



1993

A validation of a measure of generativity and an empirical exploration of the personality correlates of generativity

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LOYOLA UNIVERSITY CHICAGO

A VALIDATION OF A MEASURE OF GENERATIVITY AND AN EMPIRICAL
EXPLORATION OF THE PERSONALITY CORRELATES OF GENERATIVITY

A THESIS SUBMITTED TO
THE FACULTY OF THE DIVISION OF DEVELOPMENTAL PSYCHOLOGY
IN CANDIDACY FOR THE DEGREE OF
MASTERS OF ARTS
DEPARTMENT OF PSYCHOLOGY

BY

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CHICAGO, ILLINOIS

JANUARY 1993

VITA

The author, Ed Talbot de St. Aubin, obtained his elementary education in Hanover Park, Illinois, at Ann W. Fox elementary school and Jane Adams Junior High. His secondary education was completed in 1982 at Peachtree High School in Dunwoody, Georgia.

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ACKNOWLEDGEMENTS

I thank both Dr. Paul Jose and Dr. Greyson Holmbeck for serving on my thesis committee. Specific acknowledgements go to Dr. Jose for acting as administrative director of the thesis and for providing much needed editing of the entire manuscript and to Dr. Holmbeck for his patience with the project and his advice concerning statistical analysis. I also extend appreciation to Jennifer Selke who served as my research assistant and whose efforts greatly enhanced the quality of this thesis.

Each member of my family has contributed significantly to the bond which connects us as a clan. This bond has always been a source of energy from which I draw the strength and confidence to pursue my goals. I thank each of them here for empowering me to complete this thesis. I specifically appreciate the many family members who helped me in garnering the subjects for this study. My wife, Shawn-Laree de St. Aubin, has done every thing from editing first drafts of this thesis to teaching me that falling in love is not a phase but an enduring mode of existence. To thank her here seems almost trite for we are partners in all that we do.

I am extremely indebted to Dr. Dan P. McAdams for his intellectual guidance on this specific project and for his mentorship in general. I have had the great fortune in my life of discovering my true vocational calling. Dr. McAdams was an integral component in that discovery and continues to serve as the guide in my quest for understanding. His influence upon my life has been more powerfully positive than he will ever know.

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CHAPTER I
INTRODUCTION

Generativity Defined

Generativity is a multi-faceted adult personality construct which pertains to the individual's investment of energy toward promoting the well being of younger and yet to be born persons. Generative individuals, those who care for the young or create an environment beneficial to future generations, achieve a type of symbolic immortality in that the effects of their generative efforts may remain long beyond their own physical existence. Manifestations of generativity are manifold and wide in range. Becoming a parent is by definition a generative act even though the quality of parenting-generativity will be dependent upon the manner in which the adult nurtures and educates his or her child. Parenting is by no means the only form of generativity. The architect who designs and creates buildings is generative in that her buildings will serve future generations. The environmentalist expresses generativity as he fights to protect the ozone layer because his efforts will enhance the quality of life for those yet born. The words of the poet which enlighten readers of today and tomorrow are part of the generative process as

well. But generativity does not only exist at this grand level where the dramatic experiences of giving birth, creating buildings, or forming a poem occur. Generativity can be found in relatively common and simple behaviors. For example, recycling one's household trash is a generative act. Contributing to a charity may be generative. Telling a story to a child may be an expression of one's generativity. Each of these behaviors promotes the growth and well being of younger generations.

The personality construct of generativity will be more fully explicated in chapter two. It is in that chapter that the reader will be provided with an overview of the theory and empirical investigations regarding generativity. Questions concerning the manner in which generativity is situated within one's personality and its relation to life cycle development will be addressed then. Chapter two will also contain an examination of the processes by which individual differences in generativity have been assessed.

Purpose of the Study

The author has attempted to accomplish two goals in this research study. The first is to test the validity and reliability of the Loyola Generativity Scale (LGS), which is a new and promising measure of individual differences in generativity (McAdams & de St. Aubin, 1992). Researchers who wish to fully explore this evocative aspect of personality must be equipped with a reliable and valid

measurement device - one which places a metric unit on the quantity of generativity an individual possesses. The LGS purports to do just that. This study examined the psychometric fitness of the LGS as a measure of individual differences in generativity.

This study was also designed to accomplish a second goal: to empirically explore the relation which generativity has to other core aspects of adult personality development. A complete understanding of generativity would include an ability to articulate the manner in which generativity is situated within the larger configuration of personality development. The author attempted to take a step in that direction by examining the relation which generativity has to personality traits, ego development, and happiness/satisfaction with life. The theoretical dynamics between these constructs are discussed in the second chapter of this Thesis.

Description of the Study

In an endeavor to examine the psychometric fitness of the LGS, the present study tests (1) the ability of scores on the LGS to predict levels of generative action obtained on a behavior checklist; (2) the relation which scores on the LGS have to narrative themes of generativity in written autobiographical recollections; and, (3) the test-retest reliability of the LGS. The logic for the validation component of the project is fairly straight forward. If the

LGS is a valid test of individual differences in generativity, then scores which a sample of individuals receive on the LGS should be related to their scores on other measures of generativity. This is known as convergent validity.

Beyond the LGS, two other measures of generativity were designed specifically for this study. The Behavior Checklist asks subjects to mark the number of times (either 0, 1, or more than once) they had performed 65 specific acts over the last two months. Forty nine of these acts were included because they connote generative behavior. The sum of scores for these 49 acts constitute a quantification of generative action. Step one in the test for convergent validity compares these scores to those generated by the LGS. Step two compares LGS scores to the number of generative themes extracted through the content analysis of each subject's five written Autobiographical Recollections. Subjects wrote a paragraph or two about five separate and well defined types of memories from their life. A coding scheme was devised to score these recollections for generative content. The method chapter of this thesis further elaborates the specifics of these measures.

The study design also includes a test-retest element to assess the ability of the LGS to consistently generate a similar score for one individual across time. Subjects were re-contacted three weeks after they had first completed the

LGS and asked to complete it once again. Statistical analyses were then used to assess the temporal stability of the LGS.

The second major component of this study employs the LGS in empirically exploring the relation which generativity has to other aspects of personality. Two current and influential paradigms within personality psychology are the trait model (Buss, 1989; Conley, 1985; Digman, 1990; Eysenck, 1990; John, 1990; McCrae, 1989; McCrae & Costa, 1987) and the cognitive structures approach (Cantor, 1990; Cantor & Kihlstrom, 1987; Dweck & Leggett, 1988; Klinger, 1989; McCrae, 1989; Norem, 1989). This study will examine the relation which both traits and cognitive structures have to generativity. Included in this exploration will be a test of the hypothesis that generativity is associated with greater satisfaction/ happiness with one's life. The measurement of personality traits will be achieved through the use of the NEO Personality Inventory (Costa & McCrae, 1985b) which scores for the 'Big Five' traits of Neuroticism, Extraversion, Openness to experience, Agreeableness, and Conscientiousness.

In examining the relation between generativity and cognitive structures, the author utilizes Jane Loevinger's (1966, 1976, 1979, 1985) model and measurement of ego development. According to this theory, the ego is an orientation to one's self and to one's world. As a

cognitive structure, the ego is a framework of meaning which strives to master, to integrate, and to make sense of experience. The study examines the extent to which higher levels of ego development are associated with a stronger sense of generativity.

In sum, the design of the study examines two related questions. The first has to do with the confidence researchers have in measuring individual differences in generativity. The measurement of a construct such as generativity, which is a nomothetic phenomenon in personality development that demonstrates a vast idiographic range, is not a simple process. But perhaps even more complex is the second question of how generativity is configured within one's personality. Do highly generative people share other commonalties? Does an immature understanding of one's self and one's world stifle the expression of generativity? The reader should have a better understanding of these issues by the time he or she finishes reading this thesis.

CHAPTER II
GENERATIVITY

Theoretical Perspectives Concerning Generativity

The concept of generativity was introduced by Erik Erikson (1950) in his psychosocial theory of human development. One tenet of this theory suggests that the healthy adult personality embodies a sense of generativity which is "primarily the concern in establishing and guiding the next generation" (1963, p. 276). Generativity encompasses but is not equivalent to such terms as parenting, productivity, and creativity. Erikson (1954) writes that the term generativity:

is intended to convey a more basic and more biological meaning than such terms as creativity and productivity do. For the inventory of significant object relations must, at this stage, give account of the presence or absence of a drive to create and secure personal children - a matter much too frequently considered merely an extension, if not an impediment, of genitality. Yet terms as specific as "parental sense" would not sufficiently indicate the plasticity of this drive, which may genuinely include works, plans, and ideas generated either in direct connection with the tasks of securing the life of the next generation or in wider anticipation of generations yet to come (p. 274).

Erikson (1950) places Generativity vs. Stagnation as the seventh and longest of the eight psychosocial stages of individual development. The adult psychosocial stages are

depicted in Table 1. The healthy mid-aged person, according to Erikson, has successfully resolved previous adult stage issues of **identity** (stage 5) and **intimacy** (stage 6) and has thus acquired **fidelity to self and love for another**. The psychosocial focus of the adult is expanded beyond self and intimate other during the **generative** stage (7) as the ongoing dialectic between self and society endows the maturing individual with a sense of **care for future generations**. Erikson (1969) writes that the aging adult begins to pull away from generative concerns and the "maintenance of the world" as he or she enters into the last psychosocial stage of **ego integrity vs. ego despair**. It is during these final years of life that one reflects on the worthiness of one's life. The ideal resolution here leads to an acceptance of one's life as well lived and an understanding that one's life contained both meaning and purpose.

The generative man or woman, in Eriksonian terms, demonstrates a substantial investment of self into the well-being of younger and yet-born people. Such an adult consciously concerns one's self with promoting the growth of specific individuals and with establishing a favorable environment in which all persons may develop to achieve their fullest potentials. As seen in Table 1, Erikson centered each of the stages in a dialectic with a tension existing between two poles so that there was a 'crisis' to

Table 1.

Erikson's Adult Stages of Psychosocial Development.

<u>Life Period</u>	<u>Psychosocial Crises</u>	<u>Basic Strengths</u>	<u>Core Pathology</u>	<u>Related Principles of Social Order</u>
Adolescence	Identity vs. Identity confusion	Fidelity	Repudiation	Ideological Worldview
Young Adulthood	Intimacy vs. Isolation	Love	Exclusivity	Cooperation and Competition
Adulthood	Generativity vs. Stagnation	Care	Rejectivity	Currents of Education and Tradition
Old Age	Integrity vs. Despair	Wisdom	Disdain	Wisdom

*Taken from page 32 of The Life Cycle Completed (Erikson, 1982).

be resolved. The tension in the seventh stage exists between generativity and stagnation which is the inability to be generative.

Erikson tells us that the reasons one might stagnate "are often found in early childhood impressions; in faulty identification with parents; in excessive self love based on a too strenuously self made personality; and finally, in the lack of some faith, some 'belief in the species' which would make a child appear to be a welcome trust of the community" (1959, p. 103).

Erikson's theoretical conceptualizations of generativity (1950, 1954, 1964, 1975, 1982) and his illuminating biographical analyses (of Martin Luther, 1958; of Mahatma Gandhi, 1969) have stimulated other scholars to directly assess the role which generativity plays in human development. Theoretical advancements specifically concerning generativity have been produced by Browning (1975), Kotre (1984), and McAdams (1985; McAdams & de St. Aubin, 1992) . Don Browning (1975) writes that generative man represents an ethical ideal for modern times. Only through generativity, asserts Browning, will modern man become able to conquer the social ills caused by overpopulation, uncontrolled economic and technological growth, and abuse of the ecological system. Browning writes that "generative man" is a creative ritualizer who fosters the health and survival of humankind through the maintenance

and improvement of the world and in so doing strengthens the bond of intergenerational connectedness. While Browning offers a provocative discussion of the meaning which generativity provides at the social level, it is Kotre and McAdams who provide theoretical expansions of generativity as a an adult personality development construct which exists at the individual level.

In the only book dedicated entirely to the concept of generativity, John Kotre (1984) writes of generativity as an impulse to achieve immortality and defines it as "a desire to invest one's substance in forms of life and work that will outlive the self" (p. 10). According to Kotre, the two major shortcomings of Erikson's writings concerning generativity are that (1) he did not sort out the different types of generativity, and (2) he failed to see the potential dark side of generativity. In addressing this first weakness in generativity theory, Kotre divides the concept into an eight celled classification system (refer to Table 2) where there are two possible modes of generative expression which exist at one of four levels. The two modes by which generativity may be expressed are agency and communion. As can be seen in the examples provided in Table 2, Generativity expressed through agency becomes a desire to expand, to assert, and to protect one's self. One's offspring are not seen as unique and complete with their own developmental agenda but instead as extensions of one's own

Table 2.

Kotre's Classification of Generativity.

		MODE OF GENERATIVITY	
		<u>Agency</u>	<u>Communion</u>
LEVEL OF GENERATIVITY	<u>Biological</u>	Pregnancy desired so one can demonstrate virility or womanhood.	Pregnancy desired because one wants to care for a child.
	<u>Parental</u>	Parent molds child in his image.	Allows child to develop in their own way.
	<u>Technical</u>	"Do it my way."	"Do it the right way as you can."
	<u>Cultural</u>	A cult leader draws the veneration of followers to himself.	A leader sacrifices a career for a cause.

*Taken from Outliving the self (Kotre, 1984)

being. Kotre writes that this mode is depicted by the precept "survive and kill" whereas the communion mode of generativity is represented by "die and become." Those individuals who primarily express their generativity through communion view themselves as but one small element related to many others (and future individuals) in an organic manner. Such an individual surrenders to the organizational whole and desires the good of the unit above the good of the self.

The four possible levels of generativity at which one of these modes may prevail are biological, parental, technical, and cultural. The biological level concerns the procreation of offspring and the object of one's generativity at this level is the unborn fetus and the newly born infant. At the parental level, generativity involves the rearing of children and all that that entails. It is at this level that the child's parents educate the child (the object of generativity) and pass onto him or her the family traditions and customs. The object of one's generativity at the technical level is the apprentice or skill. Technical generativity entails teaching younger persons the skills of a trade or profession. Since the skills of a culture define its symbol system, the individual who is generative at the technical level implicitly passes on the body of a culture to the next generation. The explicit handing down of a culture's symbol system occurs at the cultural level. This includes any creation, renovation, or conservation of the

abstract and intangible 'collective mind' of a culture. Either a discipline or the culture itself is the object of generativity here. It is at this level that the largest possible scope of generativity exists as one's potential audience is not the infant, the child, or the apprentice, but mankind itself. It is also true, however, that the results of one's generative efforts at the cultural level are the most uncertain, for the manner in which a culture's collective mind will be transformed by a revolutionary idea most surely cannot be precisely predicted in advance.

As mentioned earlier, Kotre (1984) noted Erikson's failure to consider this dark side of generativity. For Kotre, generativity points to the multi-faceted capacity for the perversity of human nature. The legacy which one generates to outlive oneself may well be one of destruction. He wrote that it is best to view generativity as an impulse that can be channeled into vice as well as virtue. In a "thick analysis" of generativity via explorations of 8 extremely rich life stories, Kotre highlights the modes, levels, and the dark side of generativity.

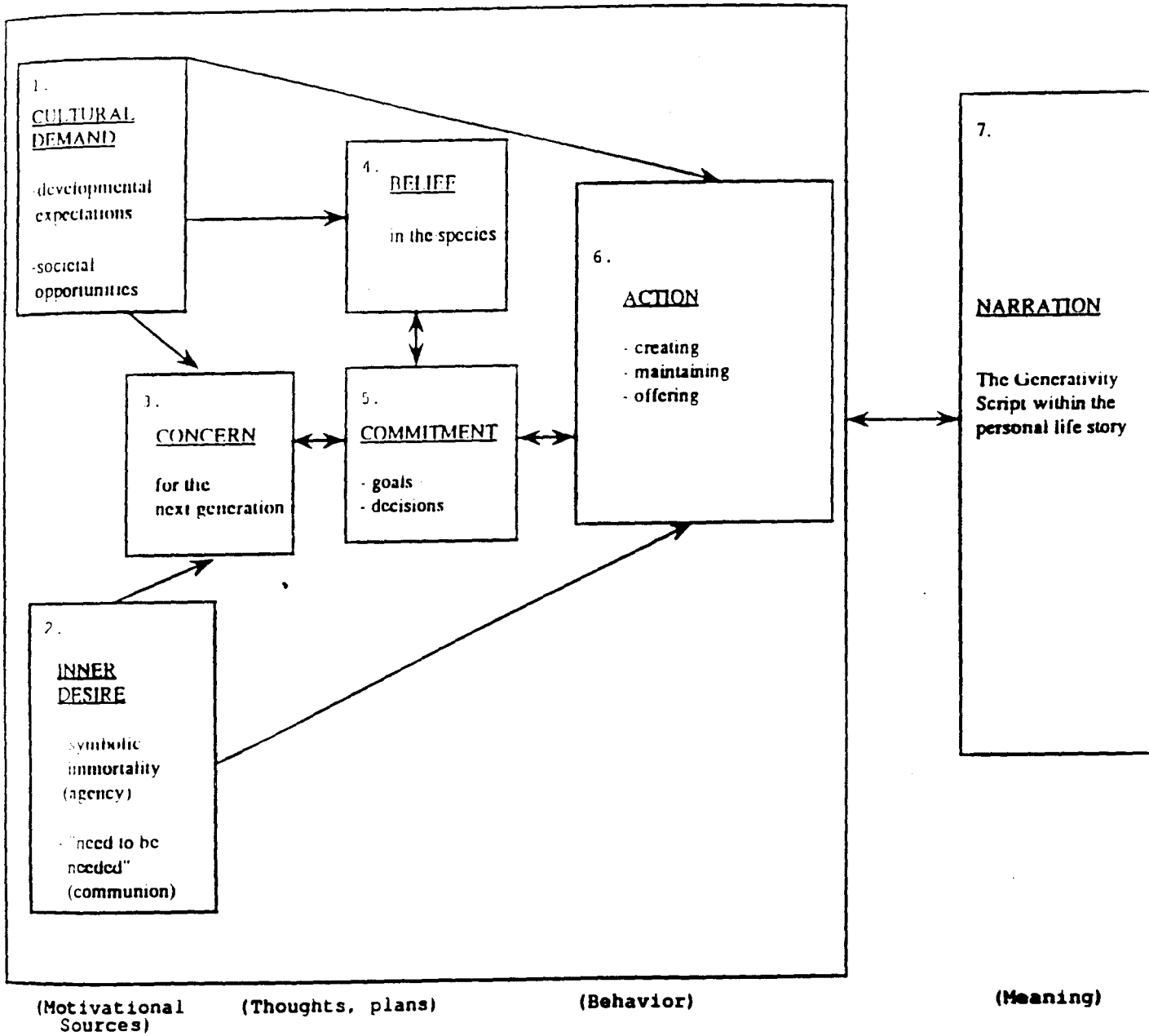
Dan McAdams' (1985; McAdams, Ruetzel, & Foley, 1986; McAdams & de St. Aubin, 1992; de St. Aubin & McAdams, under review; McAdams, de St. Aubin, & Logan, under review; Van de Water & McAdams, 1987) work concerning generativity is closely aligned conceptually and is somewhat similar in its approach to the writings of Erikson and Kotre. Yet the

theory of generativity he has fashioned diverges from some of the core points made by these two theorists. Each of these three theorists advocate a qualitative case study approach to examining generativity - McAdams has tried to balance that with more quantitative and empirically rigorous research as well (e.g., McAdams & de St. Aubin, 1992; McAdams, Ruetzel, & Foley, 1986). His perception of generativity is more Eriksonian than Kotre's in that it emphasizes the positive aspects of legacy making. Yet McAdams rejects the Eriksonian notion that generative concerns arise during a discrete stage which is configured in a sequential manner around other adulthood stages. Further, McAdams' approach is more like Kotre's than Erikson's in that he breaks the concept down into separate elements. In his earlier theoretical writings (e.g., 1985), McAdams proposed a life story model of identity in which generativity played a major role. He argued that generativity becomes a salient component of an adult's identity as he or she begins to fashion a generativity script. This script specifies the projects one will undertake in order to produce a legacy which will continue one's life story beyond one's physical existence. Like Kotre, McAdams (1985) discussed the agentic and communal modes of generativity, yet he did so within a somewhat different model. According to this earlier writing of McAdams (1985), the full generative process requires the two

steps of agency and communion. The first step, agency, involves the self-extending creation of a generative product (e.g., a child, a building, a car pool plan). Once this expansion of self has been completed, the generative person offers the product in a communal act to a person or community as a gift of self that will be of some good to the other(s).

In more recent articles, McAdams and his colleagues (McAdams & de St. Aubin, 1992; de St. Aubin & McAdams, under review; McAdams, de St. Aubin, & Logan, under review) have proposed a seven faceted theory of generativity (refer to Figure 1). The theory posits that the motivational sources of generativity are to be found in (1) cultural demand and (2) generative desire. Cultural demand refers to the 'felt' expectations of one's culture. In most late twentieth century communities in the Western Hemisphere, adults experience some form of cultural pressure to take responsibility for the well-being of younger persons or to contribute to the maintenance of certain values and traditions so that they may be passed on through the generations. Desire is the individual's deeply ingrained need to be needed by others and his or her desire not to die (or at least to achieve some form of symbolic immortality). These forces lead to (3) generative concern in the adult years which is a general conscious concern for the next generation and being generative. Belief (4) in the

Figure 1. Seven Faceted Theory of Generativity.



*Reprinted with permission from McAdams and de St. Aubin (1992)

worthwhileness of the human enterprise (what Erikson calls a "belief in the species") acts as a kind of super-conductor between demand and commitment. The respect and trust an individual has for one's fellow man will directly affect that individual's conviction that his community is worthy of receiving the generative gifts he has been asked to produce. Concern and belief may impel the individual towards a (5) commitment to be generative, resulting in the formation of plans and goals aimed at promoting the next generation. Commitment yields (6) action. Generative action may take the form of creating good things or outcomes, maintaining the good from the past, or offering that which is created or maintained to one's society or posterity. Finally, one constructs a self-defining (7) narration of generativity, a personalized story of self - a defining myth about one's own generative efforts (McAdams, 1985). This thesis provides empirical methods for measuring the concern, action, and narration components of McAdams' theory.

Generativity theory has recently been propelled into the arena of social commentary and the popular press. Bellah, Madsen, Sullivan, Swindler, and Tipton, the authors of Habits of the heart (1985), discuss generativity in their new book, The good society (1991). They begin their discussion of generativity with a prescriptive plea similar to Browning's (1975) mentioned earlier. Like Browning, they feel that 'generative man' is the most qualified to address

the social evils of the day: the neglect of our children, the vast poverty in third world countries, the grave threats to our environment. But they elevate generativity to a societal and global level and suggest that a 'politics of generativity' should be installed in American governmental institutions and that generativity should be the mode by which Americans approach the increasingly global community as well. It certainly seems as though the world would be a better place if more individuals and governments applied a generative mode in their relations with others. But just as an individual's generative potential may be stifled by an excessive self love or a lack in the faith of one's species, so too may our nation's generativity be blocked by cultural narcissism and xenophobia.

Theorists who write about the psychological aspects of immortality have added to the intellectual development of the generativity concept even though they do not use the term nor follow in the psychosocial tradition of Erikson. Most noted amongst such theorists are Elliot Jacques (1965), Ernest Becker (1973), and Robert Lifton (1974, 1979). Although the separate theories these scholars have offered are distinct from one another, each addresses the great motivating forces which emanate from one's awareness of death and the individual's need to create a work (or person) that will survive the self, or in some other way achieve symbolic immortality. In this sense, the writings

concerning immortality share conceptual space with generativity.

Empirical Studies of Generativity

The theoretical writings concerning generativity have been buttressed with empirical research. A handful of studies suggest that generativity is a salient issue in adult lives (Vaillant & Milofsky, 1980; Ryff & Heincke, 1983; Ryff & Migdal, 1984; Peterson & Stewart, 1990; McAdams, de St. Aubin, & Logan, submitted for publication). Vaillant and Milofsky (1980) completed a follow-up study of 392 men from inner-city neighborhoods characterized by high crime and 94 men who had completed at least a Bachelor's degree and were relatively successful in life. These researchers performed an in-depth psychiatric interview with each man and classified these subjects as belonging in one of Erikson's psychosocial stages. Based on the interviews and their attempts to classify the men, the authors decided to include two additional stages: 6a, (career consolidation) and stage 7a (keepers of the meaning). Each man was classified at age 47 as belonging to one of the following stages: identity, intimacy, career consolidation, or generativity. Thirty three percent of the college sample and 32% of the inner-city men were placed in the career consolidation category, which was defined as "special career specialization but little responsibility for others" (p. 1353). Forty one percent of the college sample and 31% of

the city men were categorized as generative, or "clear responsibility for others" (p. 1353). It was concluded that socioeconomic factors were not significantly relevant in a man's ability to be generative but that generativity was a core issue in adult personality development.

Ryff and Migdal (1984) designed a methodologically creative study to assess the salience of generativity in the lives of women. Their sample included 50 young ($x = 22.1$) and 50 middle aged ($x = 47.3$) women who were separated into one of three groups. One group (of both young and middle aged) filled out two personality inventories (the Personality Research Form - PRF and the Jackson Personality Inventory - JPI) rating themselves in the present (concurrent). One group (retrospective) of the middle aged women were asked to mark their responses to the same questionnaires as they thought they would have when they were 25 years old. The final group (prospective) consisted of young women who were to respond as they thought they would when they were 45 years old. Generativity was assessed with the PRF scale of dominance and the JPI scales of breadth of interest and innovation. The results were somewhat mixed. As expected, the middle aged concurrent group scored significantly higher on generativity than the middle aged retrospective group. But the young adult concurrent women actually scored higher than their young prospective peers. Ryff and Migdal express the possible

explanation that the women were not able to respond in a genuinely prospective manner.

Ryff and Heincke (1983) employed a similar design and a sample of 270 adults to examine the self-perceived age patterns of generative saliency. The results showed that young, middle aged, and older adults all perceive middle age as a time when generativity will be (or is or has been) the most salient in their lives.

Peterson and Stewart (1990) completed an intensive single case study of the British feminist and pacifist Vera Brittain. One aspect of their study included a content analysis of Brittain's diaries and novels for themes of generativity across time. These researchers report that generativity became an increasing preoccupation for Brittain as she moved into late middle age.

McAdams, de St. Aubin, and Logan (submitted for publication) recently examined the age/cohort differences in generative concern, generative commitment, generative action, and generative narration (all components of the seven-faceted theory discussed earlier in this thesis). While the findings are not identical for each of the components, the overall findings strongly support the notion that the lives of middle age adults are circumscribed by generativity in a more intense fashion than those of younger or older adults.

Others studies have examined the relation between

generativity and certain constructs. For example, McAdams, Ruetzel, and Foley (1986) found that generativity, assessed in interviews, is correlated with the sum of power and intimacy motives as assessed on the Thematic Apperception Test. And Van de Water and McAdams (1989) have reported that generativity is positively associated with hope for the future, trust, and faith in self. Nakagowa (1991), with a sample of 350 parents of Chicago school children, discovered that generative concern is a significant predictor of parents' involvement with and participation in their children's schools, even when demographic factors of race, income, and age of child were controlled.

This growing body of literature concerning generativity attests to the significance of this construct. Unfortunately, little attention has been paid to the problem of assessing individual differences in generativity. In attempts to place a metric unit on the quantity of one's generativity, researchers have employed global clinical ratings (Snarey, Kuehne, Son, Hauser, & Vaillant, 1987), simple self ratings (Ryff & Heincke, 1983), or standardized personality scales such as dominance, nurturance, and breadth of interest which are hypothesized to be components of generativity (Ryff & Migdal, 1984). Ochse and Plug (1986) reported a 10-item self-report scale for generativity embedded in a large personality inventory purporting to assess each of Erikson's first seven stages. A similar

measure has been developed by Hawley (1986), embedded in an assessment of all eight Eriksonian stages. Neither of these two short scales was designed with attention to problems of discriminant and convergent validity. Thus, in both cases, scores on generativity are highly correlated with scores on many other stage scales which purportedly measure very different constructs. Further, neither scale has been employed in a systematic program of research on generativity designed to validate the measure and the construct. It was for this reason that McAdams and his colleagues developed the Loyola Generativity Scale (LGS), the final version of which is shown in Figure 2.

The Loyola Generativity Scale

The construction and initial validation of the LGS followed the general sequential procedure for developing self-report scales for personality constructs adopted by Jackson (1971; Jackson & Paunonen, 1980) and others (Wiggins, 1973). According to this procedure, a scale is developed with an eye toward both theoretical and empirical criteria. Items are rationally derived from theory; the item pool is then reduced and refined through various empirical procedures that seek to maximize internal consistency and convergent and discriminant validity while minimizing the influence of response styles. Initial validation data for the LGS were obtained from a sample of 149 community adults ranging in age from 19 to 68 years and

Figure 2.

Loyola Generativity Scale.

For each item, the subject is instructed to mark 0 if the statement never applies to you; 1 if only occasionally or seldom; 2 if fairly often; and 3 if the statement applies to you very often.

1. I try to pass along the knowledge I have gained through my experiences.
2. I do not feel that other people need me.
3. I think I would like the work of a teacher.
4. I feel as though I have made a difference to many people.
5. I do not volunteer to work for charity.
6. I have made and created things that have had an impact on other people.
7. I try to be creative in most things that I do.
8. I think that I will be remembered for a long time after I die.
9. I believe that society cannot be responsible for providing food and shelter for all homeless people.
10. Others would say that I have made unique contributions to society.
11. If I were unable to have a child of my own, I would like to adopt children.
12. I have important skills that I try to teach others.
13. I feel that I have done nothing that will survive after I die.
14. In general, my actions do not have a positive effect on others.
15. I feel as though I have done nothing of worth to contribute to others.

(continued)

Figure 2. (continued)

16. I have made many commitments to many different kinds of people, groups and activities in my life.
17. Other people say that I am a very productive person.
18. I have a responsibility to improve the neighborhood in which I live.
19. People come to me for advice.
20. I feel as though my contributions will exist after I die.

from a comparison sample of 165 college students. LGS scores demonstrated positive associations with scores on two other short scales of generativity (Hawley, 1984; Ochse & Plug, 1986), but were essentially unrelated to social desirability. Internal consistency of the scale was high ($\alpha = .84$). In a second adult sample of 65 men (mean age = 37), Nestor (1988) found that scores from the LGS were positively associated with the CPI scales of Dominance and Empathy and with a measure (Diener et al., 1985) of one's satisfaction with life.

The current study takes the next step in the ongoing process of providing test validation for the LGS. It compares the scores which subjects produce on the LGS to their scores on measures of two other components of generativity. The first comparison is between generative concern, as assessed by the LGS, and generative action quantified via a Behavior Checklist in which subjects report the number of times they have committed generative acts over the past two months. These two components of the seven faceted theory discussed previously should demonstrate a modest to high correlation with one another. Individuals who possess a strong conscious concern for the well being of younger generations and for being generative should, relative to others, display more generative behaviors and thus have a high generative action score on the Behavior Checklist. The positive relation found between these two

measures of generativity would add both to the construct validity of generative concern and to the test validity of the LGS.

The test validity of the LGS would also be strengthened if a positive relation were found between scores on the LGS and the generative content of one's narrative myth of self. An individual's selection, modification, and articulation of key episodes in their life provides a type of autobiography which addresses the manner in which one perceives and constructs the self. If one's story of self is filled with themes of generativity then it may be concluded that that individual perceives and constructs their self as a generative being. Such individuals would be expected to score high on the LGS in comparison to those whose self defining myth had little or no generative content. This thesis provides a test of that prediction. Each subject wrote a paragraph or two about five key events in their life (peak, nadir, turning, commitment, future). These responses were then content analyzed for themes of generativity (this process is more fully explicated in the Method chapter). Such a process provided the author with a quantification of generative narration which made it possible to compare LGS (concern) scores to Episodes (narration) scores.

Personality Traits and Generativity

Recent attempts to categorize personality traits have yielded a popular five factor framework (Norman, 1963;

Digman & Takemoto-Chock, 1981; Goldberg, 1981; McCrae & Costa, 1987; John, 1989). While there is some disagreement as to exactly what the five factors or major traits are (John, 1989), those put forth by Costa and McCrae (1985a, 1985b, 1988) will be employed in this study because of their widespread use in the research literature and because of the extensively researched measurement technique available. The Big Five traits put forth by these researchers are neuroticism, extraversion, openness to experience, agreeableness, and conscientiousness. The NEO Personality Inventory (Costa and McCrae, 1985b) yields a total score for each of these five traits as well as scores for the six subscale components of the neuroticism, extraversion, and openness total scores.

I predicted that generativity, as assessed on the LGS (as generative concern) would be positively associated with openness and conscientiousness and negatively related to neuroticism. Costa and McCrae (1985b) contend that openness consists of six elements: active imagination, aesthetic sensitivity, receptiveness to inner feelings, preference for variety, intellectual curiosity, and independence of judgment. "Open individuals are curious about both inner and outer worlds, and their lives are experientially richer. They are willing to entertain novel ideas and unconventional values..." (p.10). Pulling from the work of Norman (1963) and Digman and Takemoto-Chock (1981), Costa and McCrae

(1985b) describe the conscientious person as persistent, scrupulous, and reliable. "He or she is purposeful and well-organized, seeing much of life in terms of tasks to be accomplished" (p.12). Those individuals who score high on neuroticism are seen, relative to others, as anxious, hostile, depressed, self-conscious, impulsive, and vulnerable.

It is my belief that a highly generative person is one who is open, conscientious, and emotionally stable (non-neurotic). Generative individuals are open in that they are, relative to others, curious about their inner worlds and willing to non-judgmentally entertain the values and ideas of youth. Browning (1975) connects generativity to self reflection or curiosity about one's inner world in the following quote: "*it is for the very reason that generative man has such free access to his own childhood depths that he also can so creatively enter into dialogue with his own and other children*" (italics added, p. 23). A highly generative individual must also be conscientious in that he or she persistently, reliably, and purposely engages in life tasks. The content of such tasks would be characterized by providing and caring for younger and yet born generations. Finally, neuroticism would appear to block one's generative potential. Anxiety, hostility, depression, self-consciousness, impulsivity, and vulnerability would each stifle one's ability to achieve generative capacity.

Ego Development and Generativity

Cantor (1990) suggests that the trait model, which captures the "having" side of personality, must be complemented with an examination of the "Doing" aspect of personality. Certain cognitive approaches to personality may probe this aspect of personality in attempting to capture the manner in which the individual actively interprets his or her world. In examining the relation between generativity and cognitive structures in the current study, Jane Loevinger's (1966, 1976, 1979, 1985) model and measurement of ego development will be utilized. According to this theory, the ego is an orientation to one's self and to one's world. As a cognitive structure, the ego is a framework of meaning which strives to master, to integrate, and to make sense of experience. Change in one's structure of meaning constitutes the development of one's cognitive style from one stage to the next. Table 3 portrays Loevinger's seven stages and three transitional phases of ego development. These stages are arranged in a sequential, invariant, and hierarchical order. Higher levels of ego development are associated with a more integrated and differentiated frame of reference. As the ego matures, it approaches a more complex cognitive style, a psychologically healthy control of impulses, a deep respect for the individuality inherent in interpersonal relations, and conscious preoccupations of self and others which recognize

Table 3.

Loevinger's Stages of Ego Development.

<u>Stage</u>	<u>Cognitive style</u>	<u>Conscious preoccupations</u>
Presocial (I-1) Symbiotic (I-1)		Self vs. nonself Self vs. nonself
Impulsive (I-2)	Stereotypy, conceptual confusion	Bodily feelings, especially sexual and aggressive
Self-protective (Delta)		Self-protection, wishes, things, advantages, control
Transition from self-protective to conformist (Delta/3)	Conceptual, simplicity, stereotypes	Concrete aspects of traditional sex roles physical causation as opposed to psych- ological causation
Conformist (I-3)	Conceptual simplicity, stereotypes,	Appearance, social acceptability, banal feelings, behavior cliches
Transition from conformist to conscientious; self- conscientiousness (I-3/4)	Awareness of ind- ividual differences in attitudes, interests and abilities; mentioned in global and broad terms	Consciousness of the self as separate from the group, recognition of psych- ological causation

(continued)

Table 3. (continued)

<u>Stage</u>	<u>Cognitive style</u>	<u>Conscious preoccupations</u>
Conscientious (I-4)	Conceptual complexity, idea of patterning	Differentiated feelings, motives for behavior, self-respect, expression, achievements, traits
Transition from conscientiousness to autonomous	Toleration for paradox and contradiction	Communicating, expressing ideas and feelings, process and change
Autonomous (I-5)	Increased conceptual complexity; complex patterns, toleration for ambiguity, broad scope, objectivity	Vividly conveyed feelings, integration of physiological and psychological causation of behavior, development, role conception, self-fulfillment, self in social context
Integrated (I-6)		Add: Identity

*Taken from page 933 of Hauser (1976).

I contend that individuals who reach the higher stages or typologies of cognitive-ego development will, relative to those with less mature cognitive frames, exhibit higher levels of generativity. More integrated and differentiated cognitive structures afford an individual a higher degree of creativity and a better ability to take the perspective of others. Creativity and perspective-taking are both closely tied to generativity. The connection between generativity and creativity comes straight from Erikson's (1963) writings: "the concept of generativity is meant to include such more popular synonyms as *productivity* and *creativity*, which, however, cannot replace it" (italics in original, p. 267). An ability to take the perspective of others is a prerequisite to the full expression of generativity in that the generative man or woman must fully understand the needs and desires of younger people in order to completely care for them. Indeed, Guyot et. al (1991) found that scores on the LGS were associated with a scale of perspective taking in a sample of 314 adults.

Happiness/Satisfaction with Life and Generativity

There will also be an examination of the hypothesis that generativity is associated with one's overall satisfaction/happiness with life. There is some precedence to this assertion. In a sample of 65 married men and Catholic priests, Nestor (1988) found that the LGS correlated with the Satisfaction With Life Scale (Diener, et

al., 1985) at $r = .41$ ($p < .001$). I expected to replicate this finding here. Generative individuals direct their energy towards worthy projects. They partake in substantial investments of self into such things as the cohesiveness of their community, the preservation of their ecological system, and the well-being of younger persons. Generative individuals are concerned with and involved in projects which add meaning to their lives by providing their identities with purpose, efficacy, value, and self-worth (see Baumeister, 1989). It would follow that through this meaning they find satisfaction and overall happiness in their lives.

CHAPTER III

METHOD

Subjects

This study employed a sample of 79 adults. A total of 23 male and 56 female subjects, ranging in age from 25 to 74 years ($M = 45$, $SD = 9.4$) participated. The subjects were obtained in two different ways. Approximately one fourth of the subjects volunteered to participate in the study by responding to employee notices on bulletin boards at two businesses in Atlanta, Georgia. Participation was purely voluntary and subjects were not paid. The remaining three fourths of the subjects were obtained through a large Midwestern university. Students in Introductory Psychology classes were able to earn credits by obtaining the participation of their parents.

Procedure

Subjects were asked to complete a packet of measures which included: (1) the Loyola Generativity Scale, (2) a generativity behavior checklist, (3) autobiographical recollections, (4) the NEO-Personality Inventory (NEO-PI) (Costa & McCrae, 1985b), (5) the Washington University Sentence Completion Test of ego development (WUSCTED)

(Loevinger, 1985), and (6) a one page assessment of satisfaction/happiness with one's life which included the Satisfaction with Life Scale (SWLS) (Diener et al., 1985). The subjects were instructed to complete the measures in their spare time and mail them back to the researcher in the enclosed stamped envelope. The subjects were then re-contacted three weeks after their packets were returned and asked to complete the LGS a second time, in order to obtain an estimate of test-retest reliability.

Measures

1) The Loyola Generativity Scale (see Figure 2) is a 20 item pencil and paper test which purports to place a metric unit on a person's overall generative concern. For each item, the subject is instructed to mark 0 if the statement never applies to you; 1 if only occasionally or seldom; 2 if fairly often; and 3 if the statement applies to you very often. Items include 'I feel as though my contributions will exist after I die', 'I try to pass along the knowledge I have gained through my experience', 'If I were unable to have a child of my own, I would like to adopt children'. Initial test construction and validation is reported in the Generativity chapter of this thesis. The LGS is the most psychometrically fit measure of generativity proposed to date. Its construction followed a well established process for designing measures of personality constructs. Initial validation studies demonstrated

statistical support for the chosen items. Further, part of the strength of the LGS derives from the fact that its development was (and is) embedded within a larger empirical and theoretical research agenda which examines the full expression and meaning of generativity.

2) The generativity behavior checklist (GBC, shown in table 4) was constructed for this study and consisted of 65 items phrased as behavioral acts. Of the total, 49 acts were chosen to suggest generative behaviors and 16 were chosen as acts which appeared to be irrelevant to generativity. Examples of purported generative acts included "taught somebody a skill," "read a story to a child," "attended a community or neighborhood meeting," "donated blood," and "produced a piece of art or craft." The generative acts covered a wide spectrum and included some acts that would be expected to have a very low base rate (e.g., "invented something," "became a parent"). By and large, each act corresponded to one of the three main behavioral manifestations of generativity: creating, maintaining, or offering. Examples of acts purportedly unrelated to generativity included "began a diet to lose weight," "read a nonfiction book," "went to a musical concert," and "sent somebody flowers."

On the generativity behavioral checklist, the subject responded to each act by specifying how often during the previous two months he or she had performed the given

Table 4.

The 65 items of the Generative Behavior Checklist.

1. Taught somebody a skill.
2. Served as a role model for a young person.
3. Gave somebody advice.
4. Took an out of state vacation.
5. Performed a community service.
6. Gave money to a charity.
7. Listened to a person tell me his or her personal problems.
8. Changed jobs.
9. Provided Constructive criticism about somebody's performance.
10. Taught Sunday School or provided similar religious instruction.
11. Taught somebody about right and wrong, good and bad.
12. Moved to a different house or apartment.
13. Told somebody about my own childhood.
14. Read a story to a child.
15. Babysat for somebody else's children.
16. Purchased an item costing over \$500.
17. Gave someone a present -- other for a birthday or holiday.

(continued)

Table 4. (continued)

18. Gave clothing or personal belongings to a not-for-profit organization (such as "good will", "Salvation Army", etc.).
19. Was elected or promoted to a leadership position.
20. Read a non-fiction book.
21. Made a decision that influenced many people.
22. Took paper, cans, bottles or other rubbish to be recycled.
23. Produced a piece of art or craft (such as pottery, quilt, woodwork, painting, etc..)
24. Went camping.
25. Produced a plan for an organization or group outside my own family.
26. Visited a nonrelative in the hospital.
27. Visited a nonrelative in a nursing home.
28. Went to a professional sports game.
29. Made something for somebody and then gave it to them.
30. Drew upon my past experiences to help a person adjust to a situation.
31. Picked up garbage or trash off of the street or some other area that is not my property.
32. Went to a musical concert.
33. Gave a stranger directions on how to get somewhere.
34. Attended a community or neighborhood meeting.

(continued)

Table 4. (continued)

35. Wrote a poem or a story.
36. Underwent surgery.
37. Took in a pet.
38. Did something that other people considered to be unique and important.
39. Attended a meeting or activity at a church (not including conventional worship service such as Mass, Sunday Morning Service, etc.).
40. Swam in an ocean.
41. Offered physical help to a friend or acquaintance (e.g., helped them move, fixed their car, etc.).
42. Organized a party for somebody else.
43. Contributed time or money to a political or social cause.
44. Baked a loaf of bread.
45. Planted or tended a garden, tree, flower, or other plant.
46. Wrote a letter to a newspaper, magazine, congressman, etc. about a social issue.
47. Cooked a meal for friends (nonfamily members).
48. Visited an art museum.
49. Donated blood.
50. Taught a class.
51. Sewed or mended a garment or other object.

(continued)

Table 4. (continued)

52. Sang a song in front of others -- in a choir, play, etc.
53. Restored or rehabed a house, part of a house, a piece of furniture, etc.
54. Assembled or repaired a child's toy.
55. Voted for a political candidate or some other elected position.
56. Sent somebody flowers.
57. Invented something.
58. Provided first aid or other medical attention.
59. Coached a team.
60. Began a diet to lose weight.
61. Led a choir or musical group.
62. Participated in or attended a benefit or fund-raiser.
63. Learned a new skill (e.g., computer language, musical instrument, welding, etc.).
64. Bought a musical album, cassette, or C.D.
65. Became a parent.

act. The subject marked a "0" if the act had not been performed during the previous two months, a "1" if the act had been performed once during that period; and a "2" if the act had been performed more than once during the previous two months. Individual item scores were obtained as well as composite scores of the generative acts (summing across the 49), the acts irrelevant to generativity (summing across the 16), and total acts (summing across all 65). While the generative behavior checklist has not been tested for validity or reliability, its rather straight-forward simplicity lends it face validity. That is, the measure seems to follow a coherent logic in quantifying generative action.

3) The subjects were also asked to describe in detail five autobiographical episodes: a recent peak experience, a recent nadir (low point) experience, an experience of commitment, an experience involving a goal, and an imagined future experience. (Note that the fifth experience does not correspond to a real event from the subject's past but rather describes an event that might happen sometime in the future.) For each episode, the subject was asked to describe the episode in at least a written paragraph or two and to address all of the following questions: What happened in the episode? When did it happen? Where did it happen? Who was involved? What were you thinking and feeling? What might this episode say about who you are, who

you were, who you might be, or how you have developed over time?

A content analysis system was developed for coding themes of generativity in the autobiographical episodes. For each episode, the presence (score= +1) or absence (score= 0) of each of five generativity themes is determined. The five themes are:

1. Creating: any reference to the subject's creating new products, initiating projects, or generating new ideas, or desiring to do so. Examples include "I wanted to create something that.."; "six copies of my newly published book arrived..."; "...build a successful company."
2. Maintaining: any reference to the subjects putting forth effort toward sustaining an ongoing product, project, or tradition. This would include examples of upkeep, improvement, or continuation of something that is already in existence. Examples: "I was working on the renovation project my wife and I had undertaken on a condo unit..."; "We were there because it was the tradition in our family to go to midnight Mass at Christmas."
3. Offering: any reference to giving of the self or the self's products (money, knowledge) or the desire to engage in such giving to other people. Examples: "I wanted to provide her with comfort..."; "It was

extremely painful but I refused any medications (while giving birth) because I didn't want anything to affect the baby."

4. Next Generation: any reference to a purposive and positive interaction with an individual or individuals in a younger generation. Examples: "I took my sisters' two kids bowling..."; "My wife, myself, and our two children made a picnic..."; "I asked two of my graduate students..."

5. Symbolic immortality: any reference to leaving a legacy, having an enduring influence, or leaving behind products that will outlive one's physical existence. Examples: "You have to teach the children now because they will be taking care of the planet long after we are all gone"; "I truly believe that my book will become a part of that history..."; "That little piece of land will go to my kids."

Two independent coders, blind to all other information about the subjects, scored the autobiographical episodes for these themes of generativity. Scores were summed across themes and episodes for each subject to arrive at a total generativity theme score for each subject. Individual theme and episode scores were also calculated. Inter-rater reliability was calculated as a correlation between the total scores of the two raters. The correlation was $r = .88$, suggesting high inter-rater reliability.

The first of the following two paragraphs is a verbatim replication of the directions subjects read concerning the peak experience exercise. The second paragraph is the actual response a 29 year old female subject produced in answering those directions and the authors coding of that response:

Many people report occasional "peak experience." These are generally moments or episodes in a person's life in which he or she feels a sense of transcendence, uplifting, inner joy and peace, excitement or some other highly positive emotional experience. Indeed, these experiences vary widely. Some people report them to be associated with religious or mystical experience. Others find such a "high" in vigorous athletics, reading a good novel, artistic expression, making love, or simply talking with a good friend. These experiences have been characterized as one's of wholeness, or insight. A peak experience can be seen as a "high point" in your life story. Please describe in some detail something akin to a peak experience that you have experienced within the last five years of your life. Please be specific in your description. Remember that we need to know what happened in the experience, when it happened, who was involved, what you were thinking and feeling, and what the event says about who you are, were, or might be as a person.

On May ____, I gave birth (creating) to my third child (next generation) who was also my first son. This particular "labor" was my most difficult but was probably pretty normal to the nurses and doctor present. It lasted 16 hours and due to complications I was on oxygen and pitossun, a drug used to induce labor, and I was pretty miserable. My baby, my husband, doctor, and various nurses were present. I was feeling pain and exhaustion and this labor lacked the "exciting" feeling I had with my first two children. I was wishing that our baby would hurry up. When John was born I felt relief first and great joy second. My husband was much more excited about having a son than I though he would be -- he, my husband, began to cry and gave me a warm hug. Holding this tiny newborn creates and stirs feelings which are truly too tremendous to write on paper. This event is important because it is the beginning of a special relationship and responsibility (maintenance) which will last my

lifetime. [total score for generative themes present in this story = 3]

4) The NEO-PI (Costa & McCrae, 1985b) obtains scores for the following five adult personality traits: neuroticism, extraversion, openness to experience, agreeableness, and conscientiousness. The NEO-PI consists of 181 statements to which the subject marks one of five responses; strongly disagree, disagree, neutral, agree, or strongly agree. Examples include "I often feel tense and jittery" (Neuroticism), "I am a cheerful, high-spirited person" (Extraversion), and "I have an active fantasy life" (Openness). Test development, validation, and reliability are reported in the NEO-PI Manual (Costa & McCrae, 1985b) which comes complete with administration, scoring, and interpretation instructions as well as suggested applications.

5) The WUSCTED is a projective test developed and revised by Loevinger and her associates (1976, 1985). The version used in this study consists of 18 sentence stems which the subject is asked to complete (Loevinger, 1985). Examples include: "When people are helpless -" , "When they talk about sex -" , and, "At times she worried about -". There is no time limit for this test but most subjects finish within 20 minutes. Several studies have supported the construct validity of Loevinger's model and measurement of ego development (Hauser, 1976; Roszanafszky, 1981; Lee &

Snarey, 1988; Loevinger, 1979, 1983, 1984, 1987), and the WUSCTED has demonstrated impressive psychometric reliability (Redmore & Waldman, 1975). Hauser (1976), for example, reviewed every published and unpublished study he could find which used Loevinger's model and measurement method of ego development. In this comprehensive review of the WUSCT, Hauser concludes that the test demonstrates strong test validity and has been "carefully constructed and standardized in terms of its form, administration, and scoring procedures" (p. 951).

In order to score the WUSCTED for the present study, a research assistant was trained with Loevinger's scoring manual, and she showed high scoring reliability (85% and above agreement). According to this system, each of the 18 sentence responses is marked as representing one of the cognitive-ego stages and then these 18 scores are totaled following specified olgive rules. This total score represents the ego stage score for a particular subject.

6) The page containing the assessment of satisfaction/happiness with one's life requires less than 2 minutes to complete. There are three very simple and quick sections on this page. First, there is the SWLS developed by Diener et. al. (1985). Subjects are asked to mark a seven point Likert scale according to how strongly they agree or disagree with five statements such as "In most ways my life is close to my ideal", and "If I could live my life

over, I would change almost nothing". For the second section of this page, subjects were to check one of 11 statements which best described their average overall happiness. The 11 statements ranged from 0 - "Extremely unhappy (utterly depressed, completely down)" to 10 - "Extremely happy (feeling ecstatic, joyous, fantastic!)" with the middle item being 5 - "Neutral (not particularly happy or unhappy)". For the final section of this page, subjects were to mark down the percentage of time they felt happy, the percentage they felt unhappy, and the percentage they felt neutral, making sure that these three numbers added up to 100% of their time.

CHAPTER IV

RESULTS

Validation of the Loyola Generativity Scale

A total of 71 of the 79 subjects completed the LGS for the three-week retest. Test-retest reliability of the LGS over the three week period was $r(69) = .73$, $p < .001$, suggesting moderately high temporal stability. Mean scores on the LGS were not significantly different for the two administrations ($M = 39.53$, $SD = 8.67$ at Time 1; and $M = 40.17$, $SD = 8.65$ at Time 2; NS).

To create a generativity score from the behavioral checklist, scores were summed across the 49 generative acts for each subject. These generative act scores ranged from 10 to 61, $M = 32.37$, $SD = 11.24$. As predicted, scores on generative acts were positively and very significantly associated with LGS scores, $r(77) = .59$, $p < .001$. Correlations were also calculated for each of the 49 items as they related to LGS scores. Of the 49 individual items assumed to suggest generativity, 24 showed statistically significant correlations ($p < .05$) with LGS, and 11 individual items were significant at the $p < .01$ level. The correlation between the total score summed across these 11 items and LGS was extremely high, $r(74) = .75$, $p < .001$.

Therefore, the data show a very strong positive association between generative concern as assessed on the LGS and generative action.

The behavior checklist also yielded scores on 16 acts that were considered to be unrelated to generativity. Summing across these 16 acts for each subject, total scores ranged from 1 to 17, mean = 5.73, $SD = 3.48$. Total scores on unrelated acts were positively associated with the total scores on the 49 generative acts, $r(76) = .38$, $p < .001$. However, the correlation between the total score on acts unrelated to generativity on the one hand and the LGS on the other was nonsignificant, $r(74) = .18$. In addition, only one of the 16 individual items for acts unrelated to generativity was significantly associated with LGS. The item "Took an out-of-state vacation" correlated with LGS at $r(74) = .23$, $p < .05$. Thus, it would appear that the strong association between generativity scores on the behavior checklist is not simply due to any tendency for the subjects scoring high on the LGS to endorse more activities overall on the behavior checklist. More generative people are not simply "more active."

Of the 79 subjects sampled initially, only 64 provided complete accounts for all five of the autobiographical episodes requested. Therefore, 15 subjects left at least one of the five experiences blank. Response rates ranged from a high of 73 complete responses for Nadir Experience to

a low of 66 complete responses for Future Experiences. The themes scores, summed across the five experiences, yielded the following descriptive statistics: Creating: mean = 2.00, standard deviation = 1.17, range = 0-4; Maintaining: mean = 2.30, sd = 1.20, range = 0-5; Offering: mean = 2.00, sd = 1.26, range = 0-5; Next Generation: mean = 2.05, sd = 1.35, range = 0-5; Symbolic Immortality: mean = .410, sd = .610, range = 0-2. As seen in Table 5, intercorrelations among the five generativity themes yielded 3 (out of 10) significant correlations: $r = .41$, $p < .01$ between thematic categories of "offering" and "next generation;" $r = .40$, $p < .01$ between "maintaining" and "symbolic immortality;" and $r = .25$, $p < .05$ between "offering" and "symbolic immortality."

It was possible to sum across the five themes for each specific episode and derive a score for each episode's generative content. The individual episode scores yielded the following descriptive statistics: Peak: mean = 1.57, standard deviation = 1.06, range = 0-4; Nadir: mean = 1.03, sd = 1.03, range = 0-5; Commitment: mean = 2.27, sd = 1.00, range = 0-5; Goal: mean = 2.03, sd = 1.07, range = 0-5; Future: mean = 1.67, sd = .95, range = 0-4; . There were only two significant inter- correlations between these episodes, as illustrated in Table 6, and these were very modest (generativity as expressed in peak and nadir experiences; $r = .28$, $p < .05$, and generativity expressed

Table 5.

Intercorrelations Between Generativity Theme Scores.

	2	3	4	5
1. Creating	.06	-.13	-.18	.02
2. Maintaining		.13	-.07	.40**
3. Offering			.41**	.25*
4. Next Generation				.11
5. Symbolic Immortality				

*p < .05

**p < .01

Table 6.

Intercorrelations of Generativity Theme Scores Among Five
Different Autobiographical Episodes.

	2	3	4	5
1. Peak Experience	.28*	.17	.02	.25*
2. Nadir Experience		.18	.08	.19
3. Commitment Experience			.22	.15
4. Goal Experience				.04
5. Experience in Future				

* $p < .05$

in peak and future experiences; $r = .25$, $p < .05$).

Total generativity scores on the episode exercise (when either the themes are summed across the episodes or the episodes across the themes) ranged from 4 to 18, $M = 8.75$, $SD = 2.93$. As predicted, these total theme scores were significantly associated with both the LGS ($r = .40$, $p < .01$) and the sum of 49 generative acts ($r = .45$, $p < .001$), suggesting substantial convergence among the three methodologically distinct assessments of generativity. The correlation between the generativity themes and the short index of 11 generative acts was also significant, $r = .40$, $p < .001$. As Table 7 shows, the individual theme of "offering" (summed across the five episodes) showed the strongest association with both the LGS and the generative acts while the theme of "maintaining" also showed a significant association with generative acts. With respect to particular autobiographical episodes, total generativity theme scores on nadir experiences showed significant associations with both the LGS and generative acts. In regards with the other episodes, goal experiences correlated significantly with LGS while generative theme scores on peak and future experiences both correlated significantly with generative acts.

Few sex differences were observed in the data. LGS and behavior checklist scores did not differ by sex. With respect to generativity themes in autobiographical

Table 7.

Correlations Between Generativity Themes in Autobiographical Episodes and (1) LGS Scores and (2) Generative Acts.

<u>Generativity Themes</u>	<u>LGS</u>	<u>Generative Act</u>
1. Creating	.22	.24
2. Maintaining	.22	.29*
3. Offering	.31*	.31*
4. Next Generation	.10	.11
5. Symbolic Immortality	.21	.21
<u>Episodes</u>		
1. Peak	.20	.30*
2. Nadir	.35*	.41***
3. Commitment	.24	.29*
4. Goal	.28*	.07
5. Future	.15	.26*
Total	.40***	.45***

* $p < .05$

** $p < .01$

*** $p < .001$

recollections, men showed a nonsignificant trend to score higher on "creating" than did women (means = 2.4 and 1.8 and standard deviations = .87 and 1.26, respectively, $t = 1.82$, $p < .10$). Also, no significant age effects were observed. LGS, checklist, and theme scores were all unrelated to age. A large percentage of the subjects in the study were parents (90%), making it impractical to examine the relations between generativity and parental status. Generativity scores on all measures were unrelated to the number of children in the subject's family.

Personality Traits and Generativity

Descriptive statistics garnered for the five traits are as follows: Neuroticism: mean = 84.4, standard deviation = 22.15, range = 13-141; Extraversion: mean = 108.46, sd = 21.8, range = 14-173; Openness to new experiences: mean = 115.2, sd = 19.8, range = 52-156; Agreeableness: mean = 49.24, sd = 6.96, range = 30-65; Conscientiousness: mean = 50.51, sd = 7.73, range = 32-71. The results of five separate multiple regressions, with LGS scores regressed on the five trait total scores, is shown in Table 8. Three of the independent variables (extraversion, neuroticism, and openness) in this regression had standardized coefficients which significantly deviated from 0.

Pearson correlations between the LGS scores and the total scales of the big five traits are provided in Table 9. Each of the five trait scores other than conscientiousness

Table 8.

Regression Analysis for Predictors of Generativity.

Predictor	Standardized Beta	F	p
Neuroticism	-0.216	4.870	0.031
Extraversion	0.230	3.928	0.051
Openness	0.384	13.660	0.000
Agreeableness	0.025	0.067	0.796
Conscientiousness	0.032	0.113	0.737

Table 9.

Pearson correlational matrix.

	NEU	EXT	OPN	AGR	CON	OHWL	SWLS	CD
Loyola Generativity Scale	-.35**	.50***	.52***	.22*	.15	.28*	.19	.21
Neuroticism (NEU)		-.36**	-.12	-.14	-.11	-.33**	-.52***	-.09
Extraversion (EXT)			.46***	.32**	.29**	.31**	.20	-.06
Openness (OPN)				.24*	.05	.28*	-.07	.17
Agreeableness (AGR)					.15	.22*	.21	.12
Conscientiousness (CON)						.07	.12	.15
Overall Happiness With Life (OHWL)							.58***	.03
Satisfaction With Life Scale (SWLS)								.06
Ego Development (CD)								

(Significance levels: * $p = < .05$, ** $p = < .01$, *** $p = < .001$.)

demonstrated significant correlations to LGS scores. In other words, highly generative individuals (LGS) tend to be extraverted, agreeable, open to experiences, and relatively non-neurotic.

Sex differences were found for neuroticism and agreeableness. Men scored lower on agreeableness ($x = 44.26$, $sd = 6.4$, range = 30-54) and lower on neuroticism ($x = 75.3$, $sd = 21.4$, range = 13-109) than women (agreeableness: $x = 51.32$, $sd = 6.1$, range = 36-65; neuroticism: $x = 88.2$, $sd = 21.5$, range = 45-141).

There were no significant correlations between scores for each of the five personality traits and generative theme scores received on the Significant Episodes exercise. Generativity scores from the Behavior checklist, however, did relate significantly to three of the five trait scores. Generative action scores (assessed via the Behavior Checklist) were positively and significantly related to Extraversion ($r = .38$, $p < .01$) and to Openness ($r = .37$, $p < .01$) and significantly negatively associated with Neuroticism ($p = -.25$, $p < .05$).

Ego Development and Generativity

The 79 subjects were categorized into the ego stages in the following manner: 14 (17.7%) scored in stage I-3 "Conformist", 36 (45.6%) were rated in the I-3/4 transition from the conformist to the conscientious stage, 16 (20.3%) fell in the conscientious stage, 3 (3.8%) in the transition

from conscientious to autonomous, 4 (5.1%) in the autonomous stage and 1 (1.3%) scored as an integrated I-6. Five subjects (6.3%) did not complete the WUSCT and so were dropped from these analyses. The correlational relation between generativity (LGS) and ego development (WUSCTED) was $p = .21$ (ns) as shown in Table 9. For further analysis, subjects were broken down into three ego development groups. The 14 subjects who had scored as 'Conformist' stage 3 ego typologies became the "low ego development" group. The 36 subjects who fell into the I-3/4 transitional phase were labeled "mid ego development". And there were 24 "high ego development" subjects who scored either I-4

'Conscientiousness' ($n = 16$), I-4/5 transitional phase ($n = 3$), I-5 'Autonomous' ($n = 4$), or I-6 'Integrated' ($n = 1$). Analysis of variance comparisons of LGS scores between the low and medium and between the the medium and high ego groups were directional but not significant. The low ego development group, however, scored significantly lower than the high ego subjects on the LGS ($p < .05$). Scores on the WUSCTED did not differ according to the sex of the subject.

Scores on the WUSCTED did not demonstrate a significant Pearson correlation with generative action (assessed on the Behavior Checklist) scores but did positively and significantly relate (Pearson Correlation) to the number of generative themes subjects included in their written memories ($r = .32$, $p < .01$).

Happiness/Satisfaction with Life and Generativity

Pearson correlations between LGS scores and the satisfaction/ happiness with life measures are illustrated in Table 9. The only significant correlation was that between LGS scores and the subject's rating of his or her overall happiness with life ($r = .28, p < .05$). There were some sex differences here. For the 23 men (but not the 56 women), LGS did correlate to SWLS at $r = .40 (p < .05)$. Women demonstrated a very strong relation between generativity (LGS scores) and the percent of time they marked as being happy. This correlation was $r = .69 (p < .001, n = 56)$ for women but not significant for the men.

Other Results

There were no significant correlations between WUSCTED scores and the five trait scores for the sample in total nor for Pearson correlations calculated within each gender. Scores on the SWLS negatively correlated to neuroticism scores ($r = -.52, p < .001$) and positively related to Overall Happiness With Life scores ($r = .58, p < .001$). Overall Happiness With Life scores, as illustrated in Table 9, were unrelated to ego development. Scores on Agreeableness, Emotional Stability, Extraversion, and Openness traits each significantly correlated to Overall Happiness With Life scores.

CHAPTER V

DISCUSSION

Validation of the Loyola Generativity Scale

Data from 79 adults between the ages of 25 and 74 years show that the LGS demonstrates (1) impressive test-retest reliability, (2) an ability to predict levels of generative action obtained on a behavior checklist, and (3) a strong relation to narrative themes of generativity in written autobiographical recollections. It would appear that the Loyola Generativity Scale is a reliable and valid measure of individual differences in the adult personality construct of generativity.

Scholars interested in the development of adult personality should welcome this edition to their library of measurement devices. The LGS has made it possible for researchers to confidently measure a key aspect of adult personality.

Personality Correlates of Generativity

The analyses between the LGS and the NEO-PI demonstrated that there is indeed a relation between generativity and personality traits such that generativity is related, in different strengths, to four of the five traits. As predicted, LGS scores correlated positively to

openness and negatively with neuroticism. Positive associations were also noted with agreeableness and extraversion. Contrary to prediction, however, generativity was not related to conscientiousness. In general, an individual who possesses a strong disposition of generativity tends to be extraverted and open to new experiences, moderately agreeable and emotionally stable. The five trait model is able to account for 36% of the variance in individual differences in generativity, but no one trait subsumes generativity.

The connection between generativity and ego development was found to be modest at best. Subjects who had an ego style of I-4, 'Conscientious' or higher, scored significantly higher on the LGS than those with I-3 'Conformist' typologies. It was only by comparing these extreme high and low ego development groups, however, that a significant relationship was found. This weak connection indicates that a more sophisticated orientation to self and world is not a pre-requisite for generativity. Or it may be that ego development influences one's generativity in a manner not captured by the LGS. A more differentiated and integrated ego structure may affect the quality or scope of one's generativity more than the quantity of generative concern, as captured in the LGS.

A positive relation between generativity and the subject's rating of his or her overall happiness with life

was evident but mild. Stronger correlations concerning satisfaction/happiness with life were found within each gender. An association between generativity and satisfaction with one's life (SWLS scores) was found in the men of the sample but not the women. On the other hand, there was a very strong correlation for the women but not the men between generativity and the percent of time one spends being happy. It may be that generative men and women utilize different criteria in the assessment of their own satisfaction/happiness with life. Generative men may think about these issues in a more linear and cumulative fashion, contemplating how satisfied they have been in total up to this or some projected future point in their lives. The SWLS suggests a cumulative perspective with items such as "If I could live my life over, I would change almost nothing." Generative women, on the other hand, may approach these issues in a more contextualized manner, viewing their happiness in terms of what currently is occurring in their lives. Thus, those women who are currently more generative spend a relatively large percent of their time, at present, being happy. For the sample in total, those who have a strong generative disposition rate their overall happiness in life as high. Still, the relation between generativity and satisfaction/happiness with life was not as strong as predicted.

Future Research Concerning Generativity

While there are several possible directions which scholars interested in generativity may feasibly follow, I would suggest four main paths. First, Kotre is correct in noting that the dark side of generativity has not been adequately addressed. There seems to be much work yet to do in assessing the potential negative effects of generativity. The manner in which so many pathologies are passed from one generation to the next would be part of this exploration.

A second area of research which needs to be more fully articulated is the 'politics of generativity' discussed by Bellah et al. (1991). It is true that the world economy and global community have arrived. It is also true that humankind needs to start caring for itself before the deteriorating environment, the exploitation and starvation of people, and the technocratization of human life itself render the quality of human life worthless. Can our understanding of generativity be used as a guide in approaching these social ills and developments? Would it be possible to remove those barriers which stifle transcultural generativity?

Third, to what extent is one's generativity culturally embedded? Certain core aspects of generativity, such as procreation, are propelled through evolutionary dynamics and would not appear to be directly dependent upon social circumstances. But what about the more surface level

manifestations of generativity? And what about the cultural demand discussed earlier? Do all cultures and communities expect adults to care for the young and to maintain the values and traditions through the generations? Certainly those traditions and values which a culture deems worthy of preserving vary from culture to culture. Cross-cultural explorations into generativity is a much-needed step in the advancement of a scholarly understanding of this concept.

Finally, at the level of the individual, researchers should continue in their attempts to put forth a comprehensive theory of the role which generativity plays in the development of adult personality. To date, McAdams and his colleagues have made the furthest strides in this direction. But as useful as their seven-faceted theory is, there is still much work to be done. What is the exact relation between these seven features - and how does each relate to other core aspects of personality and development?

Concluding Remarks

Overall, this study has proven to be a promising beginning in the systematic investigation of generativity. This study has provided the further validation of one central measure of generativity, the introduction of two other measures of generativity, and a movement towards situating generativity within the larger context of adulthood personality development.

Generativity has to do with both the agentic extension of self and with the communal offering to others. It has to do with how men and women create and give of themselves so that others might benefit. Although there is much yet to do, this thesis has added to the progress toward an accurate understanding of generativity.

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