLS: There is energy in doing something a new way	.478		
SRLS: I am able to trust the people with whom I work	.474		
SRLS: I work well when I know the collective values of a group	.426		
OUT1D: OUTCOME COG: Learning more about things that are new	.405	-.307	
OUT4C: OUTCOME LID: I spend time mentoring other group members	.402		
OUT1A: OUTCOME COG: Ability to put together ideas and see relationships	.386	-.322	
OUT1C: OUTCOME COG: Ability to critically analyze ideas	.377	-.311	
OUT1B: OUTCOME COG: Ability to learn on own, pursue ideas, find information	.356		
SRLS: I can identify the differences between positive and negative change	.314		
SRLS: Creativity can come from conflict			
OUT4J: OUTCOME LID: I feel inter-dependent with others in a group			
ENV7E: DIVERSITY: Discussed views about multiculturalism	.325	-.843	

ENV7C: DIVERSITY: Discussed major social issues	.313	-.821	
ENV7B: DIVERSITY: Discussions with students with values different than own	.310	-.803	
ENV7D: DIVERSITY: Discussions with students with different religious beliefs		-.785	
ENV7F: DIVERSITY: Discussions with students with different political views		-.769	
ENV7A: DIVERSITY: Talked about different lifestyles/customs	.331	-.756	
OUT2A: OUTCOME DIV: Learned about other racial/ethnic groups		-.351	
OUT2D: OUTCOME DIV: Awareness of complexities of inter-group understanding		-.307	
OUT2B: OUTCOME DIV: Greater commitment to racial identity			
SRLS: Change makes me uncomfortable			.706
SRLS: Transition makes me uncomfortable			.683
SRLS: I work well in changing environments	.471		.594
SRLS: New ways of doing things frustrate me			.591
SRLS: I have low self-esteem	.304		.512
SRLS: I struggle when group members have ideas that are different from mine			.503
SRLS: I am usually self-confident	.480		.494
SRLS: I am uncomfortable when someone disagrees with me			.456

SRLS: I value opportunities that allow me to contribute to my community			.444
SRLS: Self-reflection is difficult for me			.382
SRLS: When there is a conflict between two people, one will win and the other will lose			

Extraction Method: Maximum Likelihood.
Rotation Method: Oblimin with Kaiser Normalization.

[d] All values with an absolute value of less than .30 were suppressed.

Factor Correlation Matrix

Factor	1	2	3
1		-.416	.334
2			-.149
3			

Extraction Method: Maximum Likelihood.
Rotation Method: Oblimin with Kaiser Normalization.

Factor Matrix^a

^a 6 factors extracted. 5 iterations required.

Goodness-of-fit Test

Chi-Square	df	Sig.
25777.343	3397	.000

Pattern Matrix^b

	Factor					
	1	2	3	4	5	6
SRLS: My behaviors reflect my beliefs	.761					
SRLS: My actions are consistent with my values	.745					
SRLS: I am able to articulate my priorities	.714					
SRLS: I follow through on my promises	.705					
SRLS: I hold myself accountable for responsibilities I agree to	.699					
SRLS: I can be counted on to do my part	.670					
SRLS: I am genuine	.638					
SRLS: I am focused on my responsibilities	.574					
SRLS: Being seen as a person of integrity is important to me	.559					
SRLS: It is important to develop a common direction in a group in order to get anything done	.559					

Item	1	2	3	4	5	6
SRLS: I am committed to a collective purpose in those groups to which I belong	.543					
SRLS: The things about which I feel passionate have priority in my life	.533					
SRLS: It is easy for me to be truthful	.532					
SRLS: I know myself pretty well	.529					
SRLS: I am open to others ideas	.493					
SRLS: I contribute to the goals of the group	.492					
SRLS: I could describe my personality	.435					
SRLS: I stick with others through the difficult times	.427					
SRLS: It is important to me to act on my beliefs	.416					
SRLS: Others would describe me as a cooperative group member	.401					
SRLS: I am willing to devote time and energy to things that are important to me	.393				.335	
SRLS: I know the purpose of the groups to which I belong	.383					
SRLS: I think it is important to know other peoples priorities	.368					
OUT4F: OUTCOME LID: I work effectively with others to accomplish shared goals	.366					

SRLS: I support what the group is trying to accomplish	.363						
SRLS: I actively listen to what others have to say	.362						
SRLS: Common values drive an organization	.360						
SRLS: Change brings new life to an organization	.350						
SRLS: I believe I have a civic responsibility to the greater public	.347						
SRLS: I respect opinions other than my own	.339						
OUT4L: OUTCOME LID: Teamwork skills are important in any organization	.333						
SRLS: I am seen as someone that works well with others	.313						
SRLS: I have helped to shape the mission of a group	.309						
OUT4K: OUTCOME LID: I know I can be an effective member of any group I choose							
SRLS: I work with others to make my communities better places							
SRLS: I can describe how I am similar to other people							
SRLS: I share my ideas with others							
ENV7D: DIVERSITY: Discussions with students with	-.849						

different religious beliefs					
ENV7E: DIVERSITY: Discussed views about multiculturalism	-.842				
ENV7C: DIVERSITY: Discussed major social issues	-.836				
ENV7B: DIVERSITY: Discussions with students with values different than own	-.831				
ENV7F: DIVERSITY: Discussions with students with different political views	-.816				
ENV7A: DIVERSITY: Talked about different lifestyles/customs	-.740				
SRLS: Change makes me uncomfortable		.711			
SRLS: Transition makes me uncomfortable		.688			
SRLS: New ways of doing things frustrate me		.598			
SRLS: I struggle when group members have ideas that are different from mine		.553			
SRLS: I work well in changing environments		.549			
SRLS: I am open to new ideas		.468			

SRLS: I am uncomfortable when someone disagrees with me			.448			
SRLS: My behaviors are congruent with my beliefs			.412			.304
SRLS: I value opportunities that allow me to contribute to my community			.383			
SRLS: I am comfortable initiating new ways of looking at things			.381			
SRLS: I value differences in others			.325			
SRLS: I look for new ways to do something			.323			
SRLS: Self-reflection is difficult for me						
SRLS: When there is a conflict between two people, one will win and the other will lose						
OUT1C: OUTCOME COG: Ability to critically analyze ideas				.847		
OUT1B: OUTCOME COG: Ability to learn on own, pursue ideas, find information				.844		
OUT1A: OUTCOME COG: Ability to put together ideas and see relationships				.798		
OUT1D: OUTCOME COG: Learning more about things that are new				.731		
OUT2A: OUTCOME DIV: Learned about other racial/ethnic				.389		

groups					
OUT2D: OUTCOME DIV: Awareness of complexities of inter-group understanding				.358	
OUT2B: OUTCOME DIV: Greater commitment to racial identity				.317	
SRLS: My contributions are recognized by others in the groups I belong to					.707
SRLS: I am comfortable with conflicts					.689
SRLS: I believe I have responsibilities to my community					.655
SRLS: Greater harmony can come out of disagreements					.632
SRLS: I participate in activities that contribute to the common good					.541
SRLS: I enjoy working with others towards common goals					.518
SRLS: I have the power to make a difference in my community					.501
SRLS: I give time to make a difference for someone else					.464
SRLS: I can make a difference when I work with others on a task					.358
SRLS: Collaboration produces better					.353

results							
OUT4C: OUTCOME LID: I spend time mentoring other group members						.341	
SRLS: I am able to trust the people with whom I work						.314	
SRLS: I work well when I know the collective values of a group							
SRLS: I am willing to act for the rights of others							
SRLS: There is energy in doing something a new way							
OUT4J: OUTCOME LID: I feel inter-dependent with others in a group							
SRLS: I can identify the differences between positive and negative change							
OUT3B: OUTCOME LEAD EFF: Organizing groups tasks to accomplish goal							-.509
OUT3C: OUTCOME LEAD EFF: Taking initiative to improve something							-.470
SRLS: I am usually self-confident							-.388
SRLS: I have low self-esteem				.362			-.364
OUT3D: OUTCOME LEAD EFF: Working with a team on a group project							-.310
SRLS: I am comfortable expressing myself							-.306

SRLS: Hearing differences in opinions enriches my thinking	
SRLS: Creativity can come from conflict	

Extraction Method: Maximum Likelihood.
Rotation Method: Oblimin with Kaiser Normalization.

[b] Rotation converged in 17 iterations; all loadings with an absolute value of .30 or less were suppressed

Total Variance Explained

Factor	Rotation Sums of Squared Loadings[c]
	Total
1	18.566
2	9.205
3	10.361
4	9.348
5	14.435
6	2.150

Extraction Method: Maximum Likelihood

[c] When factors are correlated, sums of squared loadings cannot be added to obtain a total variance.

Structure Matrix[d]

	Factor					
	1	2	3	4	5	6
SRLS: My actions are consistent with my values	.717				.392	
SRLS: My behaviors reflect my beliefs	.691				.344	
SRLS: I can be counted on to do my part	.687		.312		.369	
SRLS: I am able to articulate my	.673				.366	

priorities

Item					
SRLS: I hold myself accountable for responsibilities I agree to	.670				.327
SRLS: I follow through on my promises	.669				
SRLS: I contribute to the goals of the group	.669		.385	.362	.515
SRLS: I am genuine	.640				.306
SRLS: I am committed to a collective purpose in those groups to which I belong	.637		.335	.325	.411
SRLS: I am focused on my responsibilities	.632		.316	.303	.370
SRLS: I am willing to devote time and energy to things that are important to me	.618		.331	.351	.584
SRLS: I am open to others ideas	.610		.372		.376
SRLS: Being seen as a person of integrity is important to me	.606				.406
SRLS: I know myself pretty well	.586		.365		
SRLS: The things about which I feel passionate have priority in my life	.584				.362
SRLS: It is easy for me to be truthful	.582		.359		
SRLS: I know the purpose of the groups to which I belong	.581		.356	.329	.488
SRLS: I stick with others through the difficult times	.573		.328		.445
SRLS: It is important to develop a common direction in a group in order to get anything done	.571				.393

SRLS: I support what the group is trying to accomplish	.567		.311	.363	.530
SRLS: Others would describe me as a cooperative group member	.564		.367	.334	.429
OUT4F: OUTCOME LID: I work effectively with others to accomplish shared goals	.564		.403	.357	.444
SRLS: I actively listen to what others have to say	.557		.423	.336	.446
SRLS: I am seen as someone that works well with others	.549		.403	.346	.494
SRLS: Change brings new life to an organization	.540			.348	.512
SRLS: I have helped to shape the mission of a group	.531		.312	.307	.487
SRLS: I think it is important to know other peoples priorities	.523			.318	.481
SRLS: I could describe my personality	.518				.313
SRLS: It is important to me to act on my beliefs	.514				.409
SRLS: I believe I have a civic responsibility to the greater public	.510		.322		.409
SRLS: I respect opinions other than my own	.503		.429	.316	.355
OUT4L: OUTCOME LID: Teamwork skills are important in any organization	.489		.300	.342	.393

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Item						
OUT4K: OUTCOME LID: I know I can be an effective member of any group I choose	.482			.384	.301	.378	
SRLS: I value differences in others	.481	-.361	.481	.344	.444	
SRLS: I share my ideas with others	.479	-.350	.403		.427	
SRLS: Hearing differences in opinions enriches my thinking	.471	-.376	.435	.377	.467	
SRLS: I work with others to make my communities better places	.468		.337	.315	.409	
OUT3D: OUTCOME LEAD EFF: Working with a team on a group project	.451		.403	.379	.394	-.337
SRLS: Common values drive an organization	.451				.402	
SRLS: I can describe how I am similar to other people	.449		.318		.416	
ENV7E: DIVERSITY: Discussed views about multiculturalism		-.840		.316		
ENV7C: DIVERSITY: Discussed major social issues		-.824				
ENV7B: DIVERSITY: Discussions with students with values different than own		-.817				
ENV7D: DIVERSITY: Discussions with students with different religious beliefs		-.803				

	1	2	3	4	5	6
ENV7F: DIVERSITY: Discussions with students with different political views		-.788				
ENV7A: DIVERSITY: Talked about different lifestyles/customs		-.754		.320		
SRLS: Change makes me uncomfortable			.663			
SRLS: Transition makes me uncomfortable			.635			
SRLS: I work well in changing environments	.373		.629		.400	
SRLS: New ways of doing things frustrate me			.588			
SRLS: I am open to new ideas	.460		.571	.302	.363	
SRLS: My behaviors are congruent with my beliefs	.501	-.305	.542	.347	.415	
SRLS: I am comfortable initiating new ways of looking at things	.415	-.352	.524		.394	
SRLS: I struggle when group members have ideas that are different from mine			.521			
SRLS: I am usually self-confident	.455		.475		.313	-.439
SRLS: I have low self-esteem	.310		.460			-.420
SRLS: I am comfortable expressing myself	.454	-.335	.457		.331	-.360
SRLS: I look for new ways to do something	.386		.454		.424	
SRLS: I am uncomfortable when someone disagrees			.440			

	1	2	3	4	5	6	7
with me							
SRLS: I value opportunities that allow me to contribute to my community			.439				
SRLS: Self-reflection is difficult for me			.363				
SRLS: When there is a conflict between two people, one will win and the other will lose			.316				
OUT1C: OUTCOME COG: Ability to critically analyze ideas				.790			
OUT1B: OUTCOME COG: Ability to learn on own, pursue ideas, find information				.774			
OUT1A: OUTCOME COG: Ability to put together ideas and see relationships				.768			
OUT1D: OUTCOME COG: Learning more about things that are new	.312			.722			
OUT2A: OUTCOME DIV: Learned about other racial/ethnic groups		-.306		.456			
OUT2D: OUTCOME DIV: Awareness of complexities of inter-group understanding				.425	.301		
OUT2B: OUTCOME DIV: Greater commitment to racial identity				.345			
SRLS: I am comfortable with conflicts	.442	-.329		.342	.741		

Item					
SRLS: My contributions are recognized by others in the groups I belong to	.339	-.312			.696
SRLS: I believe I have responsibilities to my community	.389			.305	.684
SRLS: Greater harmony can come out of disagreements	.392	-.309		.315	.674
SRLS: I enjoy working with others towards common goals	.515		.352	.371	.664
SRLS: I participate in activities that contribute to the common good	.480			.306	.648
SRLS: I have the power to make a difference in my community	.444	-.333		.325	.617
SRLS: I give time to make a difference for someone else	.474	-.322		.312	.604
SRLS: I can make a difference when I work with others on a task	.547		.381	.365	.575
SRLS: Collaboration produces better results	.391			.302	.483
SRLS: I am willing to act for the rights of others	.440	-.379			.481
SRLS: There is energy in doing something a new way	.365		.377	.320	.450
SRLS: I am able to trust the people with whom I work	.382		.306		.444
OUT4C: OUTCOME LID: I spend time mentoring other group members	.309				.421

	1	2	3	4	5	6
SRLS: I work well when I know the collective values of a group	.323		.328		.419	
OUT4J: OUTCOME LID: I feel inter-dependent with others in a group						
SRLS: I can identify the differences between positive and negative change						
SRLS: Creativity can come from conflict						
OUT3B: OUTCOME LEAD EFF: Organizing groups tasks to accomplish goal	.443	-.301	.385	.319	.357	-.538
OUT3C: OUTCOME LEAD EFF: Taking initiative to improve something	.429	-.328	.412	.329	.364	-.502

Extraction Method: Maximum Likelihood.
Rotation Method: Oblimin with Kaiser Normalization.

[d] All values with an absolute value of less than .30 were suppressed

Factor Correlation Matrix

Factor	1	2	3	4	5	6
1		-.297	.418	.368	.535	-.082
2			-.280	-.351	-.347	.053
3				.215	.263	-.124
4					.426	.038
5						.023
6						

Extraction Method: Maximum Likelihood.
Rotation Method: Oblimin with Kaiser Normalization.

Appendix G: 11 Factor Rotated Solution – Raw Data from SPSS

[Remainder of page left blank; appendix continues on next page.]

Factor Matrix[a]

[a] 11 factors extracted. 7 iterations required.

Goodness-of-fit Test

Chi-Square	df	Sig.
15141.557	2992	.000

Pattern Matrix[b]

	Factor										
	1	2	3	4	5	6	7	8	9	10	11
SRLS: I am focused on my responsibilities	.652										
SRLS: I contribute to the goals of the group	.534										
SRLS: I actively listen to what others have to say	.419										
SRLS: I can be counted on to do my part	.402										
SRLS: I hold myself accountable for responsibilities I	.401										

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agree to		
SRLS: I follow through on my promises		.319
SRLS: I am committed to a collective purpose in those groups to which I belong	.314	
ENV7B: DIVERSITY: Discussions with students with values different than own		.854
ENV7D: DIVERSITY: Discussions with students with different religious beliefs		.846
ENV7E: DIVERSITY: Discussed views about multiculturalism		.841
ENV7C: DIVERSITY: Discussed major social issues		.818

Item		
ENV7F: DIVERSITY: Discussions with students with different political views	.804	
ENV7A: DIVERSITY: Talked about different lifestyles/customs	.762	
SRLS: Change makes me uncomfortable		.712
SRLS: Transition makes me uncomfortable		.679
SRLS: New ways of doing things frustrate me		.592
SRLS: I struggle when group members have ideas that are different from mine		.572
SRLS: I am uncomfortable when someone disagrees with me		.459
SRLS: I work well in changing		.395

Item		
environments		
SRLS: When there is a conflict between two people, one will win and the other will lose	.302	
SRLS: Self-reflection is difficult for me		
OUT1C: OUTCOME COG: Ability to critically analyze ideas		.861
OUT1B: OUTCOME COG: Ability to learn on own, pursue ideas, find information		.846
OUT1A: OUTCOME COG: Ability to put together ideas and see relationships		.776
OUT1D: OUTCOME COG: Learning more about things that are new		.706

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Item	
SRLS: I believe I have responsibilities to my community	.814
SRLS: Greater harmony can come out of disagreements	.732
SRLS: I am comfortable with conflicts	.728
SRLS: My contributions are recognized by others in the groups I belong to	.706
SRLS: I participate in activities that contribute to the common good	.528
SRLS: I have the power to make a difference in my community	.493
SRLS: I give time to make a difference for someone else	.449
SRLS: I am willing to act for the rights of others	

SRLS: I am willing to devote time and energy to things that are important to me		
OUT3B: OUTCOME LEAD EFF: Organizing groups tasks to accomplish goal	-.740	
OUT3C: OUTCOME LEAD EFF: Taking initiative to improve something	-.683	
OUT3D: OUTCOME LEAD EFF: Working with a team on a group project	-.590	
OUT4C: OUTCOME LID: I spend time mentoring other group members	-.302	
SRLS: I have helped to shape the mission of a group		.916
SRLS: My behaviors reflect my beliefs		

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SRLS: I am able to articulate my priorities	.841	
SRLS: My actions are consistent with my values	.685	
SRLS: It is important to develop a common direction in a group in order to get anything done	.526	
SRLS: I am genuine		
SRLS: The things about which I feel passionate have priority in my life		
SRLS: It is easy for me to be truthful		
SRLS: Being seen as a person of integrity is important to me		
SRLS: There is energy in doing something a new way		.447
SRLS: I look for new ways to do something		.424

SRLS: Creativity can come from conflict	.419
SRLS: I am comfortable initiating new ways of looking at things	.399
SRLS: Hearing differences in opinions enriches my thinking	.394
SRLS: I work well when I know the collective values of a group	.381
SRLS: I am open to new ideas	.371
SRLS: I value differences in others	.359
SRLS: I can identify the differences between positive and negative change	.349
SRLS: My behaviors are congruent with my beliefs	.337

SRLS: I value opportunities that allow me to contribute to my community	
SRLS: I respect opinions other than my own	
SRLS: I think it is important to know other peoples priorities	
SRLS: I believe I have a civic responsibility to the greater public	
OUT2B: OUTCOME DIV: Greater commitment to racial identity	.564
OUT2A: OUTCOME DIV: Learned about other racial/ethnic groups	.540
OUT2D: OUTCOME DIV: Awareness of complexities of inter-group understanding	.471

Item		
SRLS: I am usually self-confident	.592	
SRLS: I am comfortable expressing myself	.591	
SRLS: I have low self-esteem	.482	
SRLS: I know myself pretty well	.470	
SRLS: I could describe my personality	.462	
SRLS: I share my ideas with others	.368	
SRLS: I can describe how I am similar to other people	.317	
SRLS: I am open to others ideas	.303	
SRLS: I work with others to make my communities better places		
SRLS: I am able to trust the people with whom I work		
OUT4F: OUTCOME LID: I work effectively with others to		.462

accomplish shared goals			
OUT4L: OUTCOME LID: Teamwork skills are important in any organization			.397
SRLS: Others would describe me as a cooperative group member			.390
SRLS: I am seen as someone that works well with others			.382
SRLS: I enjoy working with others towards common goals	.335		.342
SRLS: Collaboration produces better results			.323
SRLS: I support what the group is trying to accomplish			.323
SRLS: It is important to me to act on my beliefs			.310

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Item								
SRLS: I can make a difference when I work with others on a task								
SRLS: Change brings new life to an organization								
OUT4K: OUTCOME LID: I know I can be an effective member of any group I choose								
SRLS: Common values drive an organization								
SRLS: I stick with others through the difficult times								
SRLS: I know the purpose of the groups to which I belong								
OUT4J: OUTCOME LID: I feel inter-dependent with others in a group								

Extraction Method: Maximum Likelihood.
Rotation Method: Oblimin with Kaiser Normalization.

[b] Rotation converged in 25 iterations; all loadings with absolute values of less than .30 were suppressed.

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Total Variance Explained

Factor	Rotation Sums of Squared Loadings[c] Total
1	10.087
2	9.228
3	5.259
4	9.262
5	13.512
6	7.669
7	12.671
8	8.909
9	1.932
10	10.930
11	9.282

Extraction Method: Maximum Likelihood.

[c] When factors are correlated, sums of squared loadings cannot be added to obtain a total variance.

Structure Matrix[d]

	Factor										
	1	2	3	4	5	6	7	8	9	10	11
SRLS: I am focused on my responsibilities	.739			.321	.369		.477			.378	

Item									
SRLS: I contribute to the goals of the group	.704		.344	.472	-.411	.476	.350	.420	.398
SRLS: I can be counted on to do my part	.617		.339	.366	-.320	.516		.325	.478
SRLS: I hold myself accountable for responsibilities I agree to	.601		.328	.352		.540		.304	.408
SRLS: I actively listen to what others have to say	.581		.324	.418		.400	.433	.341	.357
ENV7E: DIVERSITY: Discussed views about multiculturalism		.838							
ENV7B: DIVERSITY: Discussions with students with values different than own		.823		.323					
ENV7C: DIVERSITY: Discussed major social issues		.822	.303						
ENV7D: DIVERSITY: Discussions with students with		.801		.318					

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	1	2	3	4	5	6
different religious beliefs						
ENV7F: DIVERSITY: Discussions with students with different political views	.786					
ENV7A: DIVERSITY: Talked about different lifestyles/customs	.762		.310			
SRLS: Change makes me uncomfortable		.729				
SRLS: Transition makes me uncomfortable		.698				
SRLS: New ways of doing things frustrate me		.623				
SRLS: I struggle when group members have ideas that are different from mine		.583				
SRLS: I work well in changing environments		.507	.362	-.386	.482	.409

Item			
SRLS: I am uncomfortable when someone disagrees with me			.492
SRLS: Self-reflection is difficult for me	.359		.370
SRLS: When there is a conflict between two people, one will win and the other will lose			.343
OUT1C: OUTCOME COG: Ability to critically analyze ideas		.813	
OUT1B: OUTCOME COG: Ability to learn on own, pursue ideas, find information		.791	
OUT1A: OUTCOME COG: Ability to put together ideas and see relationships		.767	
OUT1D: OUTCOME COG: Learning more about things that are		.726	

Item									
new									
SRLS: I am comfortable with conflicts	.304	.323	.366	.406		.783		.307	
SRLS: I believe I have responsibilities to my community				.365		.766			
SRLS: Greater harmony can come out of disagreements				.376		.735			
SRLS: My contributions are recognized by others in the groups I belong to			.306			.715			
SRLS: I participate in activities that contribute to the common good	.373	.306	.303	.394	-.305	.651	.305		.348
SRLS: I have the power to make a difference in my community	.315	.343	.345	.362	-.341	.627		.323	
SRLS: I give time to make a difference for someone else	.346	.331	.361	.380		.606		.315	.328
SRLS: I enjoy working with others towards common goals	.551	.343	.398	.368	-.372	.599	.312		.371

	C1	C2	C3	C4	C5	C6	C7	C8	C9
SRLS: I am willing to devote time and energy to things that are important to me	.471		.335	.557	-.319	.493	.326	.384	.510
SRLS: I can make a difference when I work with others on a task	.362		.345	.521	-.369	.391	.435	.427	.495
SRLS: I am willing to act for the rights of others		.375		.499		.392	.379		
SRLS: I think it is important to know other peoples priorities	.377		.314	.448		.421	.410		.406
OUT3B: OUTCOME LEAD									
EFF: Organizing groups tasks to accomplish goal		.300	.320	.332	-.810	.314		.435	
OUT3C: OUTCOME LEAD									
EFF: Taking initiative to improve something		.321	.329	.341	-.772	.319		.431	
OUT3D: OUTCOME LEAD									
EFF: Working with a team on a group project			.356	.332	-.670	.301		.363	.418

Item								
SRLS: I have helped to shape the mission of a group	.372		.449	-.477	.410	.317	.434	.333
OUTCOME LID: I spend time mentoring other group members			.406	-.416				
SRLS: My behaviors reflect my beliefs	.347		.373		.853		.377	
SRLS: I am able to articulate my priorities	.347		.402		.811		.359	
SRLS: My actions are consistent with my values	.552		.415		.773		.393	
SRLS: It is important to develop a common direction in a group in order to get anything done			.416		.628		.321	
SRLS: I follow through on my promises	.552	.303	.307		.558		.365	.400
SRLS: I am genuine	.429	.330	.323		.545		.475	.365
SRLS: The things about which I feel passionate have priority in my life	.368	.341	.368		.517	.306	.353	.355

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SRLS: Being seen as a person of integrity is important to me	.407		.333	.425		.517		.319	.435
SRLS: I am committed to a collective purpose in those groups to which I belong	.488		.364	.416		.514		.368	.447
SRLS: It is easy for me to be truthful	.422			.307		.487		.429	.333
SRLS: I know the purpose of the groups to which I belong	.389		.323	.449	-.322	.480	.346	.448	.443
SRLS: I stick with others through the difficult times	.395		.310	.432		.446	.361	.384	.440
SRLS: I believe I have a civic responsibility to the greater public	.355	.379	.307	.397		.423	.382	.381	.304
SRLS: Hearing differences in opinions enriches my thinking	.358		.361	.420		.350	.575		.414
SRLS: There is energy in doing something a new way				.389			.567		

SRLS: I look for new ways to do something	.343				.385	-.329		.554	.353	
SRLS: I am comfortable initiating new ways of looking at things		.344	.319		.352	-.383		.547	.434	
SRLS: I value differences in others	.459	.357		.320	.400		.345	.547	.356	.302
SRLS: I am open to new ideas	.383		.387		.301		.313	.531	.353	.400
SRLS: My behaviors are congruent with my beliefs	.426	.311	.363	.332	.364		.360	.530	.325	.434
SRLS: I work well when I know the collective values of a group	.312				.365			.492		
SRLS: Creativity can come from conflict								.441		
SRLS: I respect opinions other than my own	.425	.304		.330	.333		.361	.428		.411
SRLS: I can identify the differences between positive and negative change								.418		

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	SRLS: I value opportunities that allow me to contribute to my community	OUT2B: OUTCOME DIV: Greater commitment to racial identity	OUT2A: OUTCOME DIV: Learned about other racial/ethnic groups	OUT2D: OUTCOME DIV: Awareness of complexities of inter-group understanding	SRLS: I am usually self-confident	SRLS: I am comfortable expressing myself	SRLS: I know myself pretty well	SRLS: I have low self-esteem	SRLS: I could describe my
	.359				.704				
		.602	.583		.695				
				.526	.616				
	.372				.580	.307			
					.558				
					.317	.350	.512		.431
					-.471	-.398		-.336	
					.308	.329			.313
			.385	.353					
	.323				.312			.450	
			.303		.331				
	.345				.335				.304

personality									
SRLS: I share my ideas with others		.346		.392	-.370	.362	.396	.542	
SRLS: I am open to others ideas	.425		.325	.388	-.333	.523	.301	.542	
SRLS: I work with others to make my communities better places	.311		.305	.363	-.377	.334		.455	.353
SRLS: I can describe how I am similar to other people	.323			.375		.335	.364	.452	
SRLS: I am able to trust the people with whom I work				.399		.318		.401	.366
OUT4F: OUTCOME LID: I work effectively with others to accomplish shared goals	.449		.336	.374	-.362	.383		.363	.606
SRLS: Others would describe me as a cooperative group member	.456		.321	.376		.402		.380	.558
SRLS: I am seen as someone that works well with others	.428		.319	.442	-.307	.380		.417	.558

SRLS: I support what the group is trying to accomplish	.451	.334	.465		.412	.389	.318	.540
OUT4L: OUTCOME LID: Teamwork skills are important in any organization	.379	.329	.339		.347			.534
SRLS: It is important to me to act on my beliefs	.349		.358		.390		.306	.477
SRLS: Change brings new life to an organization	.360	.325	.453		.432	.358	.354	.471
SRLS: Collaboration produces better results			.424					.465
OUT4K: OUTCOME LID: I know I can be an effective member of any group I choose	.342		.330	-.392	.352		.383	.413
SRLS: Common values drive an organization			.351		.393			
OUT4J: OUTCOME LID: I feel inter-dependent with others in a								.407

Extraction Method: Maximum Likelihood.
Rotation Method: Oblimin with Kaiser Normalization.

[d] Values with an absolute value of less than .30 were suppressed.

Factor Correlation Matrix

Factor	1	2	3	4	5	6	7	8	9	10	11
1		.161	.204	.283	.333	-.247	.460	.255	.005	.324	.373
2			.194	.371	.359	-.224	.267	.312	.092	.271	.159
3				.141	.108	-.184	.081	.197	-.092	.347	.091
4					.342	-.234	.343	.246	.185	.277	.325
5						-.337	.469	.414	.171	.348	.395
6							-.260	-.217	-.070	-.419	-.163
7								.296	-.059	.444	.381
8									.095	.268	.269
9										-.018	.042
10											.244
11											

Extraction Method: Maximum Likelihood.
Rotation Method: Oblimin with Kaiser Normalization.

[1] Many ideas at the heart of our current understanding of self-authorship can be found in the work of much earlier scholars who wrote long before the foundational literature referenced here was conceived and who are never recognized in any of the literature on self-authorship. For example, in 1929 – more than a full half-century before Kegan or Baxter Magolda would "name" self-authorship – German sociologist Karl Mannheim wrote the following passage, a passage which appears to describe the concept of self-authorship and which foreshadowed Baxter Magolda's concept of the crossroads and Kegan's notion of the subject-object differentiation:

> In personal life, too, self-control and self-correction develop only when in our originally blind vital forward drive *we come upon an obstacle which throws us back upon ourselves* [i.e., Baxter Magolda's notion of the crossroads]. In the course of this collision with other possible forms of existence, the peculiarity of our own mode of life becomes apparent to us. Even in our personal life we become masters of ourselves only when *the unconscious motivations which formerly existed behind our backs suddenly come into our field of vision and thereby become accessible to conscious control* [i.e., Kegan's notion of the subject-object distinction]. Man attains objectivity and acquires a self with reference to his conception of his world not by giving up his will to action and holding his evaluations in abeyance but in confronting and examining himself. The criterion of such self-illumination is that not only the object but *we ourselves fall squarely within our field of vision* [i.e., self-authorship]. We become visible to

ourselves, not just vaguely as a knowing subject as such, but in a certain role hitherto impenetrable to us, and with motivations of which we have not hitherto been aware. In such moments the inner connection between our role, our motivation, and our type and manner of experiencing the world suddenly dawns on us. Hence the paradox underlying these experiences, namely the opportunity for relative emancipation from social determination, increases proportionately with insight into this determination. (Mannheim, 1936, pp. 47-48; emphasis added)

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