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THE FACTORS INFLUENCING CREATIVITY

IN CREATIVE PEOPLE

BY

JIM HENRY ©

A DISSERTATION

SUBMITTED TO THE FACULTY OF GRADUATE STUDIES AND RESEARCH IN

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UNIVERSITY OF ALBERTA

FACULTY OF GRADUATE STUDIES AND RESEARCH

The undersigned certify that they have read, and recommend to the Faculty of Graduate

Studies and Research for acceptance, a thesis entitled *The Factors Influencing Creativity*

in Creative People submitted by James Joseph Henry in partial fulfillment of the

requirements for the degree of Doctor of Philosophy.

Dr. William E. Schulz

Date: ~~Sept 19/03~~

ABSTRACT

The purpose of this study was to explore the development and enhancement of creative ability and specifically to ask: What factors had the most significant impact on the development of creativity in creative people?

A sample of 50 participants, 25 artists and 25 non-artists, all met the criteria for inclusion and were given a 30-item questionnaire (28 items and 2 blank options for participant additions). Participants were also asked to choose their three most important influences and to provide written descriptions for each. Descriptive statistical analysis revealed 7 items, *passion, reinforcement in adulthood, mentors in adulthood, extended involvement, work habits, self-expression* and *support system* in the "high" category for both groups combined, 12 items for artists alone, and 5 items for non-artists alone. Only one item, *passion*, was rated as having a strong influence by at least 95% of the group. Two items, *reinforcement in adulthood* and *mentors in adulthood*, were rated by more than 80% of the group. On average, each person identified that 8.5 influences had a very strong impact on their developing creativity. When participants chose their top three most important influences, 23 of the original 28 items were included on at least one person's list and the participants added an additional 20 items. Cronbach's alpha for the entire scale was .81 and the reliability of the four subscales of *support, domain specific, domain general* and *transcendent* ranged from .64 to .78.

The results of the study illustrate that a wide spectrum of influences can lead to high creativity and that influences considered very important to some participants were not considered important by others. The author suggests that constructivist

views may be valuable in understanding the development and enhancement of creativity. Recommendations for further research include a more specific exploration of the subscales that emerged and the integration of an in-depth qualitative study to explore the role that constructivist principles play in the development of creative ability.

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CHAPTER I

INTRODUCTION

While the term *creativity* is commonly associated with the arts – painting, writing, music and acting – it is by no means limited to these areas. Creativity exists in, and is essential to, all areas of human life and study. Literature and the arts most certainly. But science, education, technology, invention, business–just to name a few–as well. Creativity is involved when a child plays an imaginative game and when a physicist ponders the nature of the universe. It is there when a poet captures an unforgettable moment and when a scientist discovers the cure for a deadly disease. In fact, as I will explore in the literature review, creativity also contributes to our experience of fulfillment, quality of life and mental health. It is vital to our success as we face the challenges and problems of both our personal and professional lives. It has an impact on the process of learning and it is crucial as we face world problems and issues of survival. Indeed, creativity is a *laudable aim* and promoting it can contribute greatly to all of humankind (Rothenberg and Hausman, 1976). As Csikszentmihalyi (1996) proposes, most of the things that are interesting, important and *human* are the results of creativity.

These reasons alone seem sufficient to warrant further investigation of this construct. But there is another reason why additional research is needed, an even more compelling one. Despite decades of study, there are still a great many things we do not understand about creativity. And a great many that we do not agree upon. Reviewing the fifty-year history of the scientific study of creativity is a bit like stepping into an academic whirlwind. Opposing viewpoints and unanswered

questions abound. Empirical evidence supporting one perspective often sits in the shadow of empirical evidence supporting its opposite. A quick glance through the existing literature might leave an unsuspecting reader believing that only geniuses like Picasso or Einstein should be considered creative, that creativity is the same thing as intelligence, and that only those creations that change culture represent true creativity. But a longer look could bring the reader to subsequent articles proposing that indeed everyone is creative, that intelligence and creativity are entirely different things, and that a nicely baked cake is as creative as a famous painting.

There are countless questions about this construct and a great many of them remain unanswered. As Getzels and Csikszentmihalyi (1972) emphasized, few qualities have been so widely praised and few have been so little understood. And more recently Dervin (1990) wrote: "About creativity almost everything has been said and almost nothing is known" (p. 9). Indeed we are far from having a comprehensive understanding of creativity (Smith, 1998) and further research is warranted.

<div align="center">Purpose of the Study</div>

The purpose of this study is to further explore creativity in adults, and specifically to ask: What factors most significantly influenced the development of creative ability in creative people? As mentioned above, after fifty years of the scientific study of creativity, a great many unanswered questions remain. Even the definition of creativity is still debated. As such, in providing my rationale for this study, a further point of clarification is useful. Some researchers propose that the term *creativity* as commonly used, attempts to cover too much ground and as a result a

great deal of confusion results (Csikszentmihalyi, 1996). It is therefore helpful to distinguish between types of creativity. A helpful distinction to make is between *eminent* and *everyday* creativity (Richards, 1994).

Categorization as *eminent* is based on widespread social recognition. Csikszentmihalyi (1996) refers to this as creativity with a capital-C: people who are creative without qualification. And in this category he includes individuals such as Edison and Einstein because they have changed our culture in some important way. In contrast, impact on the culture is not a criterion for everyday creativity. This form can take place in any type of activity at all, at work or at leisure, as long as the results are original and meaningful (Richards, 1994). Csikszentmihalyi (1996) refers to individuals who fit the everyday category as *personally* creativity. They experience the world in novel and original ways. Their perceptions are fresh, their judgments are insightful and they may make important discoveries that only they know about. Thurstone's (1952) emphasis that creativity could involve a new football play, a clever chess move, or a new slogan would also fall into the everyday category.

A great deal of study has been done in the area of eminent creativity (Csikszentmihalyi, 1996; Feldman, Csikszentmihalyi & Gardner, 1994; Goertzel & Goertzel, 1962; Gruber & Wallace, 1999; Simonton, 1986). As well, a great deal of research has been carried out with large groups of participants, especially in the psychometric tradition, studying the creative process among the general public and students in the school system (Eskildsen & Dahlgaard, 1999; Fontenot, 1993; Isaksen et al., 1999; Isaksen et al., 2000; Joussemet & Koestner, 1999; Martinsen, 1993; Okuda, Runco & Berger, 1991; Runco, 1991; Soh, 2000; Sternberg & Lubart, 1995;

Torrance, 1988; Witt & Beorkrem, 1989). At times the "general public" is comprised of undergraduate or graduate students (Chand & Runco, 1993; Hocevar, 1976; Isaksen et al., 2000; Jausovec & Bakracevic, 1995; Kumar et al., 1997; Massetti, 1996; Runco & Okuda, 1988; Shalley & Oldham, 1997; Zhou & Oldham, 2001).

In the present work, the researcher has focused on a group that falls between the two categorizations of eminent and everyday creativity. Those individuals who demonstrate significant creative ability, who are considered creative, but whose work has not, or not yet, had an impact on society sufficiently to be classified as eminent. They may have exceptional research ideas but have not won the Nobel Prize. They may paint with great vision and ability but their work does not hang alongside Van Gogh in the Museum of Modern Art. My term for this group is *everyday eminence*. And I believe that this is a population with much to offer regarding a greater understanding of the creative process.

Most of us can bring to mind creative people in everyday life: The teacher we all think of as unusually imaginative; the business entrepreneur who consistently develops novel ideas and innovative products; the scientist who regularly makes connections and intuitive leaps; the university professor who inspires students with intriguing and motivating lectures. How did these people become creative? Is creativity a trait entirely inherited? Is there some pattern? Are there particular factors that influenced the development of creativity? These queries express the focus of this work, stemming from my primary research question: What factors have had the most significant impact on the development of creative ability in creative people?

As well as those reasons mentioned above, the direction taken in this study was influenced by a number of other issues. First, is the belief that creativity is not carved in stone at birth, and that like other talents, it can be developed to varying degrees by virtually anyone (Sternberg & Lubart, 1995). Indeed, there are many adherents to the belief that creativity can be enhanced, (Amabile, 1983; Torrance, 1995; Csikszentmihalyi, 1996; Sternberg & Lubart, 1996). This brings me to the second point. A clear, unequivocal answer to the question of *how* creativity can be enhanced is not to be found in the psychological literature (Feldhusen & Goh, 1995; Joussemet & Koestner, 1999; Nickerson, 1999; Zhou & Oldman, 2001). In this study I have further explored these issues. I have taken a focused look at the influences that have an impact on the development of creativity.

<div align="center">Significance of the Study</div>

The intent of this project was primarily to gather data about the factors influencing the development of creative ability and to perform a descriptive statistical analysis on this data. As well, however, since material from open-ended questionnaire items can add a "qualitative perspective" (Lindauer, Orwoll &Kelley, 1997, p. 135) to the data and since anecdotal narrative material can involve, compel and even transform us (van Manen, 1997) actual comments, feelings and excerpts from the participants' life experiences are also integrated into the discussion. Though the integration of material from open-ended questionnaire items does not represent true qualitative inquiry (Mayan, 2001), it does nonetheless provide an abundance of rich and valuable insights and spontaneously expressed perspectives (Aiken, 1997; Nesbary, 2000; Oppenheim, 1966). As such, the feelings and experiences of the

participants are woven into the discussion of the statistical data. The mean scores and standard deviations help identify which influences were considered most important, and the personal descriptions bring a meaning and depth that take us into the essence of those influences.

Fifty creative individuals have shared their values, beliefs, experiences and wisdom. They are all creative and they have told us what helped them become so. They have shared what was important to them and what was not. This study documents the array of influences on the development of creativity, and the priority of their impact. Whether in business, education, artistic endeavours or personal life, these findings may provide insights that help individuals make prudent and informed decisions in matters involving creativity. As well, the findings may also have practical applications for a further refinement of assessment instruments. Mostly, what these findings provide is one additional step in the overall understanding of the nature of creativity. And this step may help point the way to additional focused studies that have an impact on the enhancement of creative ability in our world today.

CHAPTER II

REVIEW OF THE LITERATURE

While it could be said that passionate interest in creativity has been around for

centuries the scientific study of the creative process has been around for a much

shorter time. The 1950 APA presidential address by J. P. Guilford, in which he raised

interest in the neglected field of creativity research, is traditionally recognized as the

beginning point of scientific scrutiny. This literature review summarizes the scientific

study of creativity over this half century and explores the construct's many

definitions.

What is Creativity?

As discussed in the introduction, exploring the fifty-year history of the

scientific study of creativity is a bit like stepping into an academic whirlwind, where

opposing viewpoints and unanswered questions abound. This whirlwind of

contradiction even exists in our attempts to define creativity, as exemplified in

Parkhurst's (1999) article, *Confusion, Lack of Consensus, and the Definition of*

Creativity as a Construct. The author emphasizes that despite decades of effort there

is still little agreement as to what creativity is. Some view it as a notoriously elusive

concept (Smith, 1998) and a very complex, long term developmental process

(Feldhusen & Goh, 1995). Others view it as simply a set of decisions that are made

and propose that creative giftedness can be developed as a decision-making skill

(Sternberg, 2000). Rollo May (1975) emphasized that in our scientific endeavours we

come up with observations and truisms at which the artists and poets smile and about

which they say: "Interesting, yes. But that's not what goes on within me in the

creative act" (p. 36). There are indeed a variety of opposing views regarding the

definition of creativity but there actually is some degree of consensus. This section

explores the various ways in which creativity has been defined.

Creativity defies precise definition. This conclusion does not bother me at all.

In fact, I am quite happy with it. Creativity is almost infinite. It involves every

sense—sight, smell, hearing, feeling, taste, and even perhaps the extrasensory.

Much of it is unseen, nonverbal, and unconscious. Therefore, even if we had a

precise conception of creativity, I am certain we would have difficulty putting

it into words (Torrance, 1988, p. 43).

Ironically this rich and evocative description was written by Paul Torrance,

one of the leading voices of the psychometric approach to the study of creativity, a

method not traditionally known for its poetic descriptions. Torrance's words capture

the sheer magnitude of this construct. Though he dedicated a lifetime to studying and

measuring it he describes the creative process with an obvious sense of awe and

wonder. Creativity is big, almost infinite. It is grand, involving every sense.

Creativity is mysterious, perhaps involving the extrasensory. And it defies our

attempts to precisely define it. Others have shared a similar view. Rothenberg and

Hausman (1976) wrote that creativity "is paradoxical and complex, and the most

steadfast investigator is constantly beset with feelings of awe and a sense of

mystery..." (p. 3).

While creativity may indeed defy precise definition, researchers have

nonetheless made the attempt. The majority of them endorse the idea that creativity

involves the creation of an original and useful product (Mayer, 1999). Product can

refer to an idea, theory, painting, book, etc. These two defining features—*original* and *useful* — are emphasized in Mayer's review of the contributions to Robert Sternberg's *Handbook of Creativity* (Sternberg, 1999) (see Table 1). Though the terms vary, the underlying concepts are clearly similar. Originality is also referred to as *new* and is commonly referred to as *novel*. Usefulness is also referred to as *appropriate, valued, significant* and having *utility* and *value*.

Table 1

Two Defining Features of Creativity

Author	Feature 1 Originality	Feature 2 Usefulness
Gruber & Wallace	novelty	value
Martindale	original	appropriate
Lumsden	new	significant
Feist	novel	adaptive
Lubart	novel	appropriate
Boden	novel	valuable
Nickerson	novelty	utility

What is meant by novel and appropriate? Sternberg and Lubart (1995) clarify that a *novel* product is original, not predictable and can provoke surprise in the viewer because it is more than the next logical step. As to *useful*, they emphasize that a product serves some function. It must be an *appropriate* answer to some question. To be truly creative a product must meet both these requirements. One without the other falls short. *Useful* but not *original* translates into an "old hat" presentation of

previously considered ideas. *Original* but not *useful* translates into odd or bizarre products. But put the two together and we have true creativity: Einstein's theory of relativity, Emily Dickinson's poetry, the Wright Brother's first flight. Or perhaps one of the countless ways that creativity shows up in everyday life, resulting in a new song, an innovative business solution, or a motivational lecture.

Some researchers acknowledge these two basic features but add qualifiers. Feldman, Csikszentmihalyi and Gardner (1994) concur with the view of creativity as the achievement of something remarkable and new, but also as something which transforms and changes a field of endeavour in a significant way. It must be novel and appropriate but it must also change the world. This is *big* creativity as opposed to *small* creativity, which the authors say can refer to an arrangement of fresh flowers or a clever comment used to lighten the tone of a conversation. Others echo this view claiming that a product can only be deemed highly creative when there is a large, enthusiastic audience judging it as so (Kasof, 1995). A creative product from this perspective is original, useful *and* significant. Some address this issue by proposing that we distinguish between *inherent* creativity and *attributed* creativity (Runco, 1995) and emphasize that fully understanding this construct involves knowing both what internal factors are involved in creativity as well as what external factors lead to the attribution of it (Sternberg, 1995; Sternberg & Lubart, 1995).

Sternberg and Lubart (1995) also address additional features. As proposed above, *novel* and *appropriate* are required aspects and without either a product is not considered creative, however, the degree of creativity is also influenced by *quality*

and *importance*. The higher the quality and the importance of a product, the more creative it tends to be.

Csikszentmihalyi (1996) emphasizes that the term creativity, as commonly used, attempts to cover too much ground and as a result a great deal of confusion results. Similarly, in preparing to study highly creative individuals, Denise Shekerjian (1990) concluded that creativity "is one of those overstretched concepts made to stand for too much and therefore hardly stands for anything at all" (p. xvii). Part of the reason we have differing definitions may be that we are using a single term to discuss a variety of sub-constructs. Csikszentmihalyi (1996) proposes three phenomena that can legitimately be called by the name *creativity*. The first refers to those people who are capable of unusual, interesting and stimulating thoughts and who appear unusually bright. But unless they contribute something of permanent significance Csikszentmihalyi refers to these people as *brilliant* rather than creative. The second way the term is used refers to personal creativity: people who experience the world in novel and original ways. The perceptions of these people are fresh, their judgments are insightful, but their discoveries are ones that only they know about. That is the key difference and that is why Csikszentmihalyi refers to this category as personally creative. He discusses this group at some length but makes a clear distinction between this group and those in the third category: people who are creative without qualification. Dickinson, Picasso and Einstein are amongst those who fall into this category because they have changed culture in some important respect. This is creativity with a capital-C.

This brings us to one of the unanswered questions in the field: Does creativity refer to a product, process or person? (Mayer, 1999). The first definitions I listed - those referring to the production of something that is original and appropriate - refer to creative *products*. Csikszentmihalyi's capital-C creativity refers to the creative *person*. Torrance (1988) chose a *process* definition. He believed that if he chose *process* as a focus, he could then ask what kind of *person* one must be to engage in the process successfully, what kinds of *environments* will facilitate it, and what kind of *products* will result from being successfully creative.

To summarize, while there is some degree of consensus in the field there are also many areas of disagreement and many unanswered questions. Creativity commonly refers to products that are both original and useful. Others contend that this is not sufficient and that true creativity will significantly alter one's culture. Some define creativity with an emphasis on the creative product, some the creative person and others the creative process. The following section explores the major research findings in the history of creativity research.

Fifty Years of Research

As mentioned at the beginning of this section, the scientific study of creativity began in the 1950s. What has half a century of research taught us about creativity? What have we learned? This section provides a review and summary of the research. As well, since the influence of creativity spans a wide array of domains – the arts, education, business and even mental health – it is helpful to begin with an overview of the impact of creativity on the world today.

The Impact of Creativity on the World Today

Business

Fuelled by the demand for innovative products and the drive to hold or increase market share, the world of business has always had a strong and vested interest in creativity. Research and development departments have constantly sought to replace the old and the slightly worn with the new and improved. Entrepreneurial endeavours, innovative strategies and the ever-present need for a competitive edge all speak of the long-standing relationship between business and creative thinking. But perhaps even more so in this day and age that relationship is strengthening. Given the accelerated rate of technological change, and the social and economic pressures that come with such change, it has been emphasized that the need for creativity in business is critical (Moukwa, 1995). The quickening pace of global change and the ever-increasing degree of international competition makes creativity essential (James, Clark & Cropanzano, 1999). As entrepreneurs face increasingly competitive global markets, the need for improving innovative skills increases (Gundry, Kickul & Jill, 1996).

The corporate world has responded to the rise of such challenges and demands. Creative thinking techniques are finding their way into the entrepreneurship classroom (Gundry, Kickul & Jill, 1996) with the specific aim of providing future marketplace advantage. Resources and publications abound. Over a million websites on the internet explore creativity and business. Thousands of them offer some form of corporate training aimed at promoting creativity in the workplace. Books on corporate

creativity flood the market with a self-help approach to incorporating the insights and wisdom of great people, great companies, and ancient philosophers.

It has also been emphasized that if an organization wants to achieve business excellence it must nurture and sustain the creativity of its employees (Eskildsen & Dahlgaard, 1999). Companies such as Microsoft claim that cultivating employee creativity leads to innovations that would not otherwise result (Massetti, 1996). In the 1990s the New York Times declared that Microsoft's only factory asset was the human imagination (Naiman, 1998). The number of firms offering specific training in creativity is increasing dramatically (Massetti, 1996) with companies such as IBM and Exxon Corporation regularly investing corporate funds towards this end (Massetti, 1996). In fact, creativity seems to be shifting from its place as a powerful business strategy to a construct that defines the very times we live in. The Nomura Research Institute of Japan recently predicted that our present information age would quickly be followed by the age of creativity: constant innovation (Naiman, 2003).

Education

While the age of constant innovation may only be starting, the impact of creativity has long been felt in other areas. These most certainly include the education system and the process of learning. As well as much exploration aimed at understanding the nature of creativity itself (Boden, 1991; Csikszentmihalyi, 1999; Davis, 1989; Guilford, 1975; Hennessey & Amabile, 1988; May, 1975; Nickerson, 1999) much education-oriented research on creativity has been carried out over the past few decades (Hennessey, 1989; Kettle & Butcher, 1968; Marksberry, 1963;

Parkhurst, 1999; Sternberg & Lubart, 1995; Sternberg & O'Hara, 1999; Torrance, 1970; Wallach & Kogan, 1965).

As well, whether the particular focus is music, technology, special needs, physical education, or simply the general learning environment, practical and applied articles on fostering creativity in the classroom abound (Baxendell, 2003; Carroll & Howieson, 1992; Hickey, 2001; McManus, 1998; Peterson, 2001; Poon Teng Fatt, 2000; Walker, Colvin & Markos, 2000). Some educators even propose offering creativity workshops in the regular classroom (Mildrum, 2000). Perhaps this is timely. The advance of technology that is so profoundly influencing global business also has a direct impact on the education system. With the world and its technologies advancing at an ever-increasing rate, it is suggested that students who fail to develop a creative approach to life are in danger of having their knowledge and their skills become obsolete (Sternberg, 2000).

This is not just so in North America. The call for creativity in education is being heard around the world. Faced with the problem of seriously deteriorating education and teaching quality in a once top-rated school, a Chinese commission realized that unless they took the road to innovation their school would not be able to shake off its difficulties (Minghua, 2001). Their successful solution was to implement creativity education.

Perhaps one of the most telling examples of the rising importance of creativity in our learning institutions is that it is coming to the forefront in one of its most neglected areas – tests of intelligence. Though creative ability has tended to be ignored by formal IQ tests, awareness of creativity and the importance of measuring

it, is increasing. After almost a century of intelligence testing, IQ tests are only now attempting to tap into creative abilities (Naglieri, 2001). In fact, it has been proposed that with the complexity of modern day problems in a fast-changing world, creativity will become replace intelligence as the most cherished human trait (Dacey & Lennon, 1998).

As well, the importance of creativity is showing up not only in the classroom but also at the administrative level. Within today's education system, effective leadership involves an integration of traits commonly associated with creativity – passion for work, originality, flexibility and motivation, and it is suggested that the future of education may need the emergence of the creative principal (Goertz, 2000).

The role of creativity in education runs even deeper. It also has a direct impact of the process of learning itself. We simply prefer to learn in creative ways and through creative activities (Torrance, 1970). As well, Rothenberg & Hausman (1976) emphasize that an understanding of creativity must be incorporated in any account of motivation, cognition or linguistic functioning. Torrance (1995) even suggests that creative thinking may prove to be as important in information processing as memory and other similar intellectual functions. Indeed, Bladey and Nosbush (1986) propose that the pathway to creativity *is* the pathway to true learning.

Creativity does have a significant impact on education and on learning. And while the positive outcomes of creativity enhancement may seem apparent, other less obvious benefits can also result. Highly creative children often experience negative social interactions because of their unusual perspectives and off-beat approaches (Mildrum, 2000). When classes specifically look to incorporate creative development

as a goal, children with creative ability are given an audience and an opportunity to express themselves (Mildrum, 2000). This is one of the fringe benefits to introducing creativity directly into the classroom. But nurturing creativity in the school system is not all fringe benefits and does not come without its complications. For instance, many teachers dislike the personality traits associated with creativity and prefer those traits that run counter to creativity such as conformity and willingness to respect authority (Westby & Dawson, 1995). This can lead to a significant decrease in creativity, as students attempt to please the teacher by suppressing these *undesirable* characteristics (Westby & Dawson, 1995). Though these challenges exist, studies emphasize that they can be overcome. It is possible to attend to the needs of gifted children inside the regular classroom, providing teachers are well qualified and well trained in the area of gifted education (Blumen-Pardo, 2002).

Clearly this construct of creativity has far-reaching impact on the education system. As stated above, students without a creative approach to life can be in danger of having their skills and knowledge become obsolete. Creativity even has a direct impact on the very process of learning itself. And implementing it into the classroom has both significant benefits and major challenges.

Mental Health

While it might seem obvious to consider the impact of creativity on the education process, there are other areas, perhaps less obvious, where creativity also has influence. Creativity has an impact on mental and emotional health. Prominent therapies incorporate aspects of creativity to various degrees (Faiver, McNally & Nims 2000) and striking parallels between the artistic process and the therapeutic

process have been identified (Dimidjian, 2001). Some of the stages experienced by artists while creating are not unlike the very experience of therapeutic healing. As well, it has been suggested that creativity is a cornerstone of family counselling (Gladding & Henderson, 2000) and techniques have been developed (Gladding & Henderson, 2000) to provide a structured approach for integrating creative thinking into this process. Osborn (1963) makes recommendations for using one's imagination for improving personal relations and marital and family difficulties.

As well, creativity also enhances our very enjoyment of life. When we engage in creative work we tend to feel that we are living more fully than during the rest of life (Csikszentmihalyi, 1996). There is a particular kind of pleasure unique to creating that is rarely matched by any other experience (Eckstein, 1972). In other words, living creatively brings a high degree of personal satisfaction. We simply tend to feel better and to enjoy life more when we are living and working creatively. And not only do we benefit when we exercise our creative capacity, some suggest that there are serious consequences when we don't. It has been proposed that the prolonged repression of the creative desire will not only inhibit our personal satisfaction, but may actually lead to the breakdown of the personality (Torrance, 1995).

Creativity also provides an exciting model for living (Csikszentmihalyi, 1996). While we have learned much about healthy functioning from studying pathological cases, we have learned little from the other end of the continuum, from studying people who are extraordinary in some sense. By studying creative individuals we can come to better understand a way of being that is more satisfying than most lives typically are (Csikszentmihalyi, 1996). In exploring the relevance of

creativity to psychiatry, Rothenberg and Hausman (1976) emphasize that since creativity involves significant contributions to society and to life, it is an ideal form of behaviour and thus we need to understand it as specifically as possible.

Daily Living

Creativity also plays a significant role in the application of knowledge to daily personal and professional problems. It is not sufficient that people are *smart* for many smart people cannot keep up with a rapidly changing world (Sternberg & Lubart, 1995). We need creativity as well as intelligence. We need to use our imaginations in the application of our knowledge (Torrance, 1995). In fact, Edward de Bono proposes (1971) that we owe our success to creativity, claiming that this ability is useful in good times, and essential in bad. This is why, if we seek the best artist, entrepreneur or business executive we tend to seek someone who is creative (Sternberg and Lubart, 1999).

As well, as Paul Torrance (1995) points out, the very future of our civilization may depend on the quality of the creative imagination of future generations. Our problems in world crisis, "may be soluble only creatively" (Ghiselin, 1985, p. 3). We do not only need scientists and engineers as we tackle the problems of our world, we need *creative* scientists and engineers.

The World Wide Web

The final word about creativity in this introduction goes to the World Wide Web. As with many popular topics, creativity-oriented sites number in the millions. Some are home pages developed by those whose affinity for things creative has moved them to share their passion, much like those who develop websites to share

their love of dachshunds or homemade wine. Some are groups or clubs, such as the Artist Way sites, that provide a virtual meeting place for those who share this common interest. Others are big business. They are corporate websites where national and international consultants promote their creativity-boosting training. But as well as providing a great deal of content on the topic of creativity, the World Wide Web is a new medium that integrates the very creative process itself. It is being re-invented and innovated almost constantly.

As confidence in internet security increases, online spending is burgeoning into the billions of dollars. Not only can lovers converse live via web-based chat rooms, many have actually met through online dating services. The development of online audio technology, particularly the mp3 format, not only revolutionized the way music was transferred, its easy duplication process threatened to bring the recording industry to its knees. As bandwidth progresses on its ever widening course, full-length movies and live performances are being broadcast over the internet. Sports highlights and news telecasts can now be seen online. As such, cable giants who previously focused primarily on television and FM radio broadcasts, have joined the front line as developers of online technology. And of course, as part of the internet, the use of email has gone from a novel idea incorporated by collaborating scientists to a function used by almost everyone in the western world, and from anywhere on the globe. Perhaps more than any system or influence, the World Wide Web speaks of the tremendous impact that creativity has on modern culture.

In conclusion, creativity has a profound impact on the world today. Its influence spans across business, education, and the process of technological change.

It contributes to our experience of fulfillment, our quality of life and to our very mental health. Creativity is vital to our success as we face challenges and problems in both our personal and professional lives. It has an impact on the process of learning both directly and indirectly, and it is crucial as we face world problems and issues of survival. Indeed, creativity is a *laudable aim* and promoting it can contribute greatly to all of humankind (Rothenberg and Hausman, 1976). The following section takes an in-depth look at creativity research as it has developed over the past fifty years.

<div align="center">The Four Perspectives of Creativity</div>

Creativity has traditionally been researched from one of four main perspectives: Consideration has been given to the creative process itself, as well as the creative person, the creative product, and the creative environment (Tardiff & Sternberg, 1988). The literature will be further summarized using these four categories.

The Creative Process

This section provides a review of the literature that is dedicated to exploring the creative process. First, consideration is given to one of the most dominant themes in this area: the psychometric measurement of divergent thinking ability. This is followed by a review of the criticism of this research and a brief look at the response to the criticism. Finally, this section concludes with a look at the issues of control and generalizability as related to researching the creative process.

When J. P. Guilford delivered his APA Presidential Address (1950) calling for increased focus in the study of creativity, one of the first, as well as the strongest, responses was the psychometric. The psychometric approach which had scientifically

studied many constructs—including intelligence—now turned its attentions to one of its most challenging: creativity. And while the researchers using this perspective have to some degree explored the creative product, person and environment, the greater emphasis has been on the creative process (Plucker & Renzulli, 1999). As discussed above Torrance (1988) chose to explore creativity from the perspective of *process*. He believed that if he chose *process* as a focus, he could then ask what kind of *person* one must be to engage in the creative work, what kinds of *environments* will facilitate it, and what kind of *products* will result from being successfully creative.

In the psychometric approach, creativity is viewed as a mental trait that can be quantified by appropriate measurement instruments (Mayer, 1999). Recent decades have seen the development of many such measurement instruments (Davis, 1989; Gluck, Ernst & Unger, 2002; Guilford, 1967, 1975; Kettle & Butcher, 1968; Plucker & Renzulli, 1999; Torrance, 1962; Torrance & Khatena, 1970; Urban, 1996). Many of these instruments, especially the early ones, took a distinct form. They attempted to quantify the creative process primarily through the use of divergent thinking batteries (Plucker and Renzulli, 1999). These include Guilford's (1967) *Structure of the Intellect* (SOI) and what is the most commonly used among these instruments, the *Torrance Tests for Creative Thinking* (1962, 1974). These batteries typically require individuals to produce several responses to a specific prompt. This is quite contrary to most standardized tests of achievement or ability where a single correct answer is required (Plucker and Renzulli, 1999). Examples of test items that measure divergent thinking include: "Name all the things you can think of that are white and edible."

"Write as many sentences as you can using the words *desert food* and *army*"

(Guilford, 1975, p. 42).

The literature stemming from the use of divergent thinking batteries is not without its controversy, however. Some researchers have claimed that creativity is not measured well utilizing such approaches (Wallach & Kogan, 1965) and that these batteries measure trivial aspects of the creative process (Amabile, 1996). For some, real-life creativity is said to occur in real-life domains and asking people to respond to psychometric questions is rather limited (Sternberg & Lubart, 1995). Indeed, these types of tests have resulted in some creative people looking askance and being "sarcastic or even rebellious about being subjected to pencil and paper analysis" (Piirto, 1992, p. 131). Other researchers acknowledge that while useful information has indeed been gleaned from this research, this approach has failed to establish itself as sufficiently valid (Feldman, Csikszentmihalyi & Gardner, 1994). In fact, Gruber and Wallace (1999) emphasize that there is little evidence concerning divergent thinking in creative people. Others have pointed out that there is little evidence that *divergent* children become *creative* adults (Fontenot, 1993). Gardner (1993) concurs with this notion and suggests that it has not been possible to demonstrate that such creativity tests are valid. High scores on paper-and-pencil tests do not signal that a person will be creative in life or at work. Nor is there convincing evidence that people considered creative by their discipline will necessarily score highly on tests measuring divergent thinking skills (Gardner, 1993).

As well, there is an ongoing debate around the predictive validity of these tests and "the apparent susceptibility of divergent thinking tests to administration,

scoring and training effects" (Plucker & Renzulli, 1999, p. 40). The conditions under which tests are given and the type of instructions can have an impact on scores (Runco, 1986; Runco and Okuda, 1991). Whether referring to the very structure of the divergent thinking batteries themselves or the confounding influences introduced during test administration, it is clear that there are many critics of this approach.

Torrance's response (1989) to such criticism is that his methods of testing and teaching also have analogues in real-life achievements. The basis of these claims lies primarily with two longitudinal studies in which original psychometric testing was followed up 12 years later in one study and 22 years later in the other. And recently, another follow-up, The Torrance Kids at Mid-Life (Millar, 2002) has been released. A set of criteria was established to measure creativity in the follow up study. The criteria included a judged assessment of the quality and quantity of creative achievements, such as novels, inventions, publicly produced plays, development of innovative medical techniques, etc. Test scores successfully predicted criterion measures later in life. In other words while the actual test questions may not be representative of real-life creative situations, scores on these psychometric tests have been demonstrated to correlate with later real-life achievements. Others have also responded to the criticisms and, in some cases, divergent thinking tests have been shown to be reliable and predictive of some aspects of real-world creative performance (Milgram & Milgram, 1976; Runco & Okuda, 1991) and also to have some degree of social validity – the degree to which a test agrees with or predicts the subjective judgment of significant others such as parents, teachers or supervisors (Runco, 1984).

As previously mentioned, the psychometric approach to studying the creative process has primarily involved the use of divergent thinking batteries. It must be emphasized, however, that some researchers claim that the creative process involves more than the problem solving focus of divergent thinking, and that creativity is multifaceted in nature (Chand & Runco, 1993; Davis, 1992; Plucker & Renzulli, 1999; Runco & Okuda, 1988). As well as problem *solving*, the creative process also involves other components such as problem *identification* and *definition* (Runco & Okuda, 1988; Okuda, Runco & Berger, 1991). Creative thinking involves more than providing solutions to a set question; it involves discovering and going into deeper questions. These aspects comprise problem formulation and are considered to be more representative of real-world problems and to be more predictive of creative accomplishments (Okuda et al., 1991). While problem *solving* typically involves a specific, well-described problem and the request that a participant provide as many answers as possible, real-world problem finding is more open-ended. Okuda et al. (1991) provide an example of the latter:

> Now I would like you to think of different problems in school [or home] that are important to you. You may write down problems about school, teachers, rules, or classmates [or parents, brothers or sisters, chores, or rules]. Take time, and think of as many problems as you can (p. 48).

Problem finding involves an active and creative involvement in discovering and articulating the problems themselves, rather than actually solving them. Csikszentmihalyi (1992) emphasized that an important theoretical advance in the study of creativity involved the notion that "the unique property of scientific

discovery is problem finding, not problem solving" (p. 20). And Runco and Okuda (1988) emphasize that problem discovery is particularly important because it occurs first, before solutions are generated, and the "quality of a problem may in part determine the quality of the solutions" (p. 212).

The creative process also has an evaluative component (Osborn, 1963) that comes into play whenever a person expresses a preference for an idea (Runco, 1991). Individuals need to select and remember, or dismiss, certain ideas because of appropriateness, or lack thereof, to a given situation. This involves evaluation. As well, some propose that the creative process involves insight (Davis, 1992; Martinsen, 1993). And Gruber (1996) emphasizes that making metaphors and collaborating also play a role. Clearly these researchers emphasize that much more than divergent thinking is involved in the creative process.

Another issue worthy of mention stems from the very complexity of the creative process. Because creativity *is* so complex in nature, researching it has given rise to the need to reduce its complexity to a manageable level (Runco & Sakamoto, 1999). There is a trade-off in all research between control, or *internal validity*, and generalizability, or *external validity*. Runco and Sakamoto (1999) emphasize that while this trade-off exists in all experimental research it is especially significant in the study of creativity. The reason is that creativity may depend on spontaneity, which is contrary to control. In other words, in an effort to increase internal validity, we may be exerting control—and limitation—over the very nature of what we are attempting to measure. By way of analogy it may be like attempting to measure how well someone breathes by grasping them firmly around the throat. Our effort does indeed

put us more in touch with a part of the breathing apparatus, but unfortunately is a method that chokes the participant's breath.

In conclusion, the creative process has been researched in a variety of ways, primarily through psychometric paper-and-pencil tests of divergent thinking. Subsequent research has suggested that the creative process involves more than the ability to think divergently and also includes components such as evaluation, problem finding and insight. The next section explores the creative individual.

The Creative Person

The creative *person* has also received a great deal of attention in the fifty-year history of the field and there has long been agreement that personality factors are important in creative achievement (Torrance, 1962). Characteristics of the creative personality have been researched from a variety of perspectives, including the psychometric tradition (Davis, 1989; Gough, 1979; Guilford, 1967; Torrance, 1962; Torrance & Khatena, 1970) the experimental (Amabile, 1986; Hennessey, 1989; Okuda et al., 1991; Piirto, 1992; Rostan, 2002; Runco, 1984, 1987, 1999; Sternberg & Lubart, 1995) as well as from the point of view of the biographical and case study approaches (Csikszentmihalyi, 1996; Feldman, Csikszentmihalyi and Gardner, 1994; Gardner, 1982, 1992a; Policastro and Gardner, 1999). And while this research has the common link of studying the creative person there is a marked difference in the underlying philosophies, and thus in the approach and the findings, of these perspectives.

While the psychometric and experimental traditions have specifically sought to identify the underlying personality traits common to creative people, those in the

biographical and case study traditions have tended to consider this approach to be fruitless (Gruber, 1989) and argue that "attempts to list the psychological characteristics that favor creativity, will never get very far" (p. 5). Gruber (1989) emphasized that what is important at one moment in history will be irrelevant or commonplace in another. Similarly, Gardner (1993) proposes that "just as it makes little sense for an individual to be considered unqualifiedly smart or dumb, so, too, the search for 'generally creative' individuals and devising of tests that allegedly tap 'creativity' seemed to me to be forlorn pursuits" (p. xii-xiii). The literature stemming from these varying perspectives is outlined below, beginning with a brief overview of the personality characteristics as suggested by a variety of researchers. This is followed by a more in-depth exploration of the most commonly identified attributes.

What is the creative person like? Are there particular characteristics commonly found in those who create? Can we distinguish creative individuals by virtue of their personalities? These are some of the questions that have driven research in the psychometric and experimental traditions. The thrust has been to identify the characteristics commonly found in the creative individual.

Instruments have also been designed to explore the personality characteristics associated with creativity. Such tests include Cattell and Butcher's (1968) *Sixteen Personality Factor Questionnaire*, Torrance and Khatena's (1970) *What Kind of Person Are You?* And Davis' (1989) *The Group Inventory for Finding Talent*. Another widely used measure is the Creative Personality Scale (Gough, 1979), a 30-item instrument which attempts to assess the personal characteristics associated with creativity. In reviewing the research from such tests Davis (1992) proposed that the

personality characteristics for creative people include independence and a need for privacy, risk taking, curiosity, attraction to complexity and novelty, personal energy and humour.

Sternberg & Lubart (1995) outline six personality characteristics they consider to be directly related to creativity. One, a perseverance in the face of obstacles; two, a willingness to take sensible risks; three, the willingness to grow; four, tolerance of ambiguity; five, an openness to experience; and six, a belief in yourself and the courage of your convictions. Dacey and Lennon (1998) outline ten traits that contribute to the creative personality. Similar to Sternberg and Lubart (1995) their list includes tolerance for ambiguity, flexibility, risk taking, perseverance and courage. The Dacey and Lennon list also includes factors such as the capacity to delay gratification, a preference for disorder, freedom from sex-role stereotyping, and what they refer to as stimulus freedom, the tendency to bend or ignore rules, and functional freedom, the capacity to see beyond commonly accepted limits.

Torrance (1962) reviewed the research from a large number of studies and generated a list of 84 characteristics found in one or more study to differentiate highly creative persons from less creative ones. As with the above lists, Torrance's included characteristics such as courageous, attracted to disorder and the complex, determination and persistence, sense of humour, and a willingness to take risks. Though it may seem that 84 characteristics is a staggering array, some items on the list were quite similar: For instance, *courageous* was included as one item and *doesn't fear being different* was another. *Emotional, emotionally sensitive, tender emotions* and *temperamental* were all listed separately. Other similar items included *likes*

solitude, introversive and *somewhat withdrawn.* The following section takes a more in-depth look at the most commonly identified personality characteristics of the creative individual.

Tolerance for ambiguity is a characteristic commonly associated with creative individuals and considered to very important (Dacey & Lennon, 1998; Jay & Perkins, 1997; MacKinnon, 1978; Sternberg & Lubart, 1995; Torrance, 1979). Dacey and Lennon (1998) consider it one of the most important traits. Sternberg & Lubart (1995) refer to it as "the capacity to withstand the uncertainty and chaos that result ..." (p. 223) when a problem is not clearly defined or when it is not clear how the solution is going to come together. Since the very nature of creativity often involves the emergence of something that has not previously existed, the capacity to tolerate the tension of ambiguity is essential.

Creative people also persevere in the face of obstacles (Dacey & Lennon, 1998; MacKinnon, 1978; Sternberg & Lubart, 1995;). In fact, some highly creative people have been described as being obsessive in their perseverance (Csikszentmihalyi, 1996) and as being driven to do their work (Torrance, 1995). Perseverance is a necessary trait (Dacey & Lennon, 1998) because "sooner or later, all creative people encounter obstacles to the realization of their objectives" (p. 112).

Related to perseverance is the characteristic of courage. Torrance (1995) claimed that courage is the most essential quality if a creator is to be successful. Sternberg and Lubart (1995) speak of courage in terms of "belief in yourself and the courage of your convictions" (p. 226). Courage is important if the creative person is to deal with criticism and bounce back from failure. As well, by the very nature of the

work they do, creative people are often required to stand on their own, to not be a part of the crowd and doing so requires courage (Sternberg & Lubart, 1995).

Related to both perseverance and courage is the ability to work hard, especially in the face of criticism. Dedication and hard work are suggested as important (Amabile, 1986; Piirto, 1992; Torrance, 1979). This notion of effort was emphasized when the scientific study of creativity was in its early years. Osborn (1963) claimed that "neither the extent of our knowledge nor the potency of our talent is as vital as our driving power" (p. 23). As well, the capacity to continue working during times of hardship, frustration and rejection has been emphasized (Amabile, 1986; Sternberg & Lubart, 1995; Torrance, 1979)

It is also suggested that creative people are willing to take risks (Dacey and Lennon, 1998; Davis, 1992; Sternberg & Lubart, 1995; Torrance, 1962). In a study performed by Sternberg & Lubart (1995) it was found that more creative people leaned toward taking more risks. Failing to take risks can lead to security but not to creativity (Dacey and Lennon, 1998).

An openness to experience is another personality characteristic linked to creativity (MacKinnon, 1978; Martindale, 1989; Rogers, 1961; Sternberg & Lubart, 1995; Torrance, 1979). Creative people tend to seek new experiences, to ask questions and to wonder about the world (Sternberg & Lubart, 1995). In developing his theory of creativity Carl Rogers (1976) referred to the openness to experience as the opposite of psychological defensiveness. The notion of openness is also a central component of the well-known creative activity of brainstorming (Osborn, 1963). In fact, the very nature of this activity requires that the users enter into a temporary state

of openness, a period where judgment for or against any particular option is deferred. "Openness is so essential to creativity that we sometimes have to ward off influences which might close our minds while in quest of ideas" (p. 119).

Paul Torrance (1979) also emphasized the importance of openness, and used his (1974) *Torrance Tests of Creative Thinking* to study this concept. Integrating principles from Gestalt psychology he developed an *incomplete figures* task to measure the degree to which individuals tended to bring quick closure to incomplete drawings. He also developed practice exercises to help increase the ability to maintain openness (1979) including describing figures from different perspectives and combining two or more things that have been created.

Other personality characteristics have been discussed as well. Dacey and Lennon (1998) also describe stimulus freedom and functional freedom. The former refers to the tendency not to assume that rules exist when a situation is ambiguous, or to bend those rules to meet one's needs. The second term, functional freedom, refers to the capacity to see beyond commonly accepted limits. Tests such as the two-string test have been designed to measure this capacity. The participant stands between two lengths of string that hang from the ceiling. Each piece of string is about nine feet in length and the distance between them is fourteen feet. The individual must figure out how to tie the two pieces of string together and all they are given is a mousetrap and a clothespin. Ultimately the problem can be solved with either object, but only once the participant imagines using those objects in ways other than their commonly accepted purposes.

Attraction to complexity and novelty have also been identified as being a part of the psychological makeup of creative individuals (Davis, 1992; Martindale, 1989). Dacey and Lennon (1998) go so far as to refer to this as a "preference for disorder" (p. 106) but it is not so much that creative people "like disorder per se, but they prefer the richness of the disordered to the stark barrenness of the simple" (MacKinnon, 1978, p 62).

As well, there are also numerous other personal qualities that have been suggested to be involved in creativity. A summary of such additional traits (Dacey & Lennon, 1998) includes the observations that creative people are more sensitive to the existence of problems. They have a somewhat greater tendency toward emotional disturbance but also have more self-control in dealing with this pattern. Creative individuals are able to think both analytically and intuitively. They have higher-than-average intelligence but do not often score in the "genius" range. They enjoy being playful and childlike. They tend to be solitary and more independent of the judgments of others, and often do not like to work with others. Creative people also tend to stand their ground when criticized.

There have also been a number of traits associated with creative people that are not typically considered in such a favorable light. Davis (1992) points out that some creative people may "show some habits and dispositions that can upset a normal supervisor, parent, teacher and other students as colleagues as well" (p. 79). These upsetting traits can include an indifference to common conventions and courtesies and a tendency to question laws, rules and authority. As well, some individuals can be demanding, assertive, self-centered, intolerant, emotional, withdrawn and stubborn.

As mentioned at the outset of this section, the biographical tradition has explored the creative person in a radically different manner than most of the studies mentioned above. In fact, the biographical tradition emerged in response to the existing body of psychometric research. Some case study adherents found the psychometric study of creativity to be seriously wanting (Feldman, Csikszentmihalyi and Gardner, 1994; Gardner, 1993). Their vision was radically different from Guilford's psychometric approach and they set out to rechart the field. Rather than attempting to gather quantitative data they take a phenomenal approach (Feldman, Csikszentmihalyi and Gardner, 1994; Gardner, 1993a; Policastro and Gardner, 1999). They study the lives and the works of creative masters, individuals who stand out as "uncontroversial exemplars of one or another form of creative achievement," (Policastro and Gardner, 1999).

The argument proposed by those doing case study research is that historical figures with unquestionable creative contributions to society clearly have more to teach us about the mysteries of creativity than a survey of the most common participant group to make up psychometric or experimental designs—college students who need to earn extra credit in an introductory psychology course (Simonton, 1999). The participants who typically fall under scrutiny by this approach are individuals whose creative ability is uncontested: Albert Einstein, Jean Piaget, Charles Darwin, Emily Dickinson, da Vinci, Elizabeth Barrett Browning, and Picasso are a few of the many eminent people whose lives have been researched from this perspective (Feldman et al., 1994; Gardner, 1993a; Goertzel & Goertzel, 1962; Gruber, 1996; Gruber &Wallace, 1999).

The *factors* performed in biographical research stem from the *doings* and *sayings* of the creators themselves (Gruber & Wallace, 1999) and in some cases research has actually involved the application of factor analysis to biographical material (Simonton, 1987). These characteristics and descriptions are not gleaned from the test responses of undergraduates, they are gathered from the very lives and works of creative giants and these giants are studied in their authentic environments rather than in a controlled, experimental environment (Mayer, 1999). But perhaps one the biggest differences proposed in the biographical research is that while most psychometric approaches try to identify attributes creative people have in common, case study approaches look at the uniqueness of the creative person and believe that predictability may indeed be a false god (Gruber & Wallace, 1999). Each creative person is considered unique and as such, not a lot about creativity, or even what they might next create, can be predicted. Adherents to this approach do not seek some magic that makes creativity happen, nor do they search for the origins of creativity or for a single model of the creative personality. Instead they ask how *creative work works* (Gruber & Wallace, 1999).

While the strength of the biographical research can be said to rest in its richness and authenticity, its weakness rests in its lack of control and representativeness (Mayer, 1999). We may well be gathering data from the lives of highly creative people working in their creative environments, but is that enough? Are studies where $N = 1$ of any real value? (Gruber & Wallace, 1999). As Mayer (1999) asks, "How can we build a coherent theory of creativity from the highly detailed case histories of a few selected individuals?" As well, it is not clear whether

insights gained in the study of eminently creative individuals will generalize to those of a lower creative capacity (Feldhusen & Goh, 1995). As Simonton (1986) asks, how do we know "whether principles derived from historical geniuses apply to those of us with much less ambitious aims?" (p. 15).

Gruber and Wallace (1999) respond to these criticisms claiming that there are findings that we could not come upon without going about it one case at a time. By way of example they cite the so-called 10-year rule, the finding that it takes about ten years for individuals to effect significant revision in their own ways of thought. This insight would not have been learned except by focusing on the life of a single creative person. In exploring the lives of seven eminent individuals, including Freud, Einstein and Gandhi, Gardner (1993) emphasizes that the ten-year rule applied in all cases. Comprehensive work and radical breakthroughs clearly resulted following a minimum of a decade of work within the domain.

Some biographical research directly addresses the issue of generalizability. Simonton's (1999) historiometric approach is biographical in focus but contrary to the case study method, case studies are grouped together and quantitatively analyzed in hopes of discovering general laws and statistical relationships.

In conclusion, the creative person has been studied from a variety of perspectives. The literature in the psychometric and experimental traditions has aimed at providing a list of personality characteristics commonly believed to be related to creative ability. Among the most commonly accepted characteristics are perseverance, courage, a tolerance for ambiguity, a willingness to take risks and to work hard, and an openness to experience. Those researching the creative person

from the biographical approach tend to view this pursuit of the characteristics of the creative person as fruitless, and instead focus on unique, eminent figures whose creative contributions are unquestionable.

The Creative Product

The third area commonly focused on in creativity research is the creative product. Its importance is clearly illustrated by the fact that the most common definitions of creativity tend to center around the creative product (Mayer, 1999). And even though creativity can be studied from the perspective of the *person* and the *process*, the emphasis on creative *product* is widely regarded as the most useful for creativity research (Hennessey & Amabile, 1988). In fact, some researchers (Sternberg & Lubart, 1995) describe a person as creative only when "he or she regularly produces creative products" (p. 12). Creative potential is not sufficient to warrant description as creative; products are necessary. The question then arises: How do we determine if a product is indeed creative?

As outlined in the introduction to this chapter, the commonly accepted view is that a creative product must meet two criteria: It must be novel or unique and it must have value or significance (Mayer, 1999). Both of these components are necessary for a product to be deemed creative. And the term *product* can refer to ideas and theories as well paintings or books. Focus on the product in creativity research came about largely as a response to previous studies. While earlier work tended to focus on divergent thinking (Guilford, 1967; Torrance, 1962) later researchers held the view that asking people to respond to psychometric type questions was rather limiting (Sternberg & Lubart, 1995).

If research is to focus on the product, how then can it be determined which products are creative and which are not? Few instruments exist for assessing product creativity and reliability and validity information is often not available for those that do exist (Reis & Renzulli, 1991). Alternate methods of product assessment have been developed, however, and are widely used.

Amabile's (1982) consensual assessment approach suggests that a product is creative "to the extent that appropriate observers independently agree it is creative" (p. 1001). As such, this definition is based on the creative product rather than on the process or the person and a "product-centered operational definition is clearly most useful for empirical research in creativity" (p. 1001). The most common method for assessing the creativity of these products involves the ratings of judges (Plucker & Renzulli, 1999; Runco, 1989). Since ratings by teachers and parents can involve problems such as the halo effect (Runco, 1989b) expert judges are more commonly used (Amabile, 1983; Hennessey & Amabile, 1988; Runco, 1989; Sternberg & Lubart, 1995).

At times judges are provided with some degree of guidance in rating products though, as with Amabile's (1982, 1983) consensual assessment approach, researchers also ask judges to rate the creativity of products with little guidance. Amabile (1982) suggests that although "creativity in a product may be difficult to characterize in terms of specific features, it is something that people can recognize when they see it" (p. 1001). In other words, even when people cannot articulate precisely what aspects or characteristics of the product contribute to its creativity they can indeed recognize that the product is creative.

The consensual assessment of creative products has advantages over the use of divergent-thinking tests (Baer, 1994). Not the least of these is the fact that the experts' assessments of creativity are independent of any particular theories of creativity, and are thus not "contingent on the validity of any theory of creativity" (p. 8). As well, the consensual assessment technique has been demonstrated to have a fairly high degree of stability (Baer, 1994). For example, Sternberg and Lubart (1995) utilized a product-centered approach whereby products created by participants within a number of domains were assessed by a panel of judges. They found an interrater reliability (consistency across judges) of .92 on a scale of 0 to 1 where 0 indicates no consistency at all and 1 indicates perfect consistency. The use of external judges has become the most common method for the measurement of creative products (Plucker & Renzulli, 1999).

Amabile (1982) emphasizes that judges should meet a number of criteria including that they should have "some experience with the domain in question" (p. 1002). They need to be familiar enough with the domain to have developed "some implicit criteria for creativity, technical goodness, and so on" (p. 1002) but they do not themselves need to have produced work rated as highly creative. Familiarity with the domain is more important (Amabile, 1982) and as such, sometimes the judges are simply graduate students with experience in the area (Zhou & Oldman, 2001). Although Amabile (1982) emphasized that expertise more than ability within a domain was important for judges, using individuals with domain specific ability, for example, professional artists, has also been incorporated into creativity research (Runco, 1989; Porath & Arlin, 1997).

Though this approach has become very common, as with most areas of psychological study, there are complications. These include factors such as determining the level of expertise of judges and the purpose of the assessments (Plucker & Renzulli, 1999). As well, comparisons between techniques such as the consensual assessment approach and psychometric techniques have not produced definitive conclusions (Plucker & Renzulli, 1999; Runco, 1989).

In summary, the creative product remains pivotal in the study of creativity and it lies at the centre of the western view of this construct. Definitions of creativity tend to be product-oriented. Assessing the creative value of products most commonly involves the ratings of external judges who have expertise within the domain in question. One of the most widely used approaches is Amabile's (1982) consensual assessment approach.

The Creative Environment

This section reviews the literature relating to the study of the creative environment. As well as referring to physical spaces such as the artist's studio and the researcher's laboratory, the term *environment* also refers to less tangible features such as the social climate, the degree of perceived support and personal interactions. In exploring the best and worst climates for creativity, Isaksen, Laauer, Ekvall and Britz (2000) emphasize that such exploration on an individual basis is called *psychological climate* and when aggregated are referred to as *organizational climate*.

The goal of this type of research is to "seek to determine environmental variables that are related to creative productivity" (Plucker and Renzulli, 1999, p. 46) with the hope that such knowledge will result in school and work environments that

more efficiently nurture creativity. Since the emphasis is on those conditions and variables that stimulate creativity, this section will also include an exploration of the factors that are believed to enhance creative ability. This topic is especially important since it is suggested that some environments tend to nurture creativity and some do not (Sternberg & Lubart, 1995).

The study of the context of creativity has become more popular in recent years with an emphasis on the social aspects of creativity (Amabile, 1983; Isaksen et al., 2000; Oldham & Cummings, 1996) and in recent years social impact on creative ability has received a great deal of attention (Amabile, 1986; Jones et al., 1997; Moukwa, 1995). Amabile (1982) emphasized the importance of understanding the types of variables that can positively or negatively influence creative performance and that "theories of the creative process will be incomplete without an accounting of social-situational determinants as well" (p. 998). Overemphasis on the creative person can lead to the neglect of the impact of social environment on creative ability (Amabile & Gryskiewicz, 1989). The influencing environments can involve both family and the school system (Amabile, 1986; Soh, 2000; Sternberg & Lubart, 1995; Torrance, 1970) as well as the social environment in the workplace (Isaksen, Laauer & Ekvall, 1999; Isaksen et al., 2000; Moukwa, 1995; Oldham & Cummings, 1996).

Relating to home and school, books specifically dedicated to building an environment that enhances creativity include Torrance's (1962) *Guiding Creative Talent* and Amabile's (1989) *Growing Up Creative*. Torrance (1962) emphasized that society in general does not supply the encouragement needed by highly creative individuals. His guidelines to teachers and parents included encouraging a healthy

individualism in children and the spontaneous acknowledgement and reward of their questions, ideas and contributions. As well, Torrance emphasized the importance of helping children recognize their own talents, develop minimal skills, develop values, a sense of purpose, and the ability to hold onto that sense of purpose. He also encouraged that parents and teachers help creative children cope with anxieties, fears, hardships and failures. Amabile's (1989) suggestions for keeping creativity alive in the home include providing children with a great deal of freedom, respect and a moderate emotional closeness. She encourages the development of a clear set of values rather than a long list of rules. As well, she emphasizes the importance of encouragement, a sense of vision and maintaining a good sense of humour.

All of the suggestions and observations about the impact of environments have not focused on positive and nurturing influences. In fact, in some cases, a troubled environment has been observed to be correlated with creative ability. The literature suggests that some creative children have suffered greater numbers of trauma than ordinary children (Amabile, 1986). Family trauma has been observed to have such an impact on developing creativity that in offering advice to parents, Piirto (1992) suggested, "only partially tongue-in-cheek" that if parents want to enhance their child's creativity that they should "get divorced, or die" (p. 272). In a study done decades before Goertzel and Goertzel (1962) expressed a similar sentiment. Many of the eminent personalities in their study had been profoundly affected by the death of a sibling and "many are orphaned, half-orphaned, neglected or rejected" (p. 208). In many homes that have resulted in eminently creative individuals, Goertzel and

Goertzel (1962) have observed that "creativity and contentment are not congenial" (p. 130).

The impact of social environment and personal relationships has also received a great deal of attention in the literature and many factors have been emphasized as being important. These include influences such as encouragement from others (Nickerson, 1999), experiencing respect and emotional closeness (Amabile, 1986), a sense of support and warmth (Miller, 1990) and direct assistance from significant others (Piirto, 1992). These nurturing influences can be experienced with family and extended family members (Jones, et al., 1997) as well as teachers and leaders (Amabile, 1986; Piirto, 1992).

Another factor to consider is motivation. Though in and of itself this construct may not be considered an environmental factor, some contexts tend to promote motivation and some do not. Not only has motivation been widely studied (Amabile, 1986; Collins & Amabile, 1999; Sternberg & Lubart, 1995; Torrance, 1962) but Amabile (1989) has suggested that motivation is the most crucial factor in creativity. Some researchers promote the notion that both intrinsic and extrinsic motivation have value in regards to creativity (Sternberg & Lubart, 1995; Torrance, 1962). Others have suggested that motivation via extrinsic rewards such as financial gain or public recognition can actually inhibit intrinsic enjoyment of creative activities. And even though these views were later revised to suggest that certain aspects of extrinsic motivation can have a positive impact on creativity (Collins & Amabile, 1999) there is still not a clear consensus in this debate.

Consideration has also been given to the impact of the work environment. While it has been said that little is actually known about the conditions that promote creative performance of employees in organizations (Oldham & Cummings, 1996) organizational climate has been identified as having a direct impact on creativity in the workplace (Amabile, 1983; Ekvall, 1996; Isaksen et al., 2000; Moukwa, 1995; Witt & Beorkrem, 1989) and a variety of work-related factors have been suggested to influence creative production. These include having a sense of control and feeling that one's contribution is valued, the freedom to make decisions relating to task completion, having sufficient resources and managers who are good role models and who offer encouragement, receiving appropriate feedback and having sufficient time to approach a problem creatively (Amabile, 1983; Ekvall, 1996; Moukwa, 1995; Witt & Beorkrem, 1989). Characteristics which inhibit creativity include excessive red tape, lack of autonomy in deciding how to do the work, organizational disinterest, inappropriate feedback, insufficient resources and time pressure (Amabile, 1983; Witt & Beorkrem, 1989).

There is some overlap between these factors and those believed to be influential in a school environment. In researching which teacher behaviours influence creative ability in students, Soh (2000) discussed a variety of such conditions. These included encouraging students to learn independently, having a co-operative style of teaching, encouragement of flexible thinking, providing opportunities to work with a wide variety of materials, promoting self-evaluation in students, and taking the students' suggestions seriously.

Instruments have been developed to aid the exploration of environments that enhance creativity. These include the *Work Environment Inventory* (WEI) (Amabile & Gryskiewicz, 1989) which also provided the conceptual model for *KEYS: Assessing the Climate for Creativity*, (Amabile, Conti, Coon, Loazenby & Herron, 1996). Other instruments include the *Climate for Creative Productivity* (CCPI) (Witt & Beorkrem, 1989), the *Creative Climate Questionnaire* (CCQ) (Ekvall, 1996) and the *Situational Outlook Questionnaire* (SOQ) (Isaksen et al., 1999; Isaksen et al., 2000). These instruments appear to have the capacity to discriminate climates for creativity (Amabile & Gryskiewicz, 1989; Ekvall, 1996; Isaksen et al., 2000; Witt & Beorkrem, 1989).

A few other notions relating, at least partially, to the creative environment are worth mentioning. One such notion is *luck*. It has been suggested (Piirto, 1992) that certain times and places – being in the right place at the right time – can have an impact on creative development. As well, altered states of consciousness have been suggested to have an impact of creative ability for some individuals. Spiritual experience as an entry point to personal transformation and higher creativity has been explored (Ferguson, 1980). Some artists have emphasized that they receive fully articulated creative material from the realm of the unconscious mind (Piirto, 1992) and others have emphasized not being able to create without God's help (Lindauer et al., 1997). The influence of drug induced altered states has also been suggested to influence creativity (Ferguson, 1980; Huxley, 1963; Jones et al., 1997).

In summary, the study of the context in which creativity occurs has become more popular in recent years, with special attention given to the social impact on

creative ability. Environmental influences that tend to both nurture and hinder creative production in the home, school and the workplace have been explored. Though many positive and nurturing factors have been suggested, highly creative individuals have also emerged from homes with an unusually high degree of trauma.

Conclusion

Like many and possibly most constructs put to scientific scrutiny, the study of creativity has left us with as many questions as answers. The questions that spurred on the initial interest in this field remain with us: Is creativity a property of products or processes or people? Is it a personal or a social phenomenon? Is creativity common to all people or a unique characteristic of a select few? (Mayer, 1999). Though we may be somewhat wiser these questions still remain largely unanswered.

Fifty years after Guilford's APA address we are still asking what creativity is. Like the analogy of the blind men describing the elephant our varied definitions and methods seem to leave us grasping at a single part, a leg, a trunk or an ear, while vehemently calling them all *elephant*. Tardiff and Sternberg (1988) use a different analogy. They emphasize that creativity, like food, has many natures and that psychologists, like tasters and samplers, are just beginning to sample among them. We and our theories are just primitive in our abilities as tasters.

The present study seeks to further explore this field and specifically to look at creativity development and enhancement. While there are adherents to the notion than creativity can be enhanced (Amabile, 1983; Csikszentmihalyi, 1996; Sternberg & Lubart, 1995; Torrance, 1995) a clear answer as to *how* this can be accomplished is not to be found in the literature (Feldhusen & Goh, 1995; Joussemet & Koestner,

1999; Nickerson, 1999). This study asks the question: What factors most significantly influenced the development of creative ability in creative people? The details of the study are outlined in the following chapter.

CHAPTER III

METHODOLOGY

This chapter describes the research method, sample, questionnaire, procedures

for data collection as well as the data analysis procedures used in the study.

Research Methodology

In the early stages of planning this study, a qualitative research method,

phenomenology, was considered. However, since the intent of the study was to gather

data and information about the specific factors that influence creativity rather than

capturing the lived experience of the creative process, a quantitative approach, the

survey method, was used. This allowed for a descriptive statistical analysis and the

opportunity to identify frequencies, means and rank ordering of the variables. As

well, since anecdotal narrative material can involve, compel and even transform us

(van Manen, 1997) comments, feelings and excerpts from the participants' life

experiences were integrated into the discussion of the descriptive analysis.

The Participants

The 50 individuals surveyed in this study worked in a variety of settings and

occupations and all met the criteria for inclusion as outlined below. They were

divided into two groups, artists and non-artists, with 25 individuals in each group.

The artists were comprised of 12 singer/songwriters, four musicians (all of whom also

wrote music but whose main classification was *performer*), six visual artists (four

painters, one photographer, one sculptor), and three writers. Two of the writers were

also poets. The 25 individuals who made up the non-artist group were comprised of

ten entrepreneurs, four teachers, four professors, two therapists, two journalists, two

business executives and one non-fiction writer. The study was performed with 50 participants to allow for a comparison between groups of 25. Individuals were contacted until the desired "n" for each group was attained. In total, approximately 70 individuals were identified and contact was attempted. The sample was comprised of 26 males and 24 females, most of whom resided in Canada. One participant resided in the United States and one was a Canadian citizen living abroad.

It is also important to emphasize that some participants did not fit neatly into a single occupational category. For instance, while only one non-fiction writer is listed, all of the professors and a number of the entrepreneurs had regular research and writing components attached to their positions. One of the therapists was also a professor. As well, in a number of cases there were overlaps between the groups. A number of participants qualified for inclusion in both the artist and non-artist groups. Perhaps this should not be surprising in studying creative people in everyday life, for such "crossovers" are common the lives of eminent figures. "Many, if not most, talented people are talented in several areas" (Piirto, 1992, p. 148). Einstein and Aldous Huxley were musicians; Michelangelo, Galileo and Margaret Mead were poets; M. C. Escher was fascinated with mathematics (Piirto, 1992). In his study of eminent figures, including Freud, Picasso and T. S. Eliot, Gardner (1993) emphasized that all of them had more than one area of strength.

Recruiting participants for the study involved a number of steps. The first stage, as discussed in the previous section, involved establishing the criteria for inclusion. Once that was completed, potential participants meeting these criteria

needed to be identified and approached. This process is outlined in the following section.

The Criteria for Inclusion

Establishing the criteria for inclusion was an important and a challenging process. It was important because it is central to the study. A population cannot be studied until it can be identified. For this reason, establishing appropriate criteria for inclusion warranted considerable attention. The process was challenging because the task of determining a set of criteria capable of identifying creative people is fraught with obstacles and questions. While it is common in everyday discussions to hear people utter statements such as "He's so creative" or "She's one of the most creative people I've ever met," verifying such observations in a valid and reliable manner is much more challenging. Though people may appear creative to the everyday eye, how do we quantify this observation? What measures are used? How can we be certain that we are not in fact, identifying some other construct such as motivation or ambition? Indeed, as Feldhusen & Goh (1995) emphasize, given "the complexity of the models and conceptions of creativity, assessment of creativity could not be anything but complex" (p. 235).

As well, it became quite clear in the early stages of this work that choosing to sample participants from a cross-section of domains gave rise to additional difficulties. An argument could certainly be made that it is simpler and more straightforward to identify creative artists than it is to identify creative therapists or teachers. A musician's best work not uncommonly plays on the radio and is displayed on record store shelves, but the best work of a therapist or teacher often occurs behind

closed doors, witnessed only by a handful of students or a single client. Since identifying appropriate participants is indeed a complex process, it was important to consider how the criteria for inclusion have been established in previous research. As outlined below, there is no single, agreed upon standard to use in identifying participants.

Some studies make use of the nomination process, where teachers, peers and others are asked to recommend potential participants. In Helson's (1999) longitudinal study exploring creativity in women, inclusion for the project was based on nomination of students by college faculty members. The instructors were asked to recommend students they considered to "have unusual potential for a creative contribution ..." (p. 89). A similar procedure was used in studying creative women mathematicians. Participants needed to hold Ph.D. degrees and be nominated by peers (Helson, 1983). Barron (1969) used the nomination process to study creative architects. Five architectural faculty members at the University of California were asked to nominate creative architects. This nomination process has also been used to identify creative ability in the arts. Artists have been polled and asked to identify other artists who were known to them personally and who were, in their opinion, particularly creative (Lindauer, Orwoll & Kelley, 1997). The nomination process has even been used in a self-report format. Pollicak & Kumar (1997) divided participants into high and low creative groups based on a self-report measure of creativity.

As well as the nomination process, a variety of external criteria have been used to identify participants. In a study exploring how creative people define creativity, Gluck, Ernst & Unger (2002) randomly chose 135 artists, graphic

designers, designers and architects listed in the Yellow Pages. For comparison purposes the authors also included 47 psychology students registered in a course on creativity. In developing an instrument to identify creative engineers, Michael & Colson (1979) compared creative individuals with those classified as noncreative. Classification in the former category was warranted if patents were held or were pending. Other studies have incorporated more detailed sets of criteria. In exploring the process of creativity and the impact of influential factors in artists' lives, Jones, Runco, Dorman & Freeland (1997) included participants if art was their primary occupation, their work had been shown in at least one professional gallery, they had completed at least three years of college, and, presumably related to the logistics of carrying out the research, they resided in southern California.

In another case, a point system was used to identify creative participants. Piirto (1992) surveyed poets and novelists who had been listed in *A Directory of American Poets and Writers*. In order to be eligible for listing, a writer needed to accumulate at least 12 points based on previous publication. A published novel was worth 12 points and a short story in a journal was worth four points.

Milgram and Milgram (1976) also used a point system. Creative performance was assessed via a self-report questionnaire and the assigning of "points" to students' reported involvement in areas such as music, fine arts and writing. They responded to questions such as: "Do you or did you play one or more musical instruments? Which ones? For how many years?" (p. 256).

A variety of approaches have also been used to identify creative individuals who have made significant contributions. In a study of eminent personalities,

Goertzel & Goertzel (1962) inclusion was warranted if at least two books had been written *about* the persons in question. As such, their study involved eminent individuals such as Alexander Graham Bell, Salvador Dali and Thomas Edison. In some cases, if the achievement has been significant enough, a single criterion – albeit a very major one - has been used. In her book, *Uncommon Genius*, Shekerjian (1990) interviewed MacArthur Fellows, winners of the MacArthur award. Winners of this award, sometimes referred to as the "genius" award, are chosen on the basis of outstanding originality and dedication in their creative pursuits. They are given a five-year grant and are encouraged to pursue their creative interests.

A detailed set of criteria was utilized in the Csikszentmihalyi (1996) study, which provided the foundation for his book *Creativity: Flow and the Psychology of Discovery and Invention*. Csikszentmihalyi (1996) focused on people who had "made a difference to a major domain of culture – one of the sciences, the arts, business, government, or human well-being in general" (1996, p. 12). The achievements and accomplishments of the participants were reviewed to determine if inclusion was warranted (1996). As well as actual products, such as books or articles, Csikszentmihalyi's criteria also included items such as awards and fellowships received, prizes won, positions held and performances delivered. For example, one participant was an actor who had won numerous Golden Globe and Emmy awards. He had also been the president of the Screen Actors Guild. Some participants had won the Nobel prize. Outstanding achievements were also listed and included examples such as the composer who had appeared as a soloist with a symphony orchestra at age 14 (1996).

The Criteria for the Present Study

In establishing the criteria for the present study a variety of approaches were considered. Very early in the study, thought was briefly given to the use of an established measure of creativity, such as the Torrance Tests of Creative Thinking (Torrance, 1974) as a means of identifying and/or verifying participants. However, using a formal test for this purpose presented obvious problems. Potential participants would be required to complete the test to determine whether they were considered sufficiently creative to warrant inclusion. As such, it is conceivable that some, and perhaps many, would not score highly enough to qualify. These individuals, many of whom would be actively involved in their creative pursuits, would need to be informed that they did not score highly enough to take part in the study. This outcome was considered unacceptable and an alternative method was sought.

Since the notion of creativity, at least in the western world, is commonly considered to involve the creation of a product (Mayer, 1999), creative production was next considered as a means of identifying participants. As with some of the above-mentioned studies (Piirto, 1992; Jones et al., 1997) criteria for inclusion could potentially be based upon a record of actual products generated. Taking this approach however, also gave rise to additional questions: What does a product actually entail? Does it need to be published? Does the product need to be sold? Does it need to be recognized as exceptional? How many products would be required?

During this second area of consideration a tentative decision was made to set the criteria at five published products. The researcher chose this number in an effort to identify a degree of accomplishment that was neither so small that it did not

represent a substantial creative contribution, nor so big, that it would potentially preclude many creative people. The intent was to then seek professional opinion regarding this choice. These results are discussed below. *Published* was defined as "professionally completed and made available for public sale." In the case of paintings and sculptures, these would be required to have been displayed in public galleries. Self-published products would be considered only if there had been formal critical acclaim such as reviews in newspapers, magazines or on television.

This set of criteria was rejected for a number of reasons. Once a tentative list was generated, professional opinion was then sought. A writer/educator and a painter who were both actively involved in creative pursuits and who had both previously carried out graduate level research, were asked to review the criteria. While the general approach of using creative production as a measure was found to be appealing, the feedback provided also suggested that the criteria would prove to be overly restrictive and that many individuals, though they were indeed creative, would not qualify for inclusion. In consultation with the writer/educator and the painter, it was suggested that five published works was considered to be too high. Some artists, it was reported, are not strong promoters of their own work, and tend to create in relative obscurity, gaining neither formal publication nor independent acclaim. Though they sell their work, some do so only privately. As well, it was clear that these criteria would not properly serve all areas of creative endeavour. For instance, if teachers are creative in their classrooms, what are the products that are generated? How does one measure a creatively delivered lesson plan? What are the products of creative therapists? As such, this set of criteria was also rejected.

Since the present study explored creativity across a variety of domains, the criteria for inclusion needed to address this added complexity. As such, a combination of the approaches from the above-mentioned studies was integrated with feedback from the two professionals to create the final measure for inclusion.

Nomination of participants by teachers and peers has been incorporated into creativity research (Barron, 1969; Helson, 1983, 1999; Lindhauer, Orwoll & Kelley, 1997) and it has been emphasized (Hennessey & Amabile, 1988) that creativity is something that people can recognize even when not given a list of specific features to consider. As such, the nomination process was incorporated into the present study. As well, incorporating external signs of creative ability has been utilized in previous research (Csikszentmihalyi, 1996; Gluck, Ernst & Unger; 2002; Jones, et al., 1997; Milgram & Milgram, 1976; Piirto, 1992) to identify suitable participants. And since the Csikszentmihalyi (1996) study also involved participants across a wide variety of domains, specific components of the criteria for inclusion from that study were integrated into the present work. Those criteria included awards, achievements, positions held as well as actual products created. In relation to Csikszentmihalyi's criterion that participants have made a difference to a major domain of culture a decision needed to be made regarding the number of criteria required. Was it sufficient that participants meet one criterion, as in writing a book? Or was ten necessary? Since there are no previously established guidelines for determining who is sufficiently creative, professional opinion was again sought. In follow-up discussions with the writer/educator and the painter, it was suggested that meeting five criteria would be a reasonable expectation. An individual meeting one criterion,

such as having written a single book, may indeed be creative, but, on its own, a single product did not seem sufficient. On the other hand, a very high number such as ten would potentially eliminate many creative people. Someone who had written five highly successful books would not qualify. As such, the requirement of meeting five criteria was chosen. As well, it was recommended that subsequent expressions of the same criterion qualify in the assessment. In other words, a fiction writer who had written five books – five expressions of the same criterion – would qualify for the study. Similarly, a musician who had won a songwriting competition, had received independent acclaim in the form of news or entertainment features, and who had released three CDs of original work would also qualify. Actual details of those involved in the study are provided below.

The criteria.

The following list outlines the final criteria for inclusion:

1. Recommended/recognized by peers as being creative;

2. Won awards, prizes or fellowships;

    (e.g. first prize in a songwriting competition, outstanding teacher of the year);

3. Developed/created products. Examples include:

    a. Authored books and/or articles;

    b. Developed and implemented innovative or entrepreneurial business strategies or ideas;

    c. Composed musical pieces;

    d. Designed websites;

e. Created visual art (paintings, drawings, etc.);

f. Exhibited work (sculptures, photographs);

g. Developed scientific theories;

h. Developed and/or delivered programs, courses, workshops, etc.

i. Performed theatrical works (i.e. plays, films);

j. Toured (in musical or theatrical performances);

k. Founded/edited magazine or periodical.

4. Received Independent Acclaim:

Media (newspaper, magazine, radio or television) reviews, profiles or

interviews);

5. Demonstrated Outstanding Accomplishments. For example:

Performing on national television at young age, founding a non-profit

agency that has made significant contributions, receiving

honourary degrees, touring extensively.

6. Held Significant Positions. For example:

President of a foundation or association; CEO of a corporation.

Data Collection and the Selection Process

While it is quite simple to propose that 50 creative people be studied, the

process of finding and contacting such a group of individuals is much more involved.

Participants in the study generally fell into one of three categories. Those initially

identified by the researcher, those recommended by others, and those located via the

World Wide Web. The procedure for contacting participants in each of these

categories, and the process of confirming that inclusion was warranted is outlined below.

Participants Identified by the Researcher

As a member of the arts community in a major centre, the researcher was often in contact with creative artists. As well, many years of employment as both a psychologist in private practice and an elementary and junior high school teacher led to additional contacts within the fields of counselling and education. Association with two major universities as well as regular involvement in events sponsored by a large city's Entrepreneur Association also resulted in numerous recommendations of creative researchers, professors and business people. An initial list of approximately 35 names was generated from within this network; thirty of these individuals both qualified and agreed to participate.

Confirming that inclusion was warranted within this group involved a number of steps. In many cases, the necessary information was readily available. Biographies listing the individuals' accomplishments, awards, and creative products were often a part of artists' "press packages" and entrepreneurs' and service providers' promotional material. In other cases the necessary details were available via individual, company or university websites. Where necessary, additional information was obtained through direct contact with the individual. Here is an example from the actual process.

A singer/songwriter was identified as a potential participant by the researcher. This initial level of "possible" simply referred to individuals who stood out in some way because of their creative activities. They performed, sold products, or were in

some way visible in their creative activities. As a "possible" participant, the songwriter's promotional materials were then viewed both in hard copies (paper) and via a published website. This artist had released two compact discs of original music, had won the top award in a national radio contest, had multiple examples of independent reviews, had written over 50 songs, and had performed his music in nation-wide tours. It was determined on the basis of the review of these materials that inclusion was warranted. The minimum of five criteria were met as follows:

1. Recognized/recommended as being creative;

2. Won awards, prizes or fellowships;

3. Developed/created products: released an initial compact disc of original compositions;

4. Developed/created products: released a second compact disc of original compositions;

5. Received international acclaim (newspaper, radio and television reviews).

It is worth noting that while "five" was listed as the minimum criteria, a great many participants far exceeded this minimum requirement. Since the inclusion process allowed for subsequent expressions of the same criteria (e.g. five published books would qualify) many participants' scores tallied well over 20. In cases where the perusal of background information suggested that inclusion was possible but not guaranteed, initial contact of the individual included a request for additional information. An example of this procedure is included in the second section.

The singer/songwriter discussed above was then contacted via electronic mail (though in some cases this initial contact was done in person) and invited to

participate. An explanation of the study was sent to him. Here is an example of the

typical letter that was initially sent out:

Dear "Participant's Name":

Jim Henry here. I did a show with you earlier this year - when you were just
setting out for your tour. Hope you're doing well, with lots of writing and
plenty of gigs!! I see from your website that you have some very unique
projects coming up. They sound very interesting.

The reason I am writing is because I am also doing my PhD dissertation on
creativity - I am taking a look at some of the reasons that creative people
become creative. And I am hoping that you would be willing to take part. It is
really a simple process (the study, I mean) and really won't take much time. I
have already had a number of creative people offer their perspectives, and I
would love to have yours.

As part of the research, I have developed a questionnaire in which the
participants rate 30 factors (such as passion, perseverance, reinforcement,
mentors, etc.) in terms of whether or not each factor had an impact on their
creativity.

Then the participants choose their three most important factors, and add a few
details about each. (All the instructions are given in more detail in the
questionnaire.)

Also, another nice thing is that it is all done online. (No stamps to lick, or
envelopes to stuff) All I do is email you the link to the website and away you
go!! Once you complete the questionnaire, the info is automatically
sent to a database.

I hope you are interested in participating and I look forward to hearing from
you. Thanks,

Jim Henry

Participants Recommended by Others

Approximately 30 names were recommended by others; twenty-five of these

individuals both qualified and agreed to participate. These recommendations came

from faculty members, those actively involved in teaching creative programs, such as

writing courses and art classes, school administrators, entrepreneurs and other

participants. When someone was asked to refer potential participants a description of

the study and an outline of the criteria for inclusion were provided. In some cases,

when individuals heard about the study, or took part in it, they spontaneously

suggested additional names. In those cases, the specific criteria were then discussed.

Here is an example of a follow up message. The full criteria for inclusion would also

be included in the letter.

> Dear "Individual's Name":
>
> Thank you for the names you suggested for my study. I have a follow up
> question for you. Remember the talk we had a long time ago about the criteria
> for inclusion?
>
> We talked about how, with formal research (especially as part of a PhD
> dissertation) the first question often asked is, "How do you know these
> people are creative?" So, it was necessary for me to put together a
> set of criteria.
>
> You know all of the people on your list, and so for you, it is likely
> clear that they are indeed creative. I, on the other hand, don't know them, and I
> need to be able to demonstrate in some measurable way that the participants in
> my study have met certain criteria.
>
> After much reflection, this is what I have settled on. (And one thing to keep in
> mind is that, some creative people might fall through the cracks - meaning
> that they are indeed creative, but their creativity doesn't manifest
> the particular outcomes that I am using as my measuring stick.)
>
> So – would you mind reading through the criteria listed below and providing
> me with this information about the names you suggested? Thanks very much.
> As you can see, it is both fairly flexible and at the same time, provides
> sufficient structure.
>
> Thanks again. Hope you're doing well.
>
> -Jim

At times the information provided in follow-up responses clarified specifically why inclusion was warranted. At times, however, uncertainty was expressed as to whether a particular individual qualified. When that occurred, the researcher followed up directly with the individuals who had been recommended and further clarification was sought. In a number of cases, recommended individuals were sent the criteria for inclusion and they replied with the clarification that they did not qualify for the study. Here is an example:

Hello, Jim.

I appreciate your contacting me for your study. However, I do not meet most of the criteria you have requested. Thanks anyway.

"Individual's Name"

Also, in some cases, attempts to contact the recommended individuals were initially unsuccessful, and usually occurred in the form of returned e-mail messages with the notification: "Delivery has failed." When alternate contact information was attainable, the process resumed; when it was not, further attempts to include that particular person were halted.

In approximately 15 cases, a contact letter was sent out but not replied to in any way. In one case a recommended participant replied that she did not want to participate. She wrote:

Dear Jim:

I wish you good luck on your study on creativity. I can't say that
I have any faith in the measurement of such incommensurate things and don't
even give much credence to the notion of creativity really. Also I am
horribly busy having just started a new job. So I think I
will beg off your study. All the best,

"Individual's name"

Locating Participants Via the World Wide Web

As an additional resource the technology of the World Wide Web was incorporated into the study. This was done primarily because additional qualifying participants were required. Approximately five individuals became involved in the study stemming from searches on the World Wide Web.

Only those participants whose publications and accomplishments were outlined on web sites and in independent reviews were considered. This allowed the researcher to peruse the background information of the person prior to contact being attempted. Searches were performed for a number of occupational groups. Since artists and entrepreneurs not uncommonly have a strong web presence these two areas were given primary consideration at this point in the study. Here is an example.

Using the Google search engine, a variety of search terms, including "artist" "painter" and "awards", as well as a number of location-specific terms, such as particular city names were entered. An initial scan of the resulting websites was then performed, with a number of criteria in mind: Independent reviews of artists, websites with samples of the artist's work, and also, because it provided a "link" for initial contact, the name of the city the individual resided in. This initial scan of the sites resulted in a selection of names and websites that appeared worthy of further consideration. A second, more detailed review was then performed.

For example, a particular painter's name had emerged in numerous websites. Subsequent searching led to sites containing newspaper reviews of his work. As well, a website dedicated to the individual was located and this provided significant detail. It was learned that the artist had won first prize in a province-wide exposition. The

website also provided a presentation of completed paintings, illustrations and prints as well as details of the artist's accomplishments and his numerous gallery shows. This information was sufficient for the researcher to determine that inclusion was indeed warranted and a letter introducing the project was sent to the artist. Here is his response:

Hi Jim:

This all sounds like interesting stuff. One of my favourite processes is actually being asked about me and what I do - not because I have an ego problem, but because new questions frequently make or help me think in new ways or realize something new about me and my art. So, yes, do send the link and I would love to take part! Look forward to it (but might not get around to it until a dark night next week),

"Participant's Name"

In another case, a very well known Canadian musician, also located via the Internet, sent this note:

Hi Jim:

I'd be HAPPY to participate. I'm off today to begin a new tour - you should tell me what your time line is in case I can't get to it right away.

"Participant's Name"

In summary, 50 individuals, 25 artists and 25 non-artists, who met the criteria for inclusion were surveyed. Potential participants were either initially known by the researcher, recommended by others, or located via the World Wide Web. Contact was attempted for approximately 70 individuals about 12 of whom made no reply at all. Some individuals never received the initial correspondence and the researcher received a notice that the delivery had failed. In a few cases, individuals who had been invited to participate did not respond to their letters until after the data had

already been collected. Two other individuals had stated that they were interested but could only participate after a certain date. In both cases, the data collection for the study had already been completed.

Profiles of the Participants

It became apparent early in the study that providing profiles of the participants on an individual basis would compromise confidentiality. Some participants in the study are very well known and as many as a third to a half of them would potentially be identified if their accomplishments were listed. As such, it was decided that in the interests of providing information regarding how these participants warranted inclusion, while also maintaining confidentiality, subgroup profiles would be provided. A detailed description is listed below.

The Artist Group

Singer/songwriters and musicians (12 singer/songwriters, four musicians).

The singer/songwriters and musicians involved in the study have all released compact discs of their music. Some have released two CDs while others have released four or five; some have released as many as a dozen compact discs. The CDs are all sold province-wide with many available nationally and internationally. All of the singer/songwriters have written numerous songs and many of these artists have written hundreds. In many cases the songs are also "covered" (recorded) by other artists as well. Some of the participants even have songs covered by international performers such as k.d. lang and Ian Tyson. All of these artists regularly perform publicly and many of them tour on a national and international basis. Some have toured for over twenty years. All but one regularly performs in the folk festival

circuit. The one who doesn't perform at festivals tends to focus more on songwriting than on performing. He recently won a national award as songwriter of the year. Many of the participants have won awards or competitions at city and/or provincial levels, but numerous participants have also been nominated for, and have won, coveted Juno awards. Some have won multiple Junos. A number of the participants have written scores for National Film Board productions, CBC programs and international shows such as Sesame Street. Some also perform in live theatre. All of them have received independent acclaim in the form of media interviews and reviews. All of them have been featured in newspaper and magazine articles. Many of them have had television specials dedicated to their work.

Visual artists (four painters, one photographer, one sculptor).

The work of these visual artists has been featured in dozens of galleries across the province, and in some cases across the country and around the world. They have won prizes for their work at provincial art expositions and national competitions. They have created and sold hundreds of completed works. Some of the paintings have been released as limited edition prints. Numerous books feature their illustrations and in some cases, books have been written about them. These artists have been featured in newspapers, magazines and television programs. Some of them teach courses on technique and style, offer lectures on their work in venues ranging from small gatherings to international conferences. One has served as artist in residence at a nationally known institute of art. They have been awarded numerous grants, scholarships and fellowships because of their outstanding work.

Writers (three).

The writers in the study have produced a total of sixteen books as well as numerous articles, essays and poems published in anthologies and magazines. All of them have also developed and delivered their own unique writing programs, which have been delivered in workshops and conferences as well as being integrated into the writing programs of two major universities. These writers have been nominated for numerous provincial and Canadian writing awards; at times they have won, at times they have been finalists. One is also a playwright whose work has been successfully performed on public stage.

The Non-Artist Group

Entrepreneurs (ten).

The entrepreneurs involved in the study have varied backgrounds and areas of focus. Some are businesspeople and others are educators; most are both. As a group they have delivered literally thousands of keynote addresses, workshops, seminars and training modules across the country and around the world. The creative products generated by this group range from numerous books, periodical and magazine articles, course manuals and booklets to multimedia CDs and innovative training films available on DVD and video. Some of the educators have developed innovative programs that are offered internationally in educational and corporate settings, others have founded numerous successful wholesale and retail businesses, discussed in the media as being the "first in the area" and as "breaking new ground". All of them make their living based on the innovations they have conceived of and implemented.

Writers (two journalists; one non-fiction writer).

The writers involved in the study held a number of positions. Two were journalists for major newspapers and have produced hundreds of articles and feature stories. On a weekly and often on a daily basis, their newspaper stories were published and read by thousands. One of the journalists has won international awards for excellence in writing. The other has also demonstrated creative crossover to other domains and has experienced success as an illustrator. The non-fiction writer is the author of a regionally bestselling book. Glowing independent reviews of the book were published in newspapers and magazines. As well, this writer has conceived of, researched, developed and delivered numerous workshops and seminars based on the material covered in the book and a variety of other topics.

Teachers (four).

The teachers included in the study were all recommended as being highly creative. Some of them have developed and implemented unique programs and new curriculum for their schools and school boards. These have included the development and implementation of leadership programs for school staff, a mentorship program for new teachers and innovative programs in creative writing and language arts. Some of these educators have regularly provided professional development workshops for other teachers and some have done so on a provincial basis. Some were chosen to represent their school district in "master teacher" positions with faculties of education at the university level. Following direct observation in the classroom by an administrator, these teachers were rated, as "the kinds of teachers that other staff members look to for creative ideas." As well, they were also chosen for this study

because they were described as having "unique and innovative classroom presentations."

Professors (four).

The professors included in the study have published dozens of articles – some have published almost a hundred articles within their area of interest – as well as numerous books, book chapters and edited texts. Two of the professors have won national and international awards for their writing and the research contributions they had made within their field. As well, two of them have demonstrated creative crossover – with publications in a second field as well. One is also a prolific songwriter with a Compact Disc of original compositions. He regularly performs this material at musical venues. Another professor is also a published writer of fiction who also has been invited as guest of honour at a national writing conference. A number of the professors have also received extensive funding from multiple provincial and national foundations because of their outstanding work. As well, they have made hundreds of conference presentations.

Therapists (two).

The therapists in the study have both held successful private practices. One has also done a significant amount of research, producing numerous articles and conference presentations on a variety of therapeutic issues. The other therapist has focused more on program development and training. As a senior trainer for a contemporary approach to psychotherapy, she has traveled internationally and offered hundreds of lectures, workshops and seminars. She has regularly worked with the

founders of this therapeutic approach, contributing to the development of new programs, workshops and teaching techniques.

Business executives (two).

The business executives in the study have both had a very significant impact on the world of finance. Both have held senior corporate positions in international companies and both have implemented strategies and programs that have contributed significantly to the success of their companies. One of the executives spearheaded innovative training programs for a major international bank, subsequently becoming a senior member and taking on additional roles in the development and delivery of management training programs. She also speaks at international conferences. As well as holding a senior position at an international firm, the other executive has also founded her own finance company, and has served as its president. Financial magazines regularly sought her opinion and she was often featured in articles, at times as the "cover story". She has also published a number of articles, developed videos on international business, and has spoken on national television and at international conferences.

The Instrument

The primary instrument used in this study was a 30-item questionnaire developed specifically for the purpose of exploring the influences on creative ability. Developing a questionnaire is relatively easy; developing a questionnaire that reliably and validly measures what it purports to measure is a significant challenge. Obvious questions immediately arise: What items should be included in the questionnaire? How many items? Does each question have the same meaning for all respondents?

Do the questions actually refer to, and gather information about, the proposed topic? Since a well-designed questionnaire is both reliable and valid (Berdie, Anderson & Niebuhr, 1986; Nesbary, 2000) and gathers, as precisely as possible, the information the researcher wants (Nesbary, 2000), these and other questions were considered before and during the process. The various stages involved in the development of the instrument are outlined below.

Validity

Aiken (1986) recommends that prior to questionnaire construction, a researcher should begin with a clear statement of its purposes or objectives. In this study, the purpose of the instrument was three-fold. First, to identify the influences that had a significant impact on the development of creativity in creative people. Achieving this objective obviously involves the ability to identify and locate "creative people". This process is outlined in the Criteria for Inclusion section (on page 50). The second purpose of the questionnaire was to identify which influences were most important to the participants. The third objective was to clarify and articulate what was particularly meaningful and relevant about each influence. The process of generating items with the aim of meeting these objectives then began.

It is recommended that a researcher become thoroughly acquainted with the topic of study before commencing the questionnaire (Aiken, 1996; Berdie et al, 1986), and gather as much information about the topic as is realistically possible. Towards this goal Berdie et al (1986) recommend three strategies: Perform a literature review, conduct preliminary interviews with potential respondents, and

undertake discussions with experts. Each of these recommendations was followed in this study.

First, a review of the existing literature, including previous questionnaire-based research, was performed to identify the items that have been suggested to have an impact on creative ability. As previously mentioned, while there is not a clear, unequivocal answer regarding how creativity can be enhanced (Feldhusen & Goh, 1995; Nickerson, 1999) there are many adherents to the notion that enhancement can indeed occur (Amabile, 1983; Torrance, 1995; Csikszentmihalyi, 1996; Sternberg & Lubart, 1996). As such, the literature was a very rich resource. Potential items were gathered from all the major schools of thought in creativity research, including the psychometric, the experimental and the biographical. The initial list comprised approximately 35 items.

Literature Sources for the Questionnaire Items

The link between questionnaire items and literature sources is outlined below. Sources for what might be considered the most obvious items for inclusion, such as social environment and motivation are discussed initially. This is followed by an exploration of less commonly researched influences such as spirituality and the impact of trauma. Finally, a brief discussion is provided outlining items that were included primarily on the basis of suggestions by participants in the pilot stages of questionnaire development.

A variety of items relating to environmental influence were included in the questionnaire. Social impact on creative ability has received a great deal of attention in the literature (Amabile, 1986; Jones et al., 1997; Moukwa, 1995; Sternberg &

Lubart, 1995) and was an obvious area for consideration. And since the influencing

environments can involve both family and the school system (Amabile, 1986;

Sternberg & Lubart, 1995; Torrance, 1970) items on the questionnaire were included

to address both home and school environments. As well, since a variety of work-

related factors, such as having a sense of control and feeling that one's contribution is

valued have been suggested to influence creativity (Moukwa, 1995), work

environment was also added to the list.

The questionnaire also includes a number of items relating to issues of

motivation. Not only has this area been widely studied (Amabile, 1986; Collins &

Amabile, 1999; Sternberg & Lubart, 1995; Torrance, 1962) but Amabile (1989) has

suggested that motivation is the most crucial factor in creativity. As well, aspects of

this topic continue to stir controversy. Some researchers promote the notion that both

intrinsic and extrinsic motivation have value in regards to creativity (Sternberg &

Lubart, 1995; Torrance, 1962). Others have suggested that motivation via extrinsic

rewards such as financial gain or public recognition can actually inhibit intrinsic

enjoyment of creative activities. As such, items relating to both extrinsic and intrinsic

motivation were included in the questionnaire.

Extrinsic motivation was addressed via items exploring the impact of various

types of external reinforcement, such as financial gain, applause, popularity and

praise. Intrinsic motivation was addressed using a description of enjoyment and

personal satisfaction, a *passion* for one's work. Suggestions of the importance of

passion to creativity are numerous (Amabile, 1989, Nickerson, 1999; Piirto, 1992;

Sternberg & Lubart, 1995; Torrance, 1979; Torrance, 1995). Also, since self-

expression is considered by some to be an important form of intrinsic motivation (Piirto, 1992; Sternberg & Lubart, 1995) a separate item was included to address this area. Of course, the nature side of the nature versus nurture debate is not without its voice (Dacey & Lennon, 1998; Nickerson, 1999) and an item relating to genetic inheritance was also added.

The questionnaire also included a number of items exploring the influence of personal relationships on creativity. The literature explores such influences as encouragement from others (Nickerson, 1999), experiencing respect and emotional closeness (Amabile, 1986), a sense of support and warmth (Miller, 1990) and direct assistance from significant others (Piirto, 1992). As well, these influences can be experienced with family and extended family members (Jones, et al., 1997) as well as teachers and leaders (Amabile, 1986; Piirto, 1992). These suggestions led to the inclusion of items referring specifically to support systems and to the influence of role models and mentors.

The importance of knowledge and skills within a particular domain is also believed to be important in the development of creativity (Amabile, 1986; Nickerson, 1999; Rostan, Pariser & Gruber, 2002; Torrance, 1979). As well, other variables, such as the impact of formal training at an early age (Piirto, 1992) and of restricting choice (Amabile, 1986) are explored in the literature. As such, questionnaire items relating to domain specific skills, an early start and required participation were all included in the survey.

Related to the notion of an early start within a domain is the long-term involvement in one's craft. Gruber and Wallace (1999) speak of a 10-year rule,

suggesting that it takes about ten years for individuals to effect significant revision in their own ways of thought. Similarly, aging artists in the Lindauer, Orwoll & Kelley (1997) study emphasized that their work got better as they increased knowledge and gained new skills in the process of growing older. This item was also added to the questionnaire.

An item regarding work habits was included because dedication and hard work are suggested as important (Amabile, 1986; Piirto, 1992; Torrance, 1979). As well, the capacity to continue working during times of hardship, frustration and rejection (Amabile, 1986; Sternberg & Lubart, 1995; Torrance, 1979) led to the inclusion of an item emphasizing courage and perseverance.

An item related to creativity training was included because specific techniques for enhancing creativity have been widely explored (Davis, 1992; de Bono, 1971; Fontenot, 1993; Massetti, 1996; Nickerson, 1999; Osborn, 1963; Piirto, 1992, Smith, 1998; Torrance, 1979).

Since the purpose of this study was exploratory, it was important to not only include those items commonly discussed and/or believed to influence creative ability, but also to consider items less commonly considered. Items were also included that addressed issues of spirituality and personal growth. The artists in the Jones et al. (1997) study made references to spirituality and to being in touch with their own mystical nature as part of their artistic work. This comment, along with feedback suggestions received during the process of developing the survey resulted in including a number of items relating to this topic.

Other items that seemed worthy of consideration included the influence of opportunities. Some researchers have discussed *luck* as a possible influence, as well as the notion that certain times and places are better for creativity (Piirto, 1992). The possible influence of altered states of consciousness was also included. The connection between spiritual experience and higher creativity has been suggested (Ferguson, 1980) and the influence of drug induced altered states has also been considered by some to influence creativity (Ferguson, 1980; Huxley, 1963; Jones et al., 1997). As such, these topics were also included in the questionnaire. An item relating to tragedy and personal trauma was also included. The literature suggests that some creative children have suffered greater numbers of trauma than ordinary children (Amabile, 1986; Goertzel & Goertzel, 1962; Piirto, 1992).

Finally, participants in the pilot stages of the questionnaire development suggested additional items. A number of participants independently recommended the inclusion of an item that addressed the capacity to be alone. Some had spent a significant amount of time in solitude at various periods of life and felt, quite strongly, that this experience had had an impact on subsequent creative ability. Similarly, a number of participants suggested inclusion of an item relating to life purpose, adding that the belief that they had discovered what they were "meant to do" was a strong motivator in terms of creativity. Others also suggested that involvement in the therapeutic process, as clients, had significantly influenced their creativity. Items relating to these themes were also added.

Interviews With Key Informants

Oppenheim (1966) emphasized that early stages of questionnaire development tend to involve "lengthy, unstructured interviews; talks with key informants..." (p. 25). This directive was carried out in two ways. First, informal discussions were held with individuals from a variety of fields, and second, more formal interviews were later arranged with a number of experts.

Early in the process, discussions were arranged with members of a large city's Folk Music Club, with members of that city's artist (painting) community as well as with two educators. Since the intent of these early discussions was to gather possible suggestions and ideas for the study as well as gain initial feedback on decisions already made, the discussions were held on an informal basis. On two occasions the researcher arranged to meet with songwriters and musicians associated with the Folk Club, and these discussions were carried out with five individuals. The details of the study, including the potential criteria for inclusion and questionnaire items were discussed and feedback and input were sought. Each discussion ranged from thirty to sixty minutes. This process of informal discussion was repeated with two painters and two educators.

These informal talks resulted in a refining of the study. Questions were often asked of the researcher and these both pointed to areas requiring additional clarification and at times, additional action. A number of questionnaire items were suggested. As well, these early talks resulted in suggestions regarding possible participants for the study.

The second part of this stage of questionnaire development involved more structured talks with a number of experts. The experts included a writer/artist in residence for a major institution, a painter and two teachers. These experts were chosen for a number of reasons. First, proximity and a willingness to offer their time. They were available and willing. As well, all were actively involved in some form of creative endeavour. One made her living as a writer/artist and another was a painter. One of the teachers was also a musician and the other had significant involvement in program development. During these discussions, additional items were recommended and comments on existing items were offered. Many of the newly suggested items had already been identified in the literature review, however, a number of additions were made. At one point, the total numbered approximately forty. Refinements to the questionnaire were made throughout this period, which took place over a number of months. Some items were combined and others were separated into two questions. Phrasing and choice of words were regularly adapted. As such, this stage of the process served as an informal pilot. By the end of this period the questionnaire was again approximately 35 items.

In the next stage a more formal pilot was carried out with the entire questionnaire. A pilot involves administering the questionnaire "to a small group of individuals … prior to administering it to a larger representative sample…" (Aiken, 1996, p. 286) in order to detect potential problems. And since it is suggested that those taking part in the pilot make comments and suggestions on all aspects of the questionnaire (Berdie et al, 1986) five individuals were asked to perform a dual task. They were to complete the questionnaire and also to offer their feedback and

comments. This stage served a number of purposes. Items that were conceptually very similar were identified and this again resulted in a number of them being combined or removed from the list. The names and descriptions were scrutinized and those identified as being unclear, "charged" or inappropriately phrased were adjusted. One additional item was also suggested during this process and was added to the list. Twenty-eight items remained.

While it can be suggested that a pilot in questionnaire development should involve a larger number of participants, an "n" of five was considered sufficient for a number of reasons. First, as mentioned, an initial more informal pilot of the questionnaire had also been carried out with larger groups of people in a variety of settings. This had resulted in a significant refinement of the instrument. As well, seeking professional opinion had resulted in the suggestion that a number of items on the questionnaire be left open for respondents to add additional influences that had been important in their creative development but which may not have been included in the questionnaire. This was to serve as a "safety net". In the event that some significant influence had been missed, the structure of the instrument would allow for its inclusion.

Since validity is also enhanced by a well-informed knowledge of the participants, the "careful researcher will make every possible effort to know the population to be surveyed and will design the study accordingly" (Berdie et al, 1986, p.7). This not only helps provide a more informed perspective in item construction but also can help anticipate reasons why the participants may be nonresponsive (Berdie et al, 1986). The researcher in this project has been a member of a major arts

community for the past twelve years and as such, has had a great deal of involvement with creative individuals in the arts. Also, the researcher's involvement in the formal education system as well as a ten-year private practice as a psychologist, both of which resulted in numerous creative projects, resulted in a significant amount of association with creative individuals, and thus contributed to the above directive to *know the participants.*

Reliability

A questionnaire also needs to be reliable (Berdie, Anderson & Niebuhr, 1986; Nesbary, 2000). A reliable item is one that consistently conveys the same meaning to all participants, each time the question is conveyed (Berdie et al, 1986). Since "writing a good questionnaire item is probably the single most difficult task involved in the entire study" (Berdie, et al, 1986, p. 28) many suggestions are offered in the literature. Clear communication is essential in order to ensure that respondents interpret items in the same way (Berdie, et al, 1986) and as such, substantial effort is required to insure that items are clearly presented and self-explanatory. The following guiding principles were integrated into the questionnaire used in this study.

While short questions are preferable to long ones, sufficient information must be provided to make the item, and the nature of the requested response clear (Aiken, 1996; Nesbary, 2000). As well, questions should be constructed so that they do not require extensive instructions or examples (Berdie, et al, 1986). While the attempt was made, wherever possible, to incorporate short questions into the construction of this instrument, care was also taken to ensure that each item was clear and self-explanatory. To best address these needs an item-structure was created that involved a

title (i.e. Early Start) as well as a description (i.e. I had an early start in my area(s) of specialization. I began practicing and/or studying at an early age). The titles and descriptions of all items were refined throughout the process in response to the various levels of feedback received, as outlined above in the validity section.

Another aspect of clear communication involves the appropriate use of language. The terms used should not be overly technical, nor too general or ambiguous (Aiken, 1996). Effective questions should use language that is familiar and appropriate to the population. Slang and colloquialisms should be avoided (Berdie, et al, 1986; Nesbary, 2000). Creativity research, like any field, has its own terminology. Care was taken to ensure that, whenever possible, such terms were avoided. For instance, the term "domain specific" was replaced with "my area of specialization". Feedback during the developmental stages also suggested that some people may tend to define terms such as "reinforcement" in a more narrow view than is intended by the study. In this case, specific examples (i.e. praise, applause, awards, popularity, recognition or financial gain) were provided. As well, effort was made to avoid the use of terms specific to subgroups of the study. For instance, including the word "gig" (a term referring to a performance; most commonly used by musicians) would be commonplace for some participants, but potentially confusing for others.

Other language issues taken into consideration during item development were: avoiding stating questions in the negative (Nesbary, 2000) and avoiding the use of non-specific adjectives or adverbs (Aiken, 1996) such as *many* or *sometimes*. It is also suggested that loaded questions be avoided (Berdie, et al, 1986). Effort was made to ensure that items did not contain hidden meanings that might influence a participant

to respond in a particular way. For instance, a loaded question might take the form of: "Most creative people consider formal training to be essential. What is your view?" This item would likely have tended to bias participant response. If respondents expressed a contrary view to the one implied in the item, they would be, to some degree, removing themselves from the population of "most creative people".

Another common directive in questionnaire construction is to avoid double questions and the temptation to squeeze too much into an item. If an item has two areas of focus, ask two questions (Berdie, et al, 1986; Nesbary, 2000). As mentioned in the discussion on validity, feedback was received throughout the process and this resulted in refining the items. At times a single item was discovered to contain two themes, and was broken down into two separate entries. In other cases, two items were considered similar enough that they were combined. One example involves item "25. Courage and Perseverance". At one point, this item was covered in two separate questions, but it was recommended that the two themes were quite similar. Perseverance, it was proposed, was sufficiently related to the concept of courage. Perseverance was considered to be courage in action. Thus the two were combined.

As well, an attempt was made to both avoid emotionally loaded words and to ensure that the questions were sensitive to the feelings and values of the individuals completing the questionnaire (Aiken, 1996). For instance, since terms relating to spiritual and religious issues were being included in the survey, an attempt was made to phrase the experiences in a way that was inclusive. When the phrase "religious experience" was introduced in item 19, the term "personal growth experience" was

also included. As well, the examples provided in the description include mention of the "divine" but also of "peak experience" and "profound insight".

Feedback during the pilot indicated that some people tend to have negative associations with certain terms, and this included "school environment". In cases like these, specific experiences were provided, such as classroom environment, extra-curricular activities, influence of a particular teacher, interactions with peers, in the attempt that any negative response could be minimized.

Suggestions relating to the structure and outline of the questionnaire were also taken into account. The general directions should be clear and brief and should be simply written (Aiken, 1996; Berdie, et al, 1986). Multiple rewrites of the instructions, based on pilot feedback, contributed to a refining of the instructions. While brevity was indeed sought, clarity was considered to be of higher importance. For instance, the introduction included an explanation of the term "creativity". This was considered essential to the process because, as was learned throughout the study, many creative people tend to believe they are not creative, simply because of an overly narrow definition of the term. As such, a decision was made to include this clarification in the introduction to the questionnaire. The instructions would certainly have been shorter without this addition, but it was considered essential.

It is also recommended that a statement of the purpose of the questionnaire, how to respond, approximately how long it should take to complete and what to do when finished, should all be included (Aiken, 1996). The length of time to complete the survey was typically discussed in the initial contact with the person. The other components were all incorporated into the questionnaire. Each section had its own set

of instructions. As well, contact information of the researcher for any required follow up was provided.

The Research Method

Since the use of material from open-ended questionnaire items was integrated into the discussion of the findings, it is useful to restate, for purposes of clarity, the primary focus of the study. This was a quantitative study using the survey method and a descriptive analysis. Though a large amount of textual material provided by the participants was included, the thrust of the study was not intended to be qualitative. This material was incorporated into the discussion for the purpose of adding richness and depth, but the primary intent of the study was to explore the descriptive analysis of the items as rated by the participants. A further discussion and a rationale for the integration of the open-ended material is presented below.

Integrating the Open-Ended Questions

As mentioned at the outset of the section on validity, one of the objectives of the questionnaire was to clarify and articulate what the participants meant by each of their highly rated influences. How was each particular influence experienced? What about it had an impact? This aspect of the study was considered to be an important component. While the use of the closed-ended items would certainly identify which influences were most important for the respondents, another aspect of the questionnaire was needed if the details of those influences were to be articulated. As such, a decision was made to include three open-ended questions in the survey.

The use of material from open-ended questions presents an interesting dilemma. On the one hand, analyzing such data does not represent true qualitative

inquiry; it is neither phenomenology, grounded theory nor ethnography (Mayan, 2001). On the other hand, open-ended questions "are particularly valuable in exploratory research when a more detailed picture of the respondents' attitudes, beliefs, and thoughts is needed..." (Aiken, 1997, p. 41). And unlike the forced-choice of closed-ended items, the open-ended question provides a degree of freedom for the respondents. We obtain their ideas in their own language, expressed spontaneously (Oppenheim, 1966). Open-ended items "provide the possibility of rich contextual information being collected in a manner not possible via closed-ended questions" (Nesbary, 2000, p. 23). As such, though the textual responses do not represent true qualitative data collection, they hold significant value.

The textual responses to the open-ended items could be said to most closely represent a semi-structured interview, with the qualification that the material was collected online. This approach is commonly used when the researcher knows something of the interest area, but not enough to know the answers to the questions being asked (Mayan, 2001). But in this case, the open-ended questionnaire items fall short of being a semi-structured interview. To begin with, collecting sufficient data to fully understand the area of interest is not an option since the open-ended items are limited to a single, one-time written response that is typically no more than a page in length. Clearly this does not constitute a semi-structured interview, since, in such a case, the researcher has the option to ask follow-up questions, and to explore an issue in greater depth. In fact, especially with this researcher's background in counselling psychology, it is easy to notice similarities between a semi-structured interview and a counselling session where the intent is to draw out what the client has to share; gently

probing, but without getting in the way. If indeed a semi-structured interview can be likened to a counselling session, then clearly the material presented in a series of open-ended questionnaire items would not qualify as a semi-structured interview, anymore than they could qualify as a therapy session. Yet the literature speaks of the material gleaned from open-ended questions in phrases such as "particularly valuable" (Aiken, 1997, p. 41) because it is "expressed spontaneously" (Oppenheim, 1966, p. 41) and provides the "possibility of rich contextual information" (Nesbary, 2000, p. 23). Surely if such statements are made about open-ended items in general, then these claims also hold, and arguably perhaps even to a greater degree when the responses are provided by a group of people whose creative works abound, by prolific poets, painters and writers; by successful and creative business people, teachers and entrepreneurs.

The material offered provided in the open-ended items is a collection of comments, descriptions and images. It is a collection that is rich in its depiction and powerful in its presentation. Not surprisingly it is at times, poetic. And while it is not the type of material from which we may, through induction, build theory or make valid generalizations, perhaps this material can provide us with a slightly enhanced understanding. Perhaps we can catch a glimpse of the meaning this group of people attached to terms such as *passion* and *inspiration* and to experiences like *required participation* and *self-expression.*

One could, of course, argue that if interest lies in *experience* and *meaning* then perhaps a phenomenological approach would have been a more suitable path. To that suggestion this researcher simply states that exploring the lived experience of the

creative process was not the primary thrust of this study. The intent was to explore, and to identify, the influences that had the most significant impact of the development of creativity in this group of people. And the lists of ordered items along with their frequencies and percentages are expressions of this objective. The textual material simply adds another dimension. It is important to note that these descriptions do not change the order of any of the tables, nor do they alter the frequencies or percentages of the top-ranked items. But they provide another component; a tapestry of description and personal expression to add depth to the presentation of numbers, rank orders and lists.

With that said, the use of open-ended questions is not without its complexities. They are "easy to ask, difficult to answer, and still more difficult to analyze" (Oppenheim, 1966, p. 41). They require that the "researcher code answers before they may be interpreted" (Nesbary, 2000, p. 22). The mixed blessing inherent in the use of data from open-ended questions is captured in the following description, which emphasizes that:

> ... unstructured or semi-structured questionnaires allow the respondents to express more exactly what they wish to say. In this sense they are a more accurate reflection of reality. Unfortunately, the very richness of the data makes them difficult to handle. It requires you to impose some sort of order, so that you can communicate trends and issues to your audience" (Jones, Siraj-Blatchford & Ashcroft, 1997, p. 16).

As this excerpt articulates, the very fact that the textual material provided in open-ended questionnaire items is rich requires that we impose some sort of order. As

such, the open-ended responses in this questionnaire were given "order" using the following framework.

The structure begins with the acknowledgement that this is not formal qualitative analysis. But in order to utilize it, this material must somehow be dealt with in a meaningful way. A number of recommendations and procedures for dealing with textual material, borrowed from formal qualitative data analysis, were utilized to aid the integration of this material into the discussion of the study. These include that the material is organized, carefully read a minimum of three times to gain an overall sense of the data (Highlen & Finley, 1996; Ryan & Bernard, n.d.). As well, highlights, comments and analytic notes are made regarding particularly striking aspects of the text (Highlen & Finley, 1996; Mayan, 2001).

As well, since anecdotal narrative material can involve, compel and even transform us (van Manen, 1997) actual comments, feelings and excerpts from the participants' life experiences are also integrated into the discussion. These quoted segments provide the reader with "some of the flavour of the replies" (Oppenheim, 1966, p. 41). And while the integrity of the content is maintained, the excerpts are "edited slightly for purposes of clarity, brevity, and grammar, and to avoid redundancies" (Lindauer, Orwoll & Kelley, 1997, p. 135).

The Format: Why an Online Questionnaire

Consideration was given to the choice of format and an online questionnaire was chosen for a number of reasons. Face-to-face delivery does indeed provide such benefits as the opportunity for clarification of participant questions, but the physical presence of the questioner can influence the respondents' interpretations of the

questions and how they are to be answered (Aiken, 1997). As well, face-to-face delivery tends to be less flexible and it would have limited the group of participants to a more regional selection. Phone delivery could have addressed some of these issues, however, as with face-to-face delivery, this approach is not without its problems. It is sometimes more difficult to keep the respondent's attention (Aiken, 1997) and it also would have meant that, in most cases, the participants would need to complete the entire questionnaire in a single effort. This would not have provided time for reflection.

In the end, the online version of the questionnaire was chosen for a number of reasons. Online delivery allowed for flexible response times. Participants could complete the questionnaire in sections. This allowed time for reflection and for additional comments at a later time. It also meant that participants who were extremely busy, and quite a number of participants were indeed very busy, were able to take part in the study, because of the flexible manner in which they could participate. As well, one of the major benefits of delivering questionnaires "live" (face-to-face or by telephone) is the opportunity for respondents to clarify points of uncertainty. This feature was available to the participants via email, and a number of respondents took advantage of it for the purposes of additional clarity.

The following chapter outlines the results of the study.

CHAPTER IV

RESULTS

The results of this study are presented in three chapters. The present chapter includes detailed descriptive statistics relating to the items in the questionnaire, as well as a discussion of reliability and an exploration of subscales. As mentioned in the previous chapter, Part II of the questionnaire involved the identification by participants of their three most important factors. These will be identified in this chapter and later integrated into the discussion.

In chapter V, an in-depth exploration of the most important items is presented. It involves a detailed response to the following questions:

1.   What items were identified as the most important influences in the development of creative ability in this group of participants?

2.   In what way did each of these influences have an impact?

Finally, chapter VI involves a discussion of observable patterns in the data. Responses to the following questions are explored:

1.   The Least Influential Items: Which items were identified as being the least important?

2.   Observable Patterns: What observable patterns emerged? Did the results indicate that any items are essential, or by contrast, non-essential to the development of creative ability? If so, what are they? Which items received ratings of "Strongly Agree" by at least ten participants? When considering Part II of the questionnaire, where the participants chose their

three most important influences, how many individual items were identified?

3.   Exploration of Subscales. What indication is there of subscales?

Descriptive Analysis

Data collection was carried out over a period of approximately two months. While there was no time limit placed on questionnaire completion most participants completed it within a week of being contacted. In a few cases, where someone had agreed to take part in the study but had still not completed the survey within three or four weeks, a "friendly reminder" message was sent out. In each of these cases, the questionnaire was completed shortly afterwards.

Website access to the questionnaire, with accompanying password login, allowed for repeated visits by the participants. Initial entries could be modified and, if desired, time could be taken for reflection prior to providing the descriptions in the third part of the questionnaire. Follow-up procedures were conducted with those participants who had left items unanswered and subsequently, all items were completed. Two participants of the fifty chose not to provide the written descriptions of the items they chose as most important. Since the instructions informed participants that their descriptions could be "as long or as short" as they liked, follow-up requests were not made in this regard.

Descriptive statistical methods were used to elicit information about the relative importance of a variety of influences on the development of creativity ability. In Tables 2, 3 and 4 descriptive statistics are presented for all participants, artists alone, and non-artists alone, respectively. The mean, standard deviation and range

were utilized to provide a comparison of the items within and between groups. Since a rank ordering of the items is integrated into the discussion, standard error of the mean scores were also included. All of the data analysis was conducted with the use of SPSS 10 for Macintosh.

A Caution Regarding Rank Ordering and Low Scores

It is important to emphasize that the rank ordering does not necessarily imply that one variable is more important than another. The instrument used and the sample size simply do not warrant this kind of conclusion. For example, Table 2 illustrates that *Mentors in Adulthood* has a higher mean score than *Extended Involvement*. To conclude, however, that the former is more important would be erroneous. The mean difference between these items is a mere 0.06 which is sufficient to rank one before the other, but certainly not to conclude that one is more important than the other.

As well, it is also important to note that simply because an item is given a low score that does not necessarily indicate that the item is not a significant one. It simply was not a significant item for this group of creative people. But perhaps more significantly, it is possible that some items were rated quite low because they were not a part of the life experience of the participants. Part "A" of each item, "this describes me and my life experience" was included to address this issue by adding a qualifying element to each item. In constructing the instrument it became apparent that there may be cases where participants would be rating items for which they had no direct experience. This could have significant impact on some items, especially those in the lower range. Table 5 lists the descriptive statistics for Part "A" of the items and this material is discussed in Chapter VI.

An Overview of the Findings

To begin the descriptive analysis I refer to Table 2, which lists the statistics for all fifty participants. These figures represent the participant responses to the statement: "This factor had a positive impact on the development of my creative ability." The mean scores for all participants indicate seven items rated 4.0 or higher. A mean of 4.0 represents the questionnaire's likert scale equivalent of "agree" or higher, and so, for discussion purposes I will refer to this rating as the *high* category. The seven items in the high category for all participants were passion, adult reinforcement, adult mentors, extended involvement, work habits, self-expression and support system.

Four of the items, passion, reinforcement in adulthood, mentors in adulthood and support system, also indicate a limited range and standard deviation. None of the participants chose "strongly disagree" for these items. Only three items, creativity training, therapy and required participation, received a mean score of less than 3.0. These scores would indicate a greater number of "disagree" and "strongly disagree" choices.

Tables 3 and 4 list the statistics for the artist and non-artist groups respectively. Twelve items were rated with a score of 4.0 or better for the artist group and five items for the non-artist group. Items included in both groups' "high" list include passion, adult reinforcement, adult mentors and extended involvement. The item *opportunities* was in the high category for non-artists but not for artists. Items that scored in the high category for the artists but not for the non-artists included self-

expression, work habits, life purpose, childhood reinforcement, support system, courage & perseverance, work of the masters and the capacity to be alone.

While this may appear to indicate that many more items were considered significant for the artist group than for the non-artist group, this is not necessarily the case. If the scores are adjusted to allow for standard error of the mean (adding and subtracting two times the value to get a confidence interval of 95%) the top end of the range would indicate that six additional items could potentially score over 4.0 for the artist group. The same calculation for the non-artist group produces an additional thirteen items. This indicates that while fewer items were indeed rated in the high category for the non-artist group, many other items were very close to this cut-off point. It is important to note that when the scores are adjusted for the standard error of the mean, the groups have an identical number of items. Eighteen items would potentially score in the high category both the artist and non-artist groups.

The relative strength of the item ratings is further explored in Tables 6, 7 and 8. These tables list the frequencies and percentages for the "agree" and "strongly agree" ratings. Ninety-four per cent of the participants rated the item *passion* with at least a score of 4.0 (agree). In other words, all but six per cent of the entire sample (47 of 50 participants) consider this factor to have been important in the development of their creative ability.

Two items, reinforcement in adulthood and mentors in adulthood, had cumulative percentages of 84% and 82% respectively. The remaining four items in the high category, extended involvement, work habits, self-expression and support

system, had cumulative percentages ranging from 72 to 76 per cent. Tables 7 and 8 show the breakdown of these figures for the artist and non-artist groups separately.

In part II of the questionnaire the participants were asked to identify the three most important influences on their creative ability. These items and the corresponding frequencies are listed in Table 9. Originally it was my intent to not only have participants choose their three most important factors but also to rank order them in order of importance. However, numerous participants identified the degree of difficulty they had in doing so. They emphasized that it was not possible to rank one of their three factors as being more important than the others. Because of this, I have done a frequency count solely of those factors chosen as top three most important influences, with no attempt made to establish a rank order. Also, the frequency count for the 28 initial items on the questionnaire totals 129 rather than 150. This is because on 21 occasions, participants chose an item they had added themselves. This option was made available to them in the questionnaire. Totaling the two figures accounts for all 150 choices made by the participants.

Four items, passion, life purpose, courage & perseverance and self-expression, were chosen by at least ten participants as being included in their most important influences. A total of eleven items were chosen by at least five participants. Five of the original 28 items, creativity training, school environment, drugs, spiritual experience and formal knowledge, were not chosen by anyone involved in the study.

Table 2

Descriptive Statistics For Artist and Non-Artist Groups

Item	Min (1-5)	Max (1-5)	Mean	Std. Error	Std. Deviation
Passion	2	5	4.70	.09	.65
Reinforcement: Adult	2	5	4.30	.13	.89
Mentors: Adulthood	2	5	4.24	.12	.85
Extended Involvement	1	5	4.18	.17	1.19
Work Habits	1	5	4.08	.13	.94
Self-Expression	1	5	4.08	.15	1.08
Support System	2	5	4.00	.13	.95
Capacity to be Alone	1	5	3.90	.17	1.18
Opportunities	1	5	3.86	.16	1.16
Reinforcement: Child	1	5	3.82	.17	1.22
Courage & Perseverance	1	5	3.78	.17	1.20
Life Purpose	1	5	3.74	.19	1.34
Work of the Masters	1	5	3.72	.16	1.11
Home Environ: Gr Up	1	5	3.66	.15	1.08
Work Environment	1	5	3.64	.19	1.34
Divine Inspiration	1	5	3.58	.18	1.25
Spiritual/Personal Growth	1	5	3.54	.19	1.37
Early Start	1	5	3.50	.20	1.39
School Environment	1	5	3.48	.15	1.03
Formal Knowledge	1	5	3.46	.18	1.28
Mentors: Childhood	1	5	3.36	.19	1.32
Tragedy or Trauma	1	5	3.20	.19	1.34
Spiritual Experience	1	5	3.04	.20	1.38
Genes	1	5	3.04	.15	1.03
Creativity Training	1	5	2.82	.21	1.47
Therapy	1	5	2.66	.21	1.49
Required Participation	1	5	2.46	.17	1.23
Drugs	1	5	2.14	.17	1.21

N = 50

Table 3

Descriptive Statistics For Artist Group

Item	Min (1-5)	Max (1-5)	Mean	Std. Error	Std. Deviation
Passion	2	5	4.76	.13	.66
Self-Expression	2	5	4.56	.15	.77
Reinforcement: Adult	2	5	4.48	.15	.77
Work Habits	1	5	4.24	.19	.97
Life Purpose	2	5	4.20	.22	1.12
Mentors: Adulthood	2	5	4.12	.17	.83
Reinforcement: Child	2	5	4.12	.17	.83
Support System	2	5	4.08	.17	.86
Extended Involvement	1	5	4.08	.25	1.26
Courage & Perseverance	2	5	4.04	.18	.89
Work of the Masters	2	5	4.04	.19	.93
Capacity to be Alone	1	5	4.04	.25	1.24
Early Start	2	5	3.92	.22	1.08
Divine Inspiration	1	5	3.68	.23	1.14
Home Environ: Gr Up	1	5	3.68	.21	1.07
Spiritual/Personal Growth	1	5	3.60	.26	1.32
Tragedy or Trauma	1	5	3.52	.25	1.26
Opportunities	1	5	3.48	.27	1.36
School Environment	2	5	3.40	.19	.96
Formal Knowledge	1	5	3.32	.26	1.28
Work Environment	1	5	3.32	.29	1.44
Spiritual Experience	1	5	3.28	.29	1.43
Creativity Training	1	5	3.16	.31	1.55
Mentors: Childhood	1	5	3.12	.25	1.24
Genes	1	5	3.08	.17	.86
Required Participation	1	5	2.68	.24	1.18
Therapy	1	5	2.52	.28	1.42
Drugs	1	5	2.48	.25	1.23

N = 25

Table 4

Descriptive Statistics for Non-Artist Group

Item	Min (1-5)	Max (1-5)	Mean	Std. Error	Std. Deviation
Passion	3	5	4.64	.13	.64
Mentors: Adulthood	2	5	4.36	.17	.86
Extended Involvement	1	5	4.28	.23	1.14
Opportunities	2	5	4.24	.16	.78
Reinforcement: Adult	2	5	4.12	.19	.97
Work Environment	2	5	3.96	.23	1.17
Support System	2	5	3.92	.21	1.04
Work Habits	2	5	3.92	.18	.91
Capacity to be Alone	1	5	3.76	.23	1.13
Home Environ: Gr Up	1	5	3.64	.22	1.11
Self-Expression	1	5	3.60	.23	1.15
Mentors: Childhood	1	5	3.60	.28	1.38
Formal Knowledge	1	5	3.60	.26	1.29
School Environment	1	5	3.56	.22	1.12
Reinforcement: Child	1	5	3.52	.30	1.48
Courage & Perseverance	1	5	3.52	.28	1.42
Divine Inspiration	1	5	3.48	.27	1.36
Spiritual/Personal Growth	1	5	3.48	.29	1.45
Work of the Masters	1	5	3.40	.24	1.19
Life Purpose	1	5	3.28	.28	1.40
Early Start	1	5	3.08	.31	1.55
Genes	1	5	3.00	.24	1.19
Tragedy or Trauma	1	5	2.88	.27	1.36
Spiritual Experience	1	5	2.80	.26	1.32
Therapy	1	5	2.80	.32	1.58
Creativity Training	1	5	2.48	.27	1.33
Required Participation	1	5	2.24	.25	1.27
Drugs	1	4	1.80	.22	1.12

N = 25

Table 5

Descriptive Statistics for Part A of Questionnaire Items:
This Describes Me and My Life Experience

Item	Min (1-5)	Max (1-5)	Mean	Std. Deviation
Passion	2	5	4.76	.59
Reinforcement: Adult	2	5	4.44	.67
Extended Involvement	1	5	4.32	1.22
Mentors: Adulthood	2	5	4.24	.77
Work Habits	2	5	4.22	.93
Support System	2	5	4.18	.85
Self-Expression	1	5	4.14	1.14
Courage & Perseverance	1	5	4.08	1.07
Capacity to be Alone	1	5	3.98	1.24
Opportunities	1	5	3.92	1.07
Work of the Masters	1	5	3.82	1.10
Life Purpose	1	5	3.78	1.42
Work Environment	1	5	3.70	1.34
Reinforcement: Child	1	5	3.68	1.30
Home Environ: Gr Up	1	5	3.54	1.23
Spiritual/Personal Growth	1	5	3.54	1.47
Divine Inspiration	1	5	3.50	1.30
Tragedy or Trauma	1	5	3.48	1.40
Early Start	1	5	3.46	1.39
School Environment	1	5	3.44	1.09
Formal Knowledge	1	5	3.24	1.36
Spiritual Experience	1	5	3.22	1.49
Mentors: Childhood	1	5	3.20	1.23
Genes	1	5	2.98	1.10
Therapy	1	5	2.82	1.60
Creativity Training	1	5	2.66	1.53
Drugs	1	5	2.32	1.42
Required Participation	1	5	1.98	1.25

N = 50

Table 6

Frequencies and Percentages of Top Rated Items
for Artist and Non-Artist Groups

Item	Frequency (Strongly Agree)	%	Frequency (Agree)	Cumulative %
Passion	39	78	8	94
Reinforcement (Adult)	26	52	16	84
Mentors (Adulthood)	23	46	18	82
Extended Involvement	29	58	9	76
Work Habits	19	38	20	78
Self-Expression	23	46	15	76
Support System	18	36	18	72

N = 50

Table 7

Frequencies and Percentages of Top Rated Items for Artist Group

Item	Frequency (Strongly Agree)	%	Frequency (Agree)	Cumulative %
Passion	21	84	3	96
Self-Expression	17	68	6	92
Reinforcement (Adult)	15	60	8	92
Work Habits	12	48	9	84
Life Purpose	14	56	6	80
Mentors (Adulthood)	9	36	11	80
Reinforcement (Childhood)	9	36	11	80
Support System	9	36	10	76
Extended Involvement	13	52	6	76
Courage & Perseverance	8	32	12	80
Work of the Masters	9	36	10	76
Capacity to Be Alone	12	48	7	76

N = 25

Table 8

Frequencies and Percentages of Top Rated Items for Non-Artist Group

Item	Frequency (Strongly Agree)	%	Frequency (Agree)	Cumulative %
Passion	18	72	5	92
Mentors (Adulthood)	14	56	7	84
Extended Involvement	16	64	3	76
Opportunities	10	40	12	88
Reinforcement (Adulthood)	11	44	8	76

N = 25

Table 9

Frequency of Items Identified by Participants as Top 3 Most Important Influences

Item	All (n=50)	Artists (n=25)	Non-Artists (n=25)
Passion	20	11	9
Life Purpose	11	7	4
Courage and Perseverance	11	6	5
Self-Expression	10	8	2
Support System	9	6	3
Reinforcement (in childhood)	8	5	3
Capacity to be Alone	8	4	4
Mentors and Role Models (in adult life)	7	2	5
Work Habits	6	3	3
Home Environment (while growing up)	5	1	4
Spiritual or Personal Growth Practice	5	2	3
Opportunities	4	3	1
Tragedy or Trauma	4	2	2
Mentors and Role Models (in childhood)	3	2	1
Work Environment	3		3
Genes	3	1	2
Divine Inspiration	3		3
Early Start	2		2
Reinforcement (in adulthood)	2		2
The Work of the Masters	2	2	
Required Participation	1		1
Extended Involvement	1	1	
Therapy	1		1
Creativity Training			
School Environment			
Drugs			
Spiritual Experience			
Formal Knowledge			

Reliability

Cronbach's alpha was used to measure internal consistency and reliability of the instrument. Since the purpose of this study was exploratory, the questionnaire was not designed with particular subscales in mind. Instead, an effort was made to include relevant items as suggested by the existing body of literature and from participants involved in the early parts of the pilot. A follow-up review of the items, however, indicates a number of conceptual themes.

Cronbach's alpha for the entire scale was .81 indicating reasonably high internal consistency. As illustrated in Table 10, the four conceptual themes and corresponding reliabilities were: Support (.67), Domain Specific Skills (.74), Domain General Skills (.64) and Transcendent (.78). A further discussion of these findings, including a rationale for why a number of items are placed on two subscales, and why three items (genes, drugs and school environment) are not present in any, is presented in Chapter VI.

Table 10

Subscale Reliability

Subscale	Alpha		Questionnaire Item
Support	.67	2.	Reinforcement (in childhood)
		3.	Reinforcement (in adulthood)
		5.	Home Environment (growing up)
		7.	Mentors & Role Models (childhood)
		8.	Mentors & Role Models (adulthood)
		14.	Work Environment
		27.	Support System
Domain Specific	.74	1.	Early Start
		9.	Required Participation
		10.	Self-Expression
		11.	Extended Involvement
		13.	Life Purpose
		17.	Passion
		24.	The Work of the Masters
		26.	Formal Knowledge
Domain General	.64	4.	Creativity Training
		10.	Self-Expression
		13.	Life-Purpose
		17.	Passion
		20.	Opportunities
		21.	Capacity to Be Alone
		23.	Work Habits
		25.	Courage & Perseverance
Transcendent	.78	12.	Spiritual/Personal Growth
		16.	Therapy
		19.	Spiritual Experience
		22.	Divine Inspiration
		28.	Tragedy or Trauma

CHAPTER V

DISCUSSION OF THE MOST INFLUENTIAL ITEMS

This chapter involves a detailed response to the following questions:

1.   Which items were identified as being the most important influences in the development of creative ability in this group of participants?

2.   In what way did each of these influences have an impact?

As outlined in chapter IV, the primary focus of this study is to do a descriptive analysis of the participants' responses to the questionnaire items. As well, because anecdotal narrative material can involve, compel and even transform us (van Manen, 1997) comments, feelings and excerpts from the participants' life experiences are integrated into the discussion.

A number of factors were considered in choosing which items warranted analysis in this chapter. First, the seven items ranked highest by mean score for all participants are included. As well, this list was expanded to take into account the fact that, as discussed in the previous chapter, a total of twelve items had a mean score of 4.0 in the artist group. When the participants' choices of their Top Three most important influences are taken into account, this also emphasizes additional items. These factors together resulted in compiling the following list. Each of these items is discussed in detail below:

1.   Passion;

2.   Life Purpose;

3.   Self-Expression;

4.   Courage and Perseverance;

5. Support System;

6. Reinforcement (in childhood);

7. Capacity to Be Alone;

8. Work Habits;

9. Mentors and Role Models (in adult life);

10. Home Environment (while growing up);

11. Reinforcement (in adulthood);

12. Extended Involvement;

13. Opportunities;

14. Spiritual or Personal Growth Practice.

The Influential Items

1. Passion

I had passion and love – an "inner spark" - for my area of interest. I got a lot of satisfaction, enjoyment and fulfillment simply from taking part in it. I loved doing it.

Perhaps the most obvious and most conclusive observation of this entire study is that, for this group of participants, passion was central to the creative process. In comparing the mean scores of all items, passion was rated number one by each group separately and both groups together. In terms of the personal choices, where the participants listed their three most important factors, it was again the number one choice. Whether they spoke of it as "fun", "love", "joy" or "excitement" the participants described passion as being central to their creativity. As one songwriter articulated, "When I'm passionate about something that's what stirs up my creativity.

It's the essential ingredient for doing really creative work." Some found passion to be

such an essential ingredient that they could not picture themselves working without it.

A painter shared this story:

> I couldn't imagine working a job for which I didn't have the passion. For
>
> awhile I worked in scientific research, full time, for someone else. I could
>
> never go back there again. I didn't have the passion. The work I do now is
>
> nothing but the embodiment of my passion. My inspiration is drawn from the
>
> things that are meaningful to me and that I love.

> This artist's work was interwoven with her passion. It embodied her passion.

An entrepreneur expressed a similar sentiment, "I could never do anything I did not

feel passionate about." And another songwriter captured how influential this factor

was in his work. "Passion has influenced my creativity at every turn, and from

varying angles ... it is a FUEL that feeds creativity and gives it sustenance." Passion

was identified as being central to the creative process. For some it was crucial. It was

a motivator, a fuel, that moved them to action.

Another entrepreneur, an educator known by his colleagues as a visionary and

innovator, also emphasized the importance of passion in business success. In

speaking of the challenges facing businesses today and the need for his own

organization to adapt in order to survive he wrote: "My personal guideline for

accepting this change has been to embrace the chance and then gather the people

around that would love to be a part of it." His very strategy for success in business

involved passion. He only brought to the project people who loved being a part of it.

For many, passion also had a sense of urgency to it. The creative endeavour was described as something that *must* be done. One musician put it aptly, saying, "Sometimes I felt like I would explode if I didn't get a guitar in my hands soon." Another musician shared this story:

> As a child I remember constantly having a new bizarre idea about something that I absolutely HAD to try. Catching frogs and creating a frog zoo in my room, hunting beavers with a spear by the river (I never actually got one), in full camouflage that I painted on my entire body. As an adult, it feels like this same stubborn passion that drives me to take a potentially good idea and make it into something.

For some, this sense of urgency was expressed as a form of gripping intrigue. An educational consultant described this lifelong pattern:

> As long as I can remember, I've been intrigued with putting ideas together to see what the "big picture" looks like, and taking "big pictures" apart to see what the components are. This was as a young kid (I dismantled my first wind-up toy the moment I got home from the store; I loved jigsaw puzzles and Lego) and continued into adolescence (then, cars were the thing to be dismantled) and young adulthood (in university, systems and ideas were dismantled or built, as the situation demanded). I just get a kick out of making models and seeing how things connect.

These creative people often felt driven. For some, it wasn't that they wanted to create; it was that they *had* to create. They reported having little choice in the matter. Involvement in their craft was much more than a passing interest or fancy,

more than something they simply liked to take part in. They described it as something that they *must do*.

Passion by definition refers to strong emotion, and the participants often made reference to strong emotion in their descriptions.

I have loved music since I can remember. I never had to be forced to play or sing. And I loved to listen. I can remember getting up at three in the morning and dancing to fiddle tunes when I was four or five. It was such a part of me. Like another limb or sense. I also found that I wrote the best when I felt the strongest (really angry, sad or happy).

Others spoke in similar terms, describing how they loved their work. A singer described how passion for the creative process permeated her life:

Another variation would be to say that I LOVE what I create, whether it be a song, a performance, a piece of jewelry, a dance, an entree. I love the *act* of creating ... Passion has influenced my creativity at every turn, and from varying angles.

Others described being caught up in excitement. "When I'm excited about something, everything just flies out. Whether it be in words drawings or emotions. In a sense, all my creative juices are having a party." Some participants expressed this same sense of excitement as joy. A folksinger spoke of the intense feelings he experienced making music and writing songs:

Shivers down my spine from singing folk songs around the campfire as a child ... joy and elation (rush) after my first public performance with a folk band ...

excitement of new song ideas ... enjoyment at practicing my instruments ... the sheer joy of singing!

Another songwriter emphasized the intense feeling he experienced when writing a piece of music. "When I write a good song it is better than sex, better than drugs and the best damn antidepressant I've ever had. It can make me feel good about myself for weeks and sometimes months on end." Some even discussed their emotional experiences in spiritual terms. A musician reported how "the creating of the music gives me relief, pleasure, joy and calm. So far it's been my most consistent link to God." Others spoke in similar terms. A writer spoke with conviction that a spark of "other worldly" passion was necessary to get the creative ball rolling.

It seems that the experience of passion runs so deeply that it can involve more than one's emotion. As one painter pointed out, not listening to the voice of passion can sometimes even affect a person's health.

I've tried working projects more recently for which I had no passion, and it was extremely detrimental. My health declined, stress level rose, and I realized that I should only choose those things which allow me to express that passion.

For those who might be tempted to ignore their passion because it brings no guarantee of income and thus might seem like folly, the participants also had something to say about that. None of them emphasized using their creativity primarily in the pursuit of financial gain. Following the voice of passion was the important path. But there appears to be an irony and a paradox to passion. As one artist

clarified: "The paintings that mean most to me, which imbue most of my passion, are usually the ones that reach out to others the most and that sell the fastest."

Many of these creative people simply could not imagine involving themselves in work for which they did not have passion. It was the embodiment of love for their craft. For some it was an experience of joy, excitement and fun. For others it was an urgent need. And for some creative people their passion was a mysterious force and even a spiritual experience. It seems that passion is a powerful, driving force and one that is central to the creative process. As one entrepreneur articulated: "Passion without ambivalence is the ultimate in creativity."

2. Life Purpose

> *It felt like part of my purpose in life to be creative in this way. I had a very clear sense (either in childhood or adulthood) of what I wanted to work on and to accomplish in my life.*

The item *life purpose* brought forth an interesting response in the study. On the one hand it ranked in twelfth position when considering the mean scores of the group, but when the participants were asked to rate their top three most important factors, life purpose ranked second, behind only passion. Before I address this apparent peculiarity, let me first discuss this item.

When identifying *life purpose* as an influence that was significant in the development of their creativity, some participants described that they simply knew what they wanted to do – from a very young age.

> I knew from the time I was 10 that I wanted to be a teacher. I played school. I loved school. I did very well in all my classes. It seems that I never

deliberated about doing anything else but teaching. I was student teaching at 19 years of age and began full time teaching at 21. There was never any doubt in mind that I should be doing anything else. Now, 25 years later as an administrator, I still believe that I have gifts to share and that I am doing what I need to be doing in order for my life's purpose to be lived out.

There is an unwavering certainty in these words, a lifelong knowing and an absence of doubt. The teaching profession was where this woman belonged. She knew it from a very young age and the certainty that she was living out her life purpose carried through twenty-five years. This unwavering certainty took a slightly different form for other participants. In some cases, there was simply never anything else.

I can't remember a time when I didn't write. I still have "books" I made up as soon as I learned to print. As a child I made little magazines and newspapers for my older sister who had moved away from home to go to university. In elementary school I created a school newspaper for members of the community. I spent most of my spare time in a tree writing poetry or in the attic writing stories or plays. I buried my dolls and made up funeral services for them. I made up sermons and lined up my dolls on the chesterfield and preached to them. I made up plays that my younger sister and I put on for my parents, older siblings, family friends and the hired men. We also put them on at school and charged admission for the Red Cross.

Writing was pervasive in her life. It was almost always there and in almost every way. She continued:

Writing was my way of dealing with my thoughts and feelings. I wrote my way through sadness and difficulty. It was the only thing I felt I knew how to do, so I simply went on doing it and ended up making a living at it writing radio commercials, working as a journalist, working in public relations, freelancing, teaching and now working as an artist on the wards in a hospital.

Writing was described as having always been there, almost like an old friend, one who had always been there, and who not only listened to her sadness and hardship, but who also one day came to support her.

Others also identified life purpose as being a very important influence on their creative ability, but for them, the sense of purpose was more general. Some reported that they knew very early in life that there was *something* they were meant to be doing. A teacher wrote: "I have always had a strong sense of purpose. I felt there was something really big out there for me." Even without a specific vocation attached to the feeling, there was a strong sense of knowing, as though the purpose could be felt before the person even knew what it was. An entrepreneur expressed a similar view: "Even as a child I have always felt there was a strong reason for me being here, that I had something worthwhile to contribute." For some, creativity itself felt like their purpose. An artist wrote:

It's pretty easy to see that my creativity has been my Life Purpose, and that "purpose" was a driving force which fed my ability to be creative again and again and again for well over half a century (and still goin' strong.)

Whether it came in the form of a clear occupational *calling*, as something that has *always been there*, or as a general sense of believing they were meant to do

something, it seems that life purpose can be a driving force in the creative process, and one that kept these people creating again and again, offering their gifts. For some, the sense of life purpose even came with a moral imperative. A successful recording artist put it this way:

> I feel my musical intuition is a gift - almost a divine gift - that I feel very blessed to have been given, and therefore, a responsibility to use it wisely and positively. There is a choicelessness about it. I feel it every time I perform.

Similarly, some participants discussed how life purpose had a "contributing to the world" aspect to it. In describing her certainty that she was meant to be a therapist, one participant wrote: "It also felt like how I could contribute to lessen the suffering of the world, how I could impact others, how I could do some service." A songwriter expressed a similar view. She said that it is the "belief that my songs are a positive influence in the world that gives me a sense of life purpose – and the conviction to keep trying to get them out there." Another performing artist reported:

> I have felt that my art is my contribution to the world at large. It is one of the main ways I attempt to make the world a better place, and a way I hope to open and unite the hearts of those who experience my creativity.

Some people felt *led* to their life purpose and had a sense of confirmation of this belief when they saw others responding to their work. Hearing that someone had been touched by her music bolstered a songwriter's conviction that she was doing what she was meant to do.

> Someone tells me how much one of my songs has meant to them ... [another] says that my music has helped her through a tough time ... a survivor of

domestic abuse tells me that she sees herself in one of my songs and that I captured "it" right. It is this belief that my songs are a positive influence in the world that gives me a sense of life purpose - and the conviction to keep trying to get them "out there."

The "emotional connection" that others had with her music confirmed the songwriter's choice that she was where she belonged. For others, it was their own emotional connection. A writer described knowing that she was in the right place by her own degree of emotional involvement in her work.

I'll be typing and cry behind the computer screen because the story is really moving me, it feels like this is indeed my life purpose and that the story is coming through me ... And I think, hey, yes, I'm supposed to be doing this.

For these participants it was a profound and powerful motivator to believe - to *know* - that they were doing what were meant to do. It was true for the teachers and for the writers, true for the musicians and the songwriters. They knew it when they witnessed the hearts of others being touched by their work. And they knew it when their own heart was touched. Some have felt like they were led to their craft by something Divine. Others have simply always known. And this knowing in turn motivated them to create again, to share their gifts, to do what they were here to do: to write, to sing, to teach, to do that which was their life purpose.

The difference between the ratings.

At the beginning of this section I mentioned that while this item, life purpose, was rated in twelfth position when considering the mean scores of the group, it was in

second position when the participants were asked to rate their top three most important factors. Why is there such a difference between the two ratings?

The first point that needs to be made in exploring this question is that the initial ranking involves the mean scores of all items. Rank order is determined by the relative position of the mean score for this item in reference to all others. The second score is simply a frequency count stemming from each participant's identification of the three most important influences. As such, it is not appropriate to expect that an accurate comparison can be made between the two ratings. As well, this item, perhaps more than many others is quite abstract in nature. It doesn't involve something tangible or measurable such as years of practice, an early start, or reinforcement and support from others. It describes a feeling, a certain hard-to-articulate sense that one is where one is meant to be, doing what one is meant to be doing. Even when comparing it to another feeling-oriented factor such as passion, it is still more abstract. Passion can be clearly articulated and expressed. Some would argue that a sense of life purpose can also be expressed, but perhaps less so. Perhaps life purpose is simply more of a general knowing. These reasons may help account for some of the discrepancy in ratings.

3. Self-Expression

> *Being creative provided me with the opportunity to express myself emotionally in a way that I seldom had elsewhere. It provided me with a sense of release, an outlet to express my inner experience.*

The mean scores for the item *self-expression* were 4.08 for all participants together and 4.56 for the artists, placing it in the high category for both groups. The

mean score for the non-artists was a lower 3.60. I will also discuss this pattern below, but since this item ranked very highly for many participants, let me first explore the descriptions of this item offered by the participants.

What is self-expression? What is it providing these participants that they considered it to be such an important influence on their creativity? It turns out that the self-expression experienced during their creative activities involved a number of things for these participants. One of these was a much-needed emotional release. Their creative work helped them to express their feelings and often provided a way to cope with difficult experiences.

> I went through hard times emotionally. My painting became the instrument
>
> with which I was able to express my inner emotions, anxieties, and helped me
>
> to see and cope with these difficult times. It helped me to turn inward and
>
> focus my energies on my own personal journey. This enabled me to empower
>
> myself and not be dependent upon external "forces" for my happiness and
>
> well-being.
>
> Others echoed this sentiment:
>
> My art, specifically my music, has always been a way to express my feelings.
>
> I have always used music as a creative outlet. Music helps me to reach inside
>
> and pull out expressions and experiences ...

Creative expression helped these people to cope. It became a conduit for the release of emotion, especially painful feelings, and an instrument that helped empower them. Similarly, another musician added that practicing his craft was meditative and even therapeutic. He wrote:

My first artistic outlet was drawing, which I would do for hours on end. It was a meditative and therapeutic activity. Later, playing guitar took over that role. To this day, playing music can cheer me up or relax me like nothing else.

For some participants, self-expression was even tied to personal growth and the craft became a vehicle for this process. The artist mentioned above spoke of how his painting helped empower him and increase his self-reliance. He added: "As a result, my painting has become a metaphor for my spiritual/personal growth." A writer expressed a similar sentiment:

The desire and drive to grow, understand, accept and "improve" or discover myself is really a big part of my desire for self-expression (even when I'm writing fiction). But how does one get to know oneself? Well, through self-expression. I write about a particular situation or issue and find I'm laughing at myself ... or crying, when I had thought I had dealt with *that*.

The very process of writing was one of self-revelation for this person. It helped fulfill her need and desire for self-growth. A journalist spoke of a related theme. He candidly described the impact of self-expression on his mental health.

I've always had kind of a fantasy world running in my head; populated by literally dozens of characters I started drawing in elementary school. I know where they all live, even in 2002. Some have died, others gotten fat and boring, etc. But without a soapbox to say a) what I feel about the world around me and b) what's happening in this little fiction, I go nuts.

Self-expression, identified as a very important part of their creative development, was also tied to these participants' personal growth and mental health.

It became their avenue to self-awareness and, even though they expressed it candidly, the way they stayed sane. For some it even became their spiritual path.

Self-expression through their creative pursuits also played another important role. For some participants, expressing themselves through art was not only a fulfilling experience but also it provided a way to interact with the world. A songwriter shared this view: "At an early age I realized I got great satisfaction from expressing myself creatively. It's a way for an otherwise private person to connect with people on another level." Creative expression became a way to make contact with the world. Similarly, another artist, a traveling musician, articulated that it was the way that others got to truly know him. "I feel it is the best way for others to understand who I am and what I am as a person." For others, creative expression gave them a *voice* when they didn't otherwise have one. A businesswoman spoke of her childhood and described how she was able to express herself and her needs through her creative abilities, including an ear for music and a vivid imagination, when she didn't have the skills to do so verbally. Creative self-expression allowed these participants a way to meet the world, to feel understood, to be known and to give voice to themselves and to their needs.

For some, self-expression through creativity was quite literally an *expression* of the *self*, of the person's nature. "I think I was born talking," quipped a musician. A writer added, "There is lots I want to say." For others creative self-expression became a way of life. A musician and songwriter noted:

> Truly ALL my creativity has been nothing but Self Expression. Creativity is
>
> literally how I move through the world. I tend to apply it to almost every

action...the way I dress, what and how I eat, my "style" of communication and even how I "view" the world. The lens through which I perceive is of my own design. I'm not a "follower", I am a creator, and all that I create, design and bring forth into the world I categorize as Self Expression.

Self-expression was identified as one of the most influential factors in the development of creativity with these participants and this seemed to be especially so for the artist group. Self-expression helped them cope with painful emotion and difficult times. It became a vehicle for self-growth and personal empowerment. For some it was a way to be known and a way to make contact with the world. The expression of their creative abilities gave them voice, kept them sane and made them strong. And in the process gave the world many wonderful creative works.

Comparison between groups.

As mentioned at the beginning of this section, there was a noticeable difference between the mean scores of the artist group (4.56) and the non-artist group (3.60). As well, eight artists identified this item as being in their top three compared with only two non-artists. In addition, the two non-artists also had connections to artistic endeavours. One is a former musical performer, the other a former cartoonist. While emphasizing that any generalizations must be made with caution, this seems to point to the notion that self-expression is an influence much more relevant to creative people in the artistic domain.

4. Courage and Perseverance

> *I persevered - stuck by my ideas - in the face of disagreement, uncertainty and*
>
> *even rejection or ridicule. If I needed to, I was able to stand alone and I*
>
> *resisted the pressure to conform. I was able to "hang in there".*

The mean scores for the item *courage and perseverance* were 3.78 for both

groups, 4.04 for the artist group and 3.60 for the non-artist group, placing it in the

high category only for the artist group. But as shown in Table 9 this item was the

third most common item identified when the participants chose their most important

influences. And this is so for both artists and non-artists alike. It seems that creative

people need courage. The paths they take are often difficult ones. In order to follow

their passion they often need to make difficult decisions, endure numerous hardships

– not the least of which is the threat of financial difficulty.

As well, creative people are often, by their nature, different or unusual. Some

have felt like "misfits" all their lives. Even when we consider creativity outside the

artistic realm, those who create in any field of endeavour tend to stand against the

crowd. It is, in a sense, the very nature of their work. They are generating ideas and

solutions that the crowd has not yet thought of. Indeed, the path of creativity is one

that often takes courage to endure. Plain and simply, to be creative often involves a

difficult way of life. As one painter said, his choice of career was a challenging route

requiring that he endure real hardship, where courage and perseverance were of the

utmost importance. A musician echoed this same sentiment:

> My calling is not for the faint of heart. It hasn't been an easy road. It looks
>
> harder ahead. I'd do it all again. This is my discipline. My vocation. I am an

artist. I've come to accept that. And celebrate it. Life is good. Let the mystery be.

Another musician emphasized this point saying that, "to live a creative life you need the courage to take the necessary risks involved in an unconventional lifestyle." The creative way is an unconventional one and is often not an *easy road*. Some of the participants reported a lifetime of not *fitting in*. They have always felt different, outside the norm. Sometimes they were pressured by the views of their peers and sometimes by the expectations of society. Looking back on a lifetime of "bucking trends" an entrepreneur and teacher wrote: "I have often wished that I was more conventional, but my ideas seem to take me away from traditional approaches." Courage and perseverance helped him deal with the "flack" from traditional-minded people. As a teacher put it, it takes courage and perseverance to "carry on with an idea when the popular majority is marching in a different direction."

Some have not had difficulty being different and have been unafraid to go *against the grain*. Others found this role in life to be more challenging. A young musician described how in his high school years he made the decision to dedicate himself to learning to play the guitar.

I developed a practice regimen for myself that took about 6 hours to complete per weekday. On weekends I played 10-16 hours a day. Social life (what little there was) dissolved almost completely for quite a while. This took courage and perseverance (and a slight lack of forebrain probably!) because I was under tremendous social pressure to conform and be "normal". But this

perseverance has paid off in some ways because it has lead to a career in music and songwriting.

Another artist described going against societal expectations to follow his passion and the courage it took to do so.

I graduated in science from Cambridge University, and was armed with a prestigious education and possible career avenue, and yet I decided to paint. It really feels like that when given the choice, I have frequently chosen the more difficult option. Do I accept the job offer for $60,000 or remain a self-employed artist on $12,000 knowing that it makes me happier and that in the long run that's what counts, and I'll probably do better financially in the end anyway.

Not the least among the hardships and risks that arise in the creative journey are those involving finances. Times of financial crisis do indeed demand courage. Ironically, at least in some cases, those who were able to find the courage to withstand the hardship reported finding success at the other end.

Not so long ago I had only $150 left, but decided to host a private art show. I spent my remaining dollars on refreshments for the show, and later that month confirmed over $10,000 worth of art deals. I believe in risk, because I have the courage to endure it.

A successful financial executive reported that having courage during times of adversity resulted in her "greatest creative leaps." Having the courage to make what she felt were the right choices and to see them through not uncommonly resulted in great hardship in the present moment but success farther down the road. In one case

she spoke of an early time in her life, where she took a stand against her father, defying his wishes and instead choosing to follow her own path. This involved refusing her father's financial assistance while attending university and as a result finding the means to support herself by working evenings and weekends. Though extremely difficult at the time, this experience was later described as "the best thing I ever have done – I learned so much about myself, about creating and valuing money..."

As well, creative people do not only have to cope with hardship in the outer world, they also have to deal with it in the inner world. The very process of creating is a demanding one and as a musician emphasized, discipline and perseverance were extremely important factors in getting him through those times when passion was running low. Another reported that courage was essential in the face of discouragement and doubt, either her own or others. The creative process can also result in "drudging up unwanted psychic material". This too takes courage to confront.

For these participants, the creative way of life often involved hardship and demanded courageous decisions. Courage provided stamina when passion ran low and when discouragement and doubt crept in. In some cases, it was what took creativity beyond the level of 'hobby'. Without courage, many of these creative people would not have continued on their chosen paths. The demands were too high to endure without courage. Facing pressure to conform and to "fit in", standing in the face of financial hardship, and dealing with adversity all require courage and perseverance. Indeed, as the songwriter at the beginning of this section expressed so

succinctly, this isn't a path for the faint of heart. "It hasn't been an easy road. It looks harder ahead. I'll do it all again.... I am an artist. I've come to accept that. Life is good."

5. Support System

> *As an adult, I received support from loved ones (i.e. spouse,*
>
> *girlfriend/boyfriend, friends, relatives).*

The mean scores for the item *support system* were 4.00 for both groups, 4.08 for the artist group and 3.92 for the non-artist group, placing it in the high category for the artist group and for both groups together. And as shown in Table 9 this item was the fifth most common item identified when the participants chose their most important influences.

Some factors do not necessarily lead directly to high creativity, but are considered necessary components for creativity to occur. They are considered necessary but not sufficient (Kashdan & Fincham, 2002). This phrase is an appropriate expression for some of the creative people in this study. Perhaps none would argue that the support of their loved ones was sufficient in and of itself to bring about high creativity, but they did indeed argue that the lack of it would have guaranteed creativity's absence. A creative therapist expressed it boldly:

> Nothing I have done would have happened without the support of
>
> parents/marriage/family. In spite of seeing creativity for me as an internally
>
> generated experience, I would not be in a position to have the space to be
>
> creative without the external support of others.

In some cases this external support jump-starts the creative process, providing a necessary spark. And that in the absence of the spark, the resulting creative success would not occur. A Juno award winning singer/songwriter described his wife as being a "huge supporter" of his artistic work. A carpenter by trade, he added, "I would likely still be singing on a roof somewhere if it wasn't for her belief."

Sometimes the support came in the form of a haven, a place of shelter. "My mom and my partners were always there for me to lean on." In difficult times when discouragement crept in, words of praise and encouragement helped provide a supportive environment. Sometimes the support was like the planting of an early seed that blossomed and grew in later years. "My parents encouraged me to meet challenges and discover who I was. They had a lot of respect for us, and I think that translated into our own self-respect and self confidence." This very self-confidence was reported by the artist as an important part of pursuing her creative experiences. Sometimes the spark came from surprising places. The carpenter/songwriter shared this story:

> My daughter was watching the Junos one night, years ago, and she yelled through to me that someone I like had won. I said wouldn't it be great to win that. She looked at me and baldly asked "Why shouldn't it be you?" It was something of a revelation for me, the first time I thought of music as a possibility.

In some cases the support took the form of changes in lifestyle. A painter described how she was able to live her dream only because of the sacrifices made by her family.

I am a married woman with two children. My husband earns a modest income, and it is a tough go on one income. Nevertheless, I do not need to work at an outside job to have food, shelter and clothing. Sacrifices are made by the family so I can paint. These are major financial sacrifices. I am able to be a full time mother and a full time artist. I am living the dream that Carr and Kahlo dreamed of: to have children: to paint.

This woman also shared that she has benefited from the financial support of other people who have believed in her work and that without their contributions her work would be severely compromised and her creativity would be shackled.

For some the support came most from a husband or wife. For others it was also felt in their children. For some the support came from parents many years in the past. And others are moved by the support they still receive from their parents today. Sometimes it came in the form of simple respect or an encouragement to discover themselves. Sometimes the support came in the form of being *believed in,* where someone looked at them with proud, confident eyes and said, "Why *shouldn't* it be you?" Sometimes it was the willingness to endure sacrifices so that a wife and mother can bring her painting to the world. And sometimes the support took the form of a few dollars offered to buy supplies or pay this month's bills so that an artist's creativity might be unshackled. Whatever form it takes and from whomever it meaningfully comes, some creative people are clear: Nothing I have done would have happened without their support.

6. Reinforcement In Childhood

> *As a child, I received reinforcement (i.e. praise, applause, awards, popularity,*
>
> *recognition or financial gain etc.) for being creative.*

The mean scores for the *reinforcement in childhood* were 3.82 for both

groups, 4.12 for the artist group and 3.52 for the non-artist group, placing it in the

high category only for the artist group. But as shown in Table 9 this item was the

sixth most common item identified when the participants chose their most important

influences.

All of the participants in the project were adults and their childhood years

were, in most cases, decades in the past. Some had left home more than thirty years

ago. And this wide gap led to the wondering of whether or not the influence of these

early years would continue to have an impact on their creative ability today. As the

following examples will illustrate, for some participants, the answer was a resounding

yes.

When we think of reinforcement in childhood perhaps the most obvious

expectation is the influence of parental support. For some, this had a huge and a

lasting impact. Here are some examples from participants who rated this item as a

very important influence in their developing creativity:

> My mother and father both encouraged all types of creative endeavours when
>
> I was young and although my father became suspect with my choice of music
>
> when I was a teen (he began to link it to my involvement in drugs) the creative
>
> aspect of my songwriting was never questioned ... My mother was an
>
> unconditional supporter of my songwriting and was the first to introduce me

to music buying me Elvis Presley records and singing Everly Brothers songs to me when I was young. She still keeps folders of old lyrics of mine and has the original copy of the first poem I ever wrote.

In another example, a successful businesswoman also looked back and emphasized the importance of the involvement and encouragement of her parents.

Anything constructive I wanted to learn or do they supported - like skiing, sailing, sewing, cooking, ballet dancing, figure skating, piano, girl scouts and brownies. Neither of my parents knew much about these things so they would help me find a good teacher or class, would tirelessly drive me wherever I needed to go. Also, they rarely judged the choices I would make (i.e. what fabrics I chose when I sewed) and they made time to go to recitals, award ceremonies etc. Though a number of things I did were competitive (like sailing), and they were always pleased when I won trophies, they never overly emphasized this - it was more important that I completed what I committed to do.

Both of these participants spoke of some form of unconditional support by their parents. The songwriter reported that though his father suspected his drug use, the creative aspect of his rock band was never questioned. And his mother was an unconditional supporter of his songwriting and to this day keeps copies of his early work. The businesswoman did point out a degree to which conditions were placed on her support. She wrote, "I was rewarded for completing projects and not supported if I did not complete something or see it through." But other than that she describes how her parents rarely judged her creative choices and never overly emphasized the

competitive side of her activities. As well, in the following excerpt she emphasized the impact her father had on her, simply by offering his encouragement and believing in her:

> I do not recall ever being told I wasn't capable of doing something - nor of much gender bias (i.e. only boys do this) - my father in particular encouraged me to try anything I felt inspired to do, to be self-reliant and to not be influenced by the opinions of others.

Other participants also emphasized the importance of their parents' unconditional support. An educator and entrepreneur told this story:

> My parents were terrific. While they didn't encourage risk taking (quite the opposite), they did support me in any endeavour. That support has carried on into my adulthood. They supported me as I left veterinary medicine. They supported me in my divorce. I have had financial help over the years if I have struggled. Their love and support has been solid.

Others described similar experiences and how they only came to appreciate their childhood support later in life.

> Both my parents were always delighted with whatever I did and demonstrated their love and pride in me no matter what I turned my hand to. Interestingly, I have only come to realize how important this reinforcement was in later years, because there also was much darkness in our home; my mother had schizophrenia and one of my brothers had a drug problem. Now I see that despite the negative aspects of my childhood environment, I have been able to develop a strong belief in my own abilities without which I would not have

been able to develop my creative thinking skills. I have expressed their love and support.

There was a noticeable lack of judgment in these examples and an unwavering parental support in whatever their children turned their hands to. For other participants the early childhood reinforcement came not from parents, but from extended family members. This support was also remembered with fondness and as having significant impact. A painter talked about this early influence:

When I was a child I found it very easy to sculpt different water and land animals out of clay. As a result of my interest and aptitude to create, my aunts and uncles gave me a great deal of praise and encouragement to create more images.

A journalist also described the impact of his extended family:

I had an aunt who gave me pencils, my grandma bought me drawing books, and they all showed a keen interest in the fact I could draw. Writing and photography came out of this skill. So in a sense, I was getting a direct reward of love and pride.

Unlike those described in the initial part of this section, some participants reported that they did not experience a great deal of parental attention and reinforcement. For some, their family structure resulted in a yearning for attention, and creativity helped satisfy that yearning. One participant looked back on lonely times.

I think in a sense the lack of demonstrated love in my immediate family, my

parents were very young, drove me both to fill the gap with cartoon stories,

and, once they were noticed, got me addicted to attention.

A writer and poet also talked about the need for attention:

I was from a large family and always craved attention. Being creative (writing

poems and stories) for my parents got their attention, approval and praise and

encouraged me to continue. Winning awards for my creativity also garnered

this kind of attention. I remember writing and acting out plays with my

younger sister, writing poems and making a book for my parents for Easter

when I was in the elementary grades.

It was as though the early world of these two participants resulted in a need

for attention. They craved it. And their creativity helped satisfy that need. The

writer/poet emphasized that her reinforcement also came from seeing the impact of

her creative ability on the world.

In grade nine I wrote a humorous speech that ended up winning the

competition, but what most affected me was that I made my very stern, but

much admired, principal laugh until he almost fell out of the desk. I loved

having that kind of power. Another time I wrote a poem for my father who

was in hospital that he said made him cry. I realized that I could touch people

with my words.

Reinforcement in their early years was important for these people. The

empowerment and support they felt from parents had a profound and lasting effect.

For some it was feeling "unjudged" and never questioned. For others it was never

being told they weren't capable of doing something. For some it was seeing the delight on parents' faces, or watching a principal nearly fall from his chair, and feeling the reinforcing impact of that power. Though the years of childhood are long in the past, it seems that the impact of those years is still right here today.

7. Capacity to Be Alone

> *I had a great capacity to be alone (either as a child or as an adult) and I spent a lot of time in solitude.*

The mean scores for this item were 3.90 for both groups, 4.04 for the artist group and 3.76 for the non-artist group, placing it in the high category only for the artist group. As shown in Table 9 this item was the seventh most common item identified when the participants chose their most important influences. It was on the top-three list of eight participants, four from each group.

With the prominence of creativity in the corporate world today it is common to hear terms associated with group interaction: Think tanks, research and development collaborations, team building, corporate synergy. But despite the common emphasis on group process in the modern business world it seems that the capacity to be alone remains an important part of many people's creativity. Here are some of the participants' descriptions.

A well-known Canadian singer/songwriter wrote: "[The capacity to be alone] has played a huge role in my creative life. Solitude is integral to the creative process and I thrive on it." A businesswoman, a former financial executive, expresses a very similar sentiment.

I thrive on time alone and need it to detach from the noise around me. This is the only way I can make decisions that support me in the moment. When I am in this "place" (and when I trust in the process), ideas, courses, symbols, people, tools come my way - exactly when I need them. It's quite extraordinary.

Another longtime songwriter and vocalist also expressed a similar view:

Most of my creative work comes out of times that I spent alone in my head. I seldom have creative moments with others although it does occur. Only after longer periods of being alone do I have a creative experience.

It is clear that time alone is an important part of the creative process for these people. Not only is solitude described as being extremely valuable to them, for some, it is a necessary prerequisite for any creativity that might occur. It is an integral component of creativity and one they thrive on. A university professor, who rated this item as being one of her three most influential, also integrated solitude into her daily work routine.

I try to spend time alone thinking every day, and this usually leads to some insight or the opportunity to read about the insight of others. I also go for walks of one hour or longer 4-5 times a week, and these walks frequently result in some kind of small revelation, whether in relation to my personal life, or to my scholarly work.

Alone time provided a space for ideas to emerge. A thought or connection not previously noticed often revealed itself. Solutions to personal and professional issues unfolded. For some, the capacity to be alone not only fueled their creative work

today, it also played a significant role during their formative years. An award winning

songwriter articulated it this way:

> My ability to be alone has provided the space for me to develop my
>
> imagination. As a kid and as an adult. Without that space (i.e. - quiet time,
>
> alone-ness, mental space away from social interaction and distraction) I
>
> wouldn't have been able to develop my abilities to imagine things. That
>
> imagination is the motivating spark behind all of creativity, including the
>
> professional work that I do now as an adult (Music). So, I would say that my
>
> introverted tendencies have contributed greatly to my "creativity muscle". I
>
> remember spending a great deal of time as a child being alone in my room in
>
> silence for 5 to 10 hours at a time. I've always preferred to be alone and so I
>
> had a lot of time to just observe things in a potentially unique way without the
>
> distraction of social interaction. Therefore, I was able to develop my own
>
> way of seeing the world (and my own imaginary world).

Others described a similar connection between alone time while growing up

and an emerging rich fantasy life. Another participant also addressed this issue:

> During my childhood, I frequently spent time alone - I was the only girl
>
> among 3 brothers and because of my mother's mental illness, I never invited
>
> any of my friends to my house. I read a lot of fiction. I also created a fantasy
>
> world where I was the Queen who was in control. These activities that helped
>
> me escape, also helped to develop my creativity.

Time alone was a rich space in which imagination and fantasy could take

form. It provided the opportunity to see the world from a unique perspective, and for

some, to create the perspective of new worlds. It offered the opportunity to escape difficult times and the chance to create new ones. For these participants the space, the fantasy, the escape all added up to a developing creative ability.

Some participants discussed their preference for alone time, but also described how solitude did not always come easily. They needed to find it, to create it, to learn to be able to be alone even when they were with others. One participant shared this story:

> I came from a large family so there were people around constantly. However, I found ways to be alone. I could also be alone amongst the crowd. This allowed me to observe, to watch people. I also spent a lot of time alone in the bush, by lakes, walking down roads. This allowed me to develop a stillness, an inner peace, a refuge. I can recall after being excited and socializing, relishing the thought that I could go home and recall and review everything when I was alone. It's funny, but sometimes I feel ambivalent about having people around me. I'd just as soon be alone.

For some, the challenge was not to find solitude but rather to find the balance between time alone and time with others. A non-fiction writer emphasized this need. "As an adult I require solitude on a regular basis otherwise I become cranky, although it is a fine balance, because too much time alone can create the same result!" The businesswoman described above also addressed this issue:

> Having more or less mastered the ability to be alone, I now see, that at least for me, the ultimate challenge is to create while in relationship with others. The Japanese call this harnessing the "plus alpha" effect - where one can

create beyond oneself through interacting with others - where 1+1 = 3 or more. At this stage I see glimpses of the wonder and potential of this creative path and imagine I'll spend the rest of my life finding the right balance between time alone and conscious time with others.

For these participants time alone was an essential part of their creativity. It was something they thrived upon, something that played a huge role in their creative lives. Time alone was a "place" where ideas emerged, decisions were made and insights revealed themselves. For some it provided a childhood haven where imagination and creative ability could take root and grow. Indeed, there is much talk in our modern world of group creation and team projects, but for some creative people, time alone remains an integral, crucial part of their creativity.

8. Work Habits

> *I worked very hard at my creative endeavours.*

Some people may tend to think of creativity as primarily involving inspiration and talent. While the creative process may indeed involve these things, the results of this study also point out that for these participants, something else was also involved: hard work.

The item *work habits* was consistently rated near the top of the categories for all groups. The mean scores of 4.08, 4.24 and 3.92 were for all participants, artists and non-artists respectively. This factor was also in the top 10 most common items in the participants' choices of their most significant factors. The written examples provided by the participants offered glimpses into the lifestyle and habits of successful, creative people. They described themselves as *focused, committed* and

disciplined. Some even used terms such as *consumed* and *driven.* It was clear that these participants were resting neither on inspiration nor talent alone. A teacher shared this story:

> I have always worked incredibly hard at whatever I do. Some call it being stubborn. It seems that once I start on a project, I have a million questions, I struggle to get a focus and I mill it over and over in my mind. Then, I suddenly find a place to start and everything just sort of takes over. I hate to get interrupted and have a hard time with little bits and pieces. Work can consume me and I have to force myself to step back and take care of me (spiritual practice and exercise) to get back on track.

This person was not relying on talent. Though she may have had an ample amount of it, she described working incredibly hard. She gave herself to the process and became extremely focused, hating to be bothered by other details. A painter shared a similar emphasis on structure and dedication.

> I am extremely dedicated and motivated. I don't have time for time wasters. I am an achiever and like to get projects done. I have high standards that I like to stick to. When I have to deal with team-work, I am frequently let down by those around me who cannot deliver, do not commit in the same manner. A recent example came up with a book project, in which the contributing authors were not as thorough, nor as timely as myself, which was very frustrating.

Just as the teacher was impatient with irrelevant details, this painter was impatient with interactions involving others who didn't share his depth of commitment and dedication. Both these people showed a distinct capacity to focus

intensely on the work at hand and an impatience with any *time-wasting* interruptions. This points to the underlying commitment of getting the work done; a stubbornness, a conviction and a low tolerance for what gets in the way of creative production. The painter also emphasized the importance of motivation and dedication:

> As a self-employed person who works at home, people are frequently amazed that I can motivate myself. I find it easy and a pleasure. I find my dedication to my work produces amazing results, and I wouldn't have it any other way.

It is clear that these people were not addressing the way in which their talent, giftedness or inspiration was creating results. They emphasized their dedication, motivation and quite simply, their extreme hard work. A songwriter expressed a similar degree of involvement:

> I take [my work in the music business] very seriously and get out of bed in the morning with my lists of things to do. I am focused and driven at the same time. My partners have always commented on how disciplined I am about my approach to my art, I don't wait for the muse to visit, I try and provide an environment so that she'll come visit as often as possible.

> This person was both active and proactive. Clearly, she worked hard and in a focused and even a driven way but she also created an environment to invite inspiration rather than waiting for it to come knocking. She got out of bed with a clear intention to go about her day with discipline.

A therapist also emphasized the degree to which both hard work and a proactive approach helped her bring creativity to her therapy practice:

I worked hard in pursuing what I wanted. I asked for some of those mentors to take me under their wing, I actively sought out the experiences and the people I wanted to train with. In a way I was driven. Part of that is unhealthy, but part of it got me where I am and opened doors, had people respond to me, that would not have if I had not actively worked on my own behalf. So work habits might not be quite the right term, maybe more a belief in myself, a willingness to "jump through some hoops", and a discipline to keep on track and go for what I want. I had goals, I actively worked towards them in a very structured, disciplined way. And where I end up is being able to be an artist in my therapy, not just a technician.

Motivated by a belief in herself, she used discipline, structure and hard work to bring a creative approach to her practice. It was having goals and working toward them in a structured way that allowed her to rise above the technical parts of her work and to become an artist in therapy.

A successful international businesswoman also addressed the importance of dedication and commitment. She wrote: "My husband dubbed my perseverance as *grim determination*. I prefer *amazing tenacity*". Indeed, these creative people demonstrated an amazing tenacity in producing their work. And this tenacity was comprised of dedication, discipline, focus, determination – and downright hard work.

This group of people waited neither for the muse to arrive nor for opportunities to present themselves. They got out of bed in the morning to go about the business of creating in a structured and motivated fashion. They worked hard, some of them incredibly so. They were focused, disciplined, motivated and

sometimes even driven. Passionate about their work, they were impatient with the trivia and time wasting that threatened to get in its way. Reading through the list of the most important influences that these creative people identified, one will not find inspiration. Nor will one find talent or luck. But in all the measures used in this study, one will indeed find hard work.

9. Mentors and Role Models (Adulthood)

> *In my adult life I had role models or mentors who had an impact on my thinking and attitudes about creativity and/or my area of interest. They really seemed to believe in me.*

The mean score for mentors and role models in adulthood was exceptionally high for all participants together. The score of 4.24 placed it very near the top for the group. For the non-artist group the mean score was 4.36, second only to passion. It ranked in eighth position when the participants chose their top three items. It was tied (with courage & perseverance) as the second most common choice of the non-artist group. In reviewing the written descriptions of the participants, it appears that mentors and role models can come in many forms and can provide influence in many ways. Some people found their mentors in their own home; others found them in the education system or the work place. It seems that mentors can teach, inspire and offer their support. Sometimes the relationship with a mentor or role model lasted a lifetime; sometimes the encounter was brief and fleeting. As such, what we refer to as *mentors* covers a wide spectrum in terms of who they are and what they offer. What seems clear, however, is that mentors can indeed have an impact on the development

of creative ability. An entrepreneur with a PhD in educational psychology tells this story:

> I have had amazing people in my life who've taken me under their wing. Where they've been most helpful is in pushing me into doing things I didn't think I could do. Mentors helped me get over reservations I've had about my own ability, and this has created many opportunities for my creative work to actually make its way into the world. Some key mentors include a Grade Six teacher who inspired me to want to understand how education best occurred, a mechanic who taught me how to work on cars, an automotive shop owner who let me make mistakes, a supervisor in vending who shared life views with me, a university classmate who taught me how to learn, a professor who inspired me regarding psychology, and a manager who opened doors so that I could put everything I'd learned into practice. I suspect few people could list so many direct and important influences (and I haven't listed them all!)

This articulate example captures the far-reaching influence and the broad spectrum of mentorship. To this man, it offered many things and showed up in many and varied places. His mentors offered him support and took him "under their wing". They believed in him. And at times they pushed him to do things he didn't think he could do. They helped him get over the reservations he had about his own abilities, helping him to believe in himself. They taught him and inspired him. They allowed him to be human, to make mistakes. As this was occurring, opportunities unfolded for him to be successfully creative in the world. And from whom did this belief, this challenge, this support come? It came from a teacher, a mechanic, a shop owner, a

supervisor, a classmate, a professor and a manager. Indeed, this example captures the essence and the impact of mentorship. The influence of a wide variety of people, some involving only brief encounters, but all contributing lessons, support or inspiration that lasted a lifetime. Sometimes the mentors were a generation apart and sometimes they were peers. Sometimes the lessons took place in a formal work setting and sometimes in the form of casual conversations.

What seems to be common in all these examples is that there was an encounter between two people; the person and the mentor. Some experience occurred in which a message, sometimes spoken; sometimes not, passed between them: that one is believed in, or cared for, or encouraged. In some cases the encounter even seemed to take the form of non-action as in the description above of being allowed to make mistakes. Many, many years later that memory was vividly recalled and remembered with fondness.

For some participants the encounter of mentorship and the lessons that accompanied it occurred right in their own home. Another entrepreneur shared this story:

> My dad was the most generous man on earth. He believed that anything was possible and if you wanted it bad enough you will get it. Looking back he was my mentor. I would like to believe that I am like him. My father taught me that being creative was always easier and more fun than grinding away at a problem the way others do. I used to come up with some crazy ideas and all he could say was "If that is what you want go for it". He never once told me I was being foolish.

This man witnessed the actions of his father, seeing him work through problems and exercise the power of belief that anything was possible. His father taught him specific lessons about creativity and its power in the world. He was encouraged to "go for" the things he wanted and never once were his ideas scoffed at. A teacher also spoke of the impact her father had had on her.

> My Dad is a man who loves to paint, loves to take pictures and loves to write about the things he sees around him. He shows me that if you follow your heart you will be truly happy. He's one of those guys that takes pictures of everything he sees. He's known for stopping in the middle of the highway, pulling over because he sees something he just has to paint. Now I'm not creative like that, but it does show me that he loves life and takes the parts of life he loves and makes them his in his own special way. I take what I love and I make it mine in my own special way.

Her father modeled spontaneity, an aliveness and a love of life that had a significant impact on her. She watched him interact with the things he loves and saw him work them into his creative expression. And she followed his example and did the same in her own life.

While some people found their mentors in their parents or teachers, others found them in their childhood heroes. A musician reported having the opportunity to work with his musical idols.

> In the course of pursuing my passion for music I've had the opportunity to actually work with a number of those who had inspired me as a youth. Most significant has been my association with Ian Tyson. I was attracted to his

work at about age 11 and followed his career as closely as I could. While studying the piano playing on his recordings I dreamed that I might one day have the opportunity to play in his band. As a result of my being in the right place at the right time, that dream did come true. Although I was by this time a seasoned professional, I considered this situation to be an apprenticeship, which I would be required to successfully complete in order to truly begin to accomplish my goals.

As this musician points out, sometimes mentorship can take a more structured form, as in an apprenticeship, a chance to work with someone we admire; someone who can teach us. Others reported a similar circumstance and emphasized that it was seeing the human side of these role models that made an impact. Speaking of the well-known trainers she had the opportunity to study with, a therapist wrote:

> ... seeing who [my trainers] were in the world, not just their work, but their personhood inspired me towards my personhood, which includes my creativity. I had a model of not just my work, where I feel I am creative, but in becoming myself. Then I could be a creative person, whether it shows up in my work as a therapist, how I make flower gardens, or how I dress, etc.

No matter where mentors came from it seems that there are a few common threads that run through the descriptions. Mentors teach us. We learn about life from them in a way that has an impact on our own lives. Lessons that change the way we do things or the way we see ourselves. Mentors also inspire us. We observe them living their lives and we are moved by what we see. Their behaviour has an impact on us. They affect the way we see life. They affect what we do with our own lives.

Sometimes these mentors influence because of what they give us directly; their support, their belief in us. One person reported that one of the most important influences in her life was the fact that "someone believed in me, encouraged me and helped open doors for me because they felt I could 'go the distance'". Sometimes mentors encourage and sometimes they challenge.

What also seems clear is that while connection with mentors is often a lengthy relationship, sometimes the encounter is brief and sometimes the person may not even be aware he or she has become a mentor. Does the shop owner, mentioned above know what a lasting influence he had by simply allowing a young boy to make mistakes? Does the friend know that the lessons in casual conversation were so non-casual? How many schoolteachers do not know the impact they have had? And what of the many people who just by virtue of having the courage to be themselves have unknowingly become the mentors of others?

What this all seems to add up to is that one person can have a profound and lasting impact on another; that a meaningful, caring and supportive encounter can alter someone's life. And that all of these things can serve as nourishment, sustenance for the development of creative ability.

10. Home Environment (while growing up)

> *I grew up in an environment that was supportive and encouraging when it came to creative expression and exploration. I was encouraged to take risks and to experiment in my creative activities.*

The influence of home environment received mean scores of 3.66, 3.68 and 3.64 for all participants, artists and non-artists respectively, all of which would be

considered moderate scores. As well, it was the tenth most common item chosen in the participants' top three list. Interestingly, however, despite identifying it in a place of fairly high significance on the latter scale, those who wrote about it, tended to have little to say. This lack of commentary seemed to parallel the mean score rating as a factor with a medium range influence rather than one that had a high significance. One possible explanation for this is that there is a similarity in the underlying concepts of this item and *reinforcement in childhood*. Both items resulted in discussion of the influence of parental reinforcement and home support. Here are the descriptions provided by the participants. A university professor wrote:

> I received very positive encouragement from my parents in all that I did, including music. The positive encouragement also took the shape of my parents buying me instruments and paying for guitar lessons.

This home is described as providing encouragement verbally and in the form of the 'materials' of music – the purchase of musical instruments and lessons. An artist, a photographer, also identified the importance of an environment that nurtured creative expression, saying that his "early childhood was filled with arts and crafts activities." He emphasized that because his mother stayed at home until both he and his brother went to school, their lives were filled with creative activities.

Another university professor, one who had worked for years in developing creative approaches to therapy, identified his home environment as being the most significant influence on his developing creativity. In his case, however, the creative activities came from a very different source. They came out of necessity.

Grew up in a hardware store, quite literally. This was during the great

depression, as it was known. Money was not available for most things, so the

instruction I received was, "if you want it, make it". Thus I had to find ways

of getting what I wanted, whether it was a sheath knife for scouting or

whatever. I made file boxes in the tin shop. Made my own electric motor to

run the erector set. Learned to sharpen my skates and the lawn mover.

Learned how to handle plumbing, electricity without doing myself in, and

many other skills that I was simply give opportunity to develop.

In this example, the home environment seemed to provide the raw materials

for creative exercises and poverty provided the impetus to use them. Anything this

boy wanted he would have to make. In some ways, he became creative by necessity.

The photographer, mentioned previously in this section, also wrote that he had

a very "sheltered and protected childhood" where his periods of imagination were not

interrupted by real life events, "traumatic or otherwise." It is clear that these home

environments represent quite different categories. One is sheltered and protected,

filled with arts and crafts supplies and activities. The other is a home in the shadow of

poverty during the great depression. And both environments are reported as

contributing significantly to creative development. This is perhaps an indication, a

small example, of the great complexity of creativity. A sheltered home environment

can result in creative ability and so can a home environment of hardship and need.

11. Reinforcement (in adulthood)

As an adult, I received reinforcement (i.e. praise, applause, awards,

popularity, recognition or financial gain etc.) for being creative.

Reinforcement in adulthood is another item with an interesting pattern. On the one hand the mean scores were very high. The score of 4.30 placed it in the second highest position for all participants. The artist and non-artist scores were 4.48 and 4.12 respectively. But only two participants chose this same item when asked to identify their most significant influences.

A university professor cited this item saying that the positive feedback he has received about his writing has been sufficient to keep him productive. His positive reinforcement has also come in the form of receiving a number of national awards and being invited as guest of honour at a world convention. These served as motivating factors. A businessman also identified how reinforcement in adulthood has influenced his creativity in a significant way:

> All of the projects that I have started in my adult life have been successful. I was well rewarded for my efforts through awards from the community and financially. I am constantly reminded by my peers of the positive impact I have had on the downtown business community through my creative businesses and philosophies of operation.

Both these men reported being spurred on by their success and by the positive feedback they had received. But how can an item with a mean score that ranked in second place, only be chosen by two participants as being amongst their most important influences? Again, one possible answer may be that there is overlap between this item and others. What these participants discussed under this factor, others may have discussed elsewhere. For instance, the descriptions of the businessman above seem to bear similarities to some of the descriptions listed under

life purpose. Some of those participants talked of being very motivated by the impact of their work on the world.

12. Extended Involvement

> *I worked in my area of interest for ten years or more.*

The item *extended involvement* had a very similar pattern to the one discussed in adulthood reinforcement. The mean scores were 4.18, 4.08 and 4.28 for all participants, artists, and non-artists, respectively, but only one person out of fifty chose this factor as being amongst their three most important influences. That person, a songwriter, spoke of how the long history of her career gave her a sense of having woven a thread through the lives of other people.

As to why some items can have such high placement by their mean scores, but quite insignificant placement in terms of the choices by the participants, it is perhaps good to offer the reminder that the mean scores involve all items on the questionnaire. In contrast, the choices by the participants in the second part of the survey involve choosing three items from this list – their most important influences. In this regard, a direct comparison between the two sets of data is simply not appropriate, but it does nonetheless raise additional queries worthy of investigation.

13. Opportunities

> *I had opportunities (lucky breaks, synchronicities, chance occurrences, being in the right place at the right time) that opened the way to significant advancement in being creative.*

The mean scores for *opportunities* were 3.86, 3.48 and 4.24 for all participants, artists and non-artists respectively. As well, four participants identified

this item as being amongst their top three most important influences. Only one participant, however, seemed to emphasize with true conviction that opportunities indeed held a significant place in the development of his career. He wrote: "Without several fortunate opportunities, I doubt I would be practicing as an artist today." He described a number of "combinations of personal contacts and good luck" that landed him exhibitions in which to display his art. It is interesting to note, however, that the first such meeting came about due to a professor's believing that his work merited a show. In this sense, one could fairly ask whether the opportunity promoted his creative ability, or whether his creative ability generated the opportunity. This example seems to point out the complexity of the item referred to as opportunity, and how it is likely much more of a dynamic process than many of the other items. Even the greatest opportunity in the world will usually not serve someone who has little to offer. And, as in the case of the artist mentioned above, creative ability and meritorious work tend to promote opportunity.

Another artist also addressed this very issue. She listed *opportunity* as one of her three most important influences. But she emphasized the belief that it was her determination to create and continue painting that was largely responsible for the opportunities arising.

14. Spiritual or Personal Growth Practice

I took part in a regular spiritual or personal growth practice (i.e. meditation, yoga, t'ai chi, long distance running).

The mean scores for this item were 3.54, 3.60 and 3.48 for all participants, artist, and non-artists, respectively. This was not on the high list for any of the groups.

It has been included here, however, because five participants chose it as being amongst their most important influences. It ranked eleventh on that list.

In the descriptions offered, the participants emphasized that an array of spiritual practices, including t'ai chi, yoga, mediation and mindful walking, contributed significantly to their ability to create. For one person, meditation provided a wider view of reality leading him to "understand that what we see in the everyday world is not all that there is." As a result he paid closer attention to intuitive flashes and noted that they were invariably correct and accurate. Others emphasized a direct link between their spiritual practice and their creative output. An entrepreneur wrote:

> Most of my best ideas have come while I was involved in a "spiritual" practice. In those few minutes of peace, when I have a quiet mind (rare for me), ideas come uninvited and often quickly. For example, one day I was practicing t'ai chi on the beach deck and all of a sudden a whole new seminar appeared in my mind. It encompassed much of what I had learned in my life. I rushed to my computer and spent hours writing it down.

Some participants went beyond the notion of meditative exercises and made specific reference to divine influence. A businesswoman wrote:

> I can't say that spiritual practice has been with me all my life nor that it helped forge creativity in my youth. It has, however, had a huge impact in the last 15 years - laying the foundation for me to create in new ways - ways I believe allow for more conscious co-creating with divine forces.

A songwriter expressed a similar perspective:

In my most creative moments - song writing - I am convinced there is divine intervention and I am just a conduit for what needs to be said. My spirituality has contributed to my most truly inspired artistic work.

Some of the descriptions offered by the participants in this section were similar to those offered by others under the items self-expression. For instance, one writer described how the writing process drew her into a meditative state and that her personal and spiritual growth had always hinged on her ability to create.

Whether they were speaking of the impact of a quiet mind, gaining a greater awareness of the everyday world or opening to some divine force, the underlying theme was the same: For these people, spiritual practice had an impact on their ability to be creative.

That concludes the discussion and analysis of the fourteen most influential items. Further analysis, including a look at those items identified as least important and an exploration of other observable patterns, follows in the next chapter.

CHAPTER VI

DISCUSSION OF OBSERVABLE PATTERNS

This chapter is a further exploration and analysis of the results. The previous chapter explored the most important influences on the development of creative ability, and the discussion will now address the following issues:

1.   The Least Influential Items: Which items were identified as being the least important?

2.   Observable Patterns: What observable patterns emerged? Did the results indicate that any items are essential, or by contrast, non-essential to the development of creative ability? If so, what are they? Which items received ratings of "Strongly Agree" by at least ten participants? When considering Part II of the questionnaire, where the participants chose their three most important influences, how many individual items were identified?

3.   Exploration of Subscales: What indication is there of subscales?

Least Influential Items

As well as exploring the most highly rated items, it is also of value to discuss those items that received the lowest scores. In doing so, it is important to integrate the responses from Part A of the questionnaire. These data are found in Table 5: *Descriptive Statistics for Part A: This Describes Me and My Life Experience.*

This component of each item (this describes me and my life experience) was included to add a qualifying element to the responses. In constructing the questionnaire it became apparent that there may be cases where participants would be

rating items for which they had no direct experience. This would have an impact on the results. For example, imagine that many participants responded to a particular factor, say Creativity Training, with a rating of "strongly disagree". At first glance this would present the obvious conclusion that this form of training was not very influential in their lives. However, there is the possibility that some participants had not actually taken part in any formal creativity training. They may have given a low rating to the item not because it had a low impact, but because they had no direct experience of it. Clearly, this is an important distinction.

It could be argued that "Part A" of the scale was not necessary since the range and standard deviation scores also help point out anomalies. For instance, as outlined in Table 2, the item *therapy*, had a fairly low mean score of 2.66 suggesting that this item was not influential for the participants. However, the range of one to five and the standard deviation of 1.49 indicate that the mean was arrived at by the averaging of scores that were either quite high or quite low. In other words, this indicates that many participants likely did not have much life experience with therapy. Nonetheless, including "Part A" of the item allowed for a more accurate and valid interpretation of the scores.

Consideration of the mean scores in "Part B" (this factor had a positive impact on the development of my creative ability) as illustrated in Table 2, indicates that the use of *drugs* to induce altered states of consciousness, *therapy*, *required participation* and *creativity training* are the lowest rated items in the entire list. However, when "Part A" of each of the items, as illustrated in Table 5 is taken into account, an additional perspective is provided. On this measure, all four of the items mentioned

have mean scores below 3.0. In other words, they do not necessarily describe the

participants and their life experience. As a group, the people taking part in the study

did not experience required participation, did not take part in creativity training or

therapy, and did not explore the use of drugs to induce altered states of consciousness.

When those who *did* have these experiences are separated out, the results are

somewhat different. Table 11 lists the results for those participants who responded to

"Part A" of the items (this describes me and my life experience) with "agree" or

"strongly agree".

Table 11

Low Ranked Scores Adjusted by Qualifying Part A:
(This Describes Me and My Life Experience)

Item	N Rating Item 4 or 5 on Part A	Adjusted Mean Part B
Drugs	12	3.50
Required Participation	9	3.89
Therapy	22	3.77
Creativity Training	19	4.21
Genes	14	4.21
Spiritual Experience	26	4.00

When considering only the scores from those with experience in the area, the

item *creativity training* is given a much higher standing. Rather than a mean score of

2.82 it is rated at 4.21. The other three items, *drugs, required participation* and

therapy, still had a mean scores below 4.0 but none of these scores would have placed

them at the bottom of the list in Table 2, the original set of values. These items would have scored in a medium range. It is important to emphasize that, for the four lowest rated items, the number of participants represented in the table ranges only from nine to twenty-two and thus does not constitute a significant number. Nonetheless, the results provide an informative perspective and help limit erroneous conclusions and generalizations.

Two other items also had overall mean scores, as illustrated on Table 2, very close to 3.0. The item *genes,* which had mean scores of 3.04, presents a unique situation. Both parts of the item are interpretations. In other items, such as *early start* or *opportunities,* there are objective criteria to consider when responding to: this describes me and my life experience. With genes, however, the participant is offering a personal belief in both cases. The item *spiritual experience* would also be given a higher standing when this process is applied. Rather than a mean score of 3.04 it is rated at 4.00. It is rated higher by those who actually had what they considered to be spiritual experiences than by the group as a whole.

In concluding this section, it is important to emphasize that for most items and for all those ranked highly, the inclusion of "Part A" did not significantly alter the positions of the items.

Observable Patterns

It is also worthwhile to consider the findings while asking questions such as: What observable patterns emerged? Did the results indicate that any items are essential, or by contrast, non-essential, to the development of creative ability? Here are some of the observations:

The Number of Important Influences Per Participant

On average, each person identified that 8.5 different influences had a very strong impact on their developing creativity (as rated by "strongly agree"). This number rises to 16.6 influences when also considering those that had a strong impact (as rated by "agree"). Sixteen influences per person. When considered on an individual basis, the range of influential items varies from three to twenty-three. That is a quite a significant array. One person identifies only three influences; another identifies twenty-three. And it is not that the person identifying only three influences has not had exposure to any the others. That same person ranked thirteen items in "Part A" of the questionnaire as "agree" or "strongly agree". In other words, she had significant exposure to thirteen of these influences but only identified three of them as having a strong impact on her developing creative ability.

The Number of Items Identified as Having a Strong Impact

All twenty-eight items were rated by at least one participant as "strongly agree". This seems to indicate that every single item had a strong impact on the developing creativity for at least one person. But many of the items appear to have had an impact on numerous people. Twenty items were rated as "strongly agree" by at least ten different participants. If only the rating "agree" is considered, every single item was rated by at least nine participants as having an impact.

Which Influences are Necessary for Creativity to Occur?

The question "Which influences are necessary for creativity to occur?" is an interesting one, though perhaps a very difficult one to answer. For these participants only one item, *passion*, was rated as having a strong influence ("agree" or "strongly

agree") by at least 95% of the group. Two additional items, *reinforcement in adulthood* and *mentors in adulthood*, were identified as important by more than 80% of the participants. Four additional items were identified as important by more than 70%. This seems to indicate that all seven of these items were important for the group as a whole, but only one was chosen by almost everyone. And even that item was not identified by three participants out of fifty.

<div align="center">*The Top Three List*</div>

Additional observations can be made when considering Part II of the questionnaire. In this section participants were asked to choose their three most important influences. This information is presented in Table 9.

As with the overall mean scores discussed above, the Top Three List also included a wide array of items. In fact, of the 28 items on the questionnaire, 23 of them were identified in at least one participant's list. But noticeable by their absence are *formal knowledge* and *creativity training*. Again, these items were not absent from the life experience of the participants. Twenty-seven of those involved in the study identified that formal knowledge in their area of expertise was a part of their life experience. No one identified it as a top three influence. Nineteen individuals experienced some degree of creativity training but this item did not make the top three list either.

Also noticeable by its absence on the Top Three List is school environment. Twenty-eight individuals identified that, during their school years, they experienced support and encouragement in regards to creative expression. But none of them listed this item amongst their top three. Similarly, forty-one participants identified *extended*

involvement as being part of their life experience; only one included it in the top three list. By way of comparison it is interesting to note that four participants identified that dealing with tragedy or trauma was amongst their most important influences. And eight participants identified that the capacity to be alone was one their top three items.

Perhaps the most telling aspect of the Top Three Lists, however, was the number of additional items added by the participants. This is discussed in the next section.

Additional Items Added to the Top Three List

As mentioned, participants also had the option of adding items to the list of 28 included on the questionnaire. Twenty of these items were included in the participants' choices of their top three most important influences. These items were:

1. Attention or approval;

2. Desire for self understanding;

3. Lack of support by significant other;

4. Desire to raise social consciousness;

5. Belief in self and own ability;

6. Health problems;

7. Life experience as a creative source;

8. Travel;

9. Connection with nature;

10. Colour;

11. Conscious desire for growth;

12. Belief that there are always alternatives;

13.   Need to adapt;

14.   Fun;

15.   Synergy;

16.   Variety of creative endeavours;

17.   Strong inner life;

18.   Easily bored;

19.   Active mind;

20.   Talent.

It can be noted that some of the new factors resemble existing items from the original list. For examples, the new additions include diligence, high motivation and biographies & autobiographies. These could have potentially fallen under work habits, passion, and the work of the masters. As well, supportive creative community and health problems could also have potentially fallen under the existing items support system and tragedy or trauma, respectively. But because the participants were aware of the existing items and nonetheless chose to add these factors, this seems to suggest that the participants were identifying items with at least a slightly different tone than those covered by the existing factor descriptions.

What this points to is that forty-three factors were identified by at least one participant as being amongst their most significant influences. It is important to emphasize that this rating is not simply an indication that these items were important to the participants in some way, but they were actually considered to be one of the top three most important influences when considering all of their life experience. It seems

that the high-impact influences on the development of creative ability span an exceptionally wide spectrum.

A Closer Look at Subscales

Cronbach's alpha was used to measure internal consistency and reliability of the questionnaire. As mentioned in chapter IV, since the purpose of this study was exploratory, the questionnaire was not designed around a pre-existing set of subscales. A review of the items does, however, indicate a number of potential conceptual themes.

It must be emphasized, however, that although the reliability of the subscales ranges from .64 to .78, representing mid-range reliability, the results must be interpreted with caution. Some items have been placed on two separate subscales and others are not included on any. It is perhaps best to say that these findings suggest potential subscales rather than offer conclusive evidence. The suggestions offered by the results would need to be explored further in research aimed at studying this particular focus. With that qualification made, the subscales are discussed in the following section, and since emphasis has been placed on the importance of additional research, the reliability analysis for each subscale is provided.

Regarding the conceptual themes, a number of items seemed to be quite clearly related to practice within a specific domain. They addressed issues relating to the particular area of interest. An example is item "1. Early Start: I had an early start in my area(s) of specialization. I began practicing and/or studying at an early age." Other items, such as *work habits* and *courage & perseverance* point to general

influences, which could refer to any field of endeavour. These two areas are discussed in the literature (Amabile, 1996) as domain specific skills and domain general skills.

A third conceptual theme involves some form of human support. Items addressing the influence of mentors, home environment and reinforcement fall under this category. Items addressing issues of self-actualization and spiritual influences constitute a fourth potential subscale.

It was also quite apparent that there were a number of items included in the survey that did not clearly fall into only one thematic group. For example, item "10. Self-expression" refers to the way in which being creative allows for emotional release. This item could feasibly fall under either domain specific or domain general. Or both. On the one hand, the expression of feelings tends to come from participating in one's particular craft, warranting inclusion in the domain specific subscale. However, on the other hand, self-expression also involves a general capacity – the ability to express – as well. Some participants indicated that they tend to be capable of expressing themselves in a wide array of activities, emphasizing that this item may belong more in the domain general subscale. As with factor analysis, where some items tend to load quite heavily on more than one factor, a number of items in this survey appeared to warrant inclusion in more than one subscale. Each of these four subscales is discussed below.

Table 12

Reliability Analysis for Support Subscale

Item	Alpha if Deleted
2. Reinforcement (in childhood)	.6328
3. Reinforcement (in adulthood)	.6413
5. Home Environment (growing up)	.6172
7. Mentors & Role Models (childhood)	.5794
8. Mentors & Role Models (adulthood)	.6367
14. Work Environment	.6659
27. Support System	.6390

Alpha = .67

Adding school environment to this subscale drops the alpha to .63. One possible explanation for this occurring is that, while the description for the school environment item addresses the degree to which school presented a positive environment, one participant suggested that many people have had numerous negative experiences relating to school environment. As a result, this may have influenced participants' ability to respond to school as a positive environment.

Table 13

Reliability Analysis for Domain Specific Subscale

Item	Alpha if Deleted
1. Early Start	.6746
9. Required Participation	.7256
10. Self-Expression	.6913
11. Extended Involvement	.7298
13. Life Purpose	.6892
17. Passion	.7479
24. The Work of the Masters	.6889
26. Formal Knowledge	.7545

Alpha = .74

As outlined in Table 13, it is interesting to note that the alpha of .74 would rise slightly with the removal of the formal knowledge item. While statistically this would result in an increase it is difficult to remove this item because of its conceptual significance.

Table 14

Reliability Analysis for
Domain General Subscale

Item	Alpha if Deleted
4. Creativity Training	.5839
10. Self-Expression	.5774
13. Life-Purpose	.6066
17. Passion	.6040
21. Capacity to Be Alone	.6044
23. Work Habits	.6106
25. Courage & Perseverance	.5939
20. Opportunities	.6467

Alpha = .64

As can be observed in Table 14, a number of items from the domain specific subscale are also included in the domain general subscale. Alpha scores would drop with the removal of *self-expression, life-purpose* and *passion. Passion*, for instance, would appear to have a strong link to the domain specific category, yet some participants spoke of having love for the creative process itself, as well as for their own particular craft. As well, some participants expressed passion for multiple pursuits. A similar argument could be made for *self-expression* and *life purpose*. Finally, while the item *opportunities* seems to have a conceptual connection with the Domain General subscale it drops the alpha from .65 to .64.

Table 15

Reliability Analysis for
Transcendent Subscale

Item	Alpha if Deleted
12. Spiritual/Personal Growth	.6993
16. Therapy	.8044
19. Spiritual Experience	.6697
22. Divine Inspiration	.6895
28. Tragedy or Trauma	.7907
Alpha = .78	

Table 15 also poses some issues for reflection. Coefficient alpha is .84 when

therapy and tragedy/trauma are removed from the subscale leaving only those items

that refer specifically to the divinity or spirituality.

Further Discussion

Table 16 lists the fourteen most highly rated items, as originally listed in

Table 2, along with the potential subscale each item would fall under.

Table 16

Subscales for Items With Highest Mean Scores

Item	Potential Subscale
Passion	Domain General/Domain Specific
Reinforcement: Adult	Support
Mentors: Adult	Support
Extended Involvement	Domain Specific
Work Habits	Domain General
Self-Expression	Domain General/Domain Specific
Support System	Support
Capacity to Be Alone	Domain General
Opportunities	Domain General
Reinforcement: Childhood	Support
Courage & Perseverance	Domain General
Life Purpose	Domain General/Domain Specific
Work of the Masters	Domain Specific
Home Environment: Growing Up	Support

It is interesting to note that these top fourteen items involve an array of subscales. Five items fall in the Support Subgroup, four in Domain General, two in Domain Specific, and three which can be categorized as falling within both the Domain General/Domain Specific. None of the items from the transcendent subscale placed in the top fourteen items.

In conclusion, it also much be emphasized that the above exploration of subscales results in three items from the questionnaire not being included. From a conceptual standpoint, the most noticeable non-inclusion is item "6. School Environment". The other two items are *genes* and *drugs*.

Genes may be categorically distinct from any other item on the list by its very nature, and even conceptually it is difficult to identify a subscale it may belong to. It is possible that this item represents a subscale not adequately covered in the questionnaire. There may be a group of influences relating the nature side of the nature versus nurture debate. Finally, as mentioned previously, the use of drugs to induce altered states of consciousness was not reported as a typical part of this group's life experience.

Even though these reasons can be offered in explanation, it is clear that if any conclusions are to be drawn with confidence, additional study of the subscales is necessary.

The Literature Revisited

It is also worth revisiting the existing literature in light of the findings of this study to explore whether it exemplifies, validates, or contradicts any of the literature. As discussed in Chapter V, one of the most obvious and most conclusive findings of

this study is that, for this group of participants, passion is central to the creative process. There is certainly support for this view in the existing literature (Hennessey & Amabile, 1988; Torrance, 1995 ; Amabile, 1998; Nickerson, 1999; Collins & Amabile, 1999). Torrance (1995) emphasized that one of the most powerful sources of creative energy seems related to being in love with something. The research evidence for this conclusion stems from a 22-year longitudinal study in which elementary school children were asked about what they most loved.

Others echo these findings. In terms of maximizing creative potential in the workplace and in the classroom, Collins and Amabile (1999) emphasize that the best strategy is to allow people to do something they love. Motivation stemming from an individual's personal involvement in work, what Collins and Amabile (1999) refer to as love, is crucial for high levels of creativity. Amabile (1998) emphasizes that curiosity and a love of the work are essential components for success whether referring to scientists or writers of fiction. These findings clearly emphasize the importance of passion in the creative process. As well, included in Nickerson's (1999) recommendations for enhancing creativity are a number of influences that are closely related to the notion of passion: building internal motivation, developing a long-term interest in some form of creative expression, and stimulating playfulness and curiosity.

Given the degree of support for the influence of passion, which tends to emphasize intrinsic motivation and the joy of involvement in the creative activity for its own sake, some may find it surprising that in the present study, reinforcement is also rated very highly by both the artist and non-artist groups. This is not necessarily

an inconsistency. While earlier research (Hennessey & Amabile, 1988) explored the degree to which extrinsic reinforcement had a negative impact on creative expression, subsequent researchers (Sternberg & Lubart, 1995; Collins & Amabile, 1999; Nickerson, 1999) suggest that, under certain circumstances, extrinsic motivation may not be harmful to creativity. A particular distinction is made (Sternberg & Lubart, 1995) between external reinforcement on the process of creativity as opposed to the goal, with the latter having a negative impact. The present study supports the view that under some circumstances, external motivation can have a positive impact on the development of creative ability.

Research has also demonstrated (Hennessey & Amabile, 1988) that social and environmental factors play major roles in creative performance, and that a supportive environment is important in the creative process (Nickerson, 1999). The results of this study exemplify this perspective and emphasize the significant impact of support. Of the seven influences identified in the *high* category for all participants, three of them (reinforcement in adulthood, mentors in adulthood and support system) relate directly to the influence of supportive people and environments.

Perhaps the most significant parallel between this study and the existing literature can be found in the view that creativity is the product of the combined effects of numerous influences (Amabile, 1983; Sternberg and Lubart, 1995; Sternberg & Lubart, 1999; Nickerson, 1999) and that not only do people express creativity in different ways but that the influential factors and personality characteristics vary from one person to the next (Nickerson, 1999). This notion is certainly supported in the present study. A very wide array of important and

significant influences were identified by the participants. And yet, the influences

identified as essential for some, were not even mentioned by others.

Sternberg and Lubart (1999) refer to this concept as investment theory,

proposing that creativity "requires a confluence of six distinct but interrelated

resources: intellectual abilities, knowledge, styles of thinking, personality, motivation

and environment" (p. 11). Investment theory hypothesizes that the confluence of

influences may involve a threshold below which creativity cannot occur, the

possibility that strength in one area can compensate for weakness in another, and that

there may be interactions between components that may further enhance creativity.

The notions of combined effects of numerous influences and the impact of individual

differences is further discussed in the conclusions.

CHAPTER VII

CONCLUSIONS AND RECOMMENDATIONS FOR FURTHER RESEARCH

While many conclusions can potentially be drawn from the data provided, perhaps the most compelling is this: There is a wide array of pathways to high creativity. Indeed, it seems that, there is no one path, no particular set of items or factors that will guarantee the emergence of creative ability. There is no clearly repeating pattern. In some cases, what nurtured one participant's creativity had little impact on the ability of another. Those items considered essential in one life were hardly given notice in another. Barriers that nearly stopped the progress of developing creative ability for one person were amongst the most significant motivators for another. And when we view the array of life circumstances, of happy families and those beset with hardship, we see that creativity can come from light, but so too, it can come from darkness. What is clear and undeniable is that all participants had powerful influences on their developing creative ability. What is also clear and undeniable is that those influences varied tremendously from one person to the next.

The Constructivist View

It may be of value to introduce the concept of constructivism, for it seems that the development of creative ability may well be constructivist in nature. While it is beyond the scope of this study to provide a full and detailed presentation of a field as broad as constructivism, a few descriptive points can be drawn out for the purposes of this discussion.

Constructivism is a philosophical framework (Peavy, 1993) and its seminal ideas are found primarily in the work of George Kelly (Vinson & Griffin, 1999). The

constructivist view is that human beings are self-organizing systems and not merely sets of traits, information processors or responders to stimuli (Peavy, 1993). As Kelly once said, whatever exists can be reconstrued (Peavy, 1993). In other words, human beings are dynamically involved in the process of living. There is neither an automatic responding to stimuli nor a vacant and uninvolved processing of information. From the constructivist view, individuals produce "their own lives through reconstruing and through actions which they deliberately take" (Peavy, 1993, p. 3). And to understand why one action is taken and another is not, the "personal meaning" behind the action must be understood (p. 3).

Constructivism challenges traditional views of universal truths and empirical knowledge and instead views "knowledge as being coauthored between individuals and within relationships" (Vinson & Griffin, 1999, p. 3). These "truths" are not absolutes that exist in and of themselves. They are socially constructed. Humans create their own reality (Vinson & Griffin, 1999). Indeed, constructivist theorists propose that "knowledge and meaning are based on constructs that are formed by each person's way of seeing relationships between things" (Vinson & Griffin, 1999, p.2).

These notions can be tied in to the development of creativity. Perhaps there are no, or at least very few, traits or influences that, in and of themselves, will result in creative ability. Perhaps there is not a particular set of factors that we can simply *pour into* a person with the guarantee of high creativity resulting. The impetus to creativity exists as much or more in the individual, and the individual's interaction with the factor, than it does in the factors themselves.

Perhaps the development of creative ability is indeed constructivist in nature. Perhaps it results not because of the presence of a particular set of items or factors but because human beings have the capacity to reconstrue those influences which exist. This may help explain why the sole influence identified as important by more than 95 per cent of the participants was *passion*. And why high creativity resulted from a vast and varied array of influences and why there was little evidence of a set pattern. Other than passion there were no guaranteed influences. But given passion, these participants reconstrued life experience into creative ability.

This is not to suggest that, given passion in some field of endeavour, any influences whatsoever will result in high creativity. Nor is it to say that all influences should be considered equal. Indeed, this study also suggests that a great many items did have a significant impact on developing creativity and also that the impact varied from one item to the next. But the impact also varied from one person to the next. While some participants found influence in a particular area, others found it elsewhere. Why this difference? It is possible that the answer is *the person,* and the interaction of the person with the item? The influencing item only had value and meaning when it had value and meaning for the person.

All participants identified important influences. In fact an average of 8.5 influences had a very strong impact on developing creativity. But the influences varied from person to person. As mentioned above, there was no template that could be laid upon a person with the guaranteed outcome of high creative ability. With that said, however, it also needs to be emphasized that there are a wide array of influences

that have the *potential* to enhance creative ability. But the enhancement occurs in the interaction with the person.

An analogy that illustrates this notion is the interaction of software code with computer hardware. In the absence of a computer, software is useless. It has tremendous potential, but it is only a part of the whole dynamic. It is, in a sense, brought to life, when it enters the interaction with the computer. And here again, the analogy can be taken further. Any computer will not suffice. There must be a match. The software code must match with the computer platform. Is the code UNIX based? Is it written for a Windows platform? Or Macintosh? The code itself, which may have staggering potential, is only brought to life, *given meaning*, when matched with the appropriate platform, the appropriate operating system.

In a sense, influences on creativity could be likened to powerful software code. In and of themselves they are incomplete. They need the operating system. And just as there is no guarantee that the software code will match the computer operating system, there is also no guarantee that the influences will match the person. But when they do, the result is dynamic and often profound. As the code whirrs to life on the screen of a computer, the two interact and suddenly a new and powerful capacity is born. So too, where the array of potential influences on creative ability interface with human beings in a way that has passion and meaning, a new and powerful capacity is also born: creative ability. Born of the interaction, not of a given set of items or factors, but of a set of influences that stir passion and meaning for the person. The influences, do not have meaning in and of themselves. They are not absolute truths. They will not somehow *cause* creativity.

The power of these influences lies as potential, and only comes to life when stirred by the passion and meaning experienced by a person. They do not themselves contain passion and meaning; they contain potential. And so, rather than seeking to identify some list of items that will somehow *cause* creativity, it may be a much more worthy pursuit to be seek to identify those which have the *potential* to do so, and to combine this knowledge with the respect for the individuality of the person.

Included in the constructivist perspective is a worldview that honours differences (Vinson & Griffin, 1999). To adopt such a view in the field of creativity enhancement is not only respectful, but quite possibly it also necessary. As mentioned above, while reading through the findings of this study, it is difficult not to be struck by the wide array of influences on high creativity. While some participants found influence in one area, others found it elsewhere. While one person may indeed respond well to required participation; another may wither under its impact. Respect for differences is essential in development in many domains and this certainly carries over to the development of creativity.

The constructivist approach as used in psychological counselling also encourages the promotion of an environment of emotional safety (Peavy, 1993) and providing a relationship that is caring, safe but also intense (Vinson & Griffin, 1999). The variety of items that fall under the subscale of support fit this description. Support is certainly something within our ability to provide to those exploring their creativity ability. And it is most certainly a necessary and welcome provision. As one participant emphasized, "Nothing I have done would have happened without their support."

Participants also spoke of the profound impact the reinforcement they experienced during their early years had, and in many cases continues to have on them. Also, discussion of mentors and role models emphasized how one human being can have a profound and lasting impact on another. Judging from the stories of the participants, mentors can influence in many ways. They teach and inspire. Sometimes they offer support and encouragement. And sometimes, in the spirit of the constructivist tenet mentioned above, they challenge us to do the things we do not believe we can do. But this meaningful, caring and supportive encounter can serve as sustenance for the development of creative ability.

Constructivism also emphasizes the importance of personal meaning (Peavy, 1993). To understand why a person does or does not perform a particular action we must understand the personal meaning of the action. So too with influences of creativity. This brings the discussion back to passion. In some ways it could be said that passion is each person's link to personal meaning. The passionate is the meaning-ful. If there is any essential ingredient in the creative process, it is what the individual feels passionate about. Judging from the words of the participants, passion is the central point around which the creative process moves. It is what pulls everything together. Only of this item did participants say such things as: "I couldn't imagine working a job for which I didn't have the passion." Here the participants found their joy, their excitement, their fun. Here they found their urgent need. Indeed, passion is the "essential ingredient for doing really creative work."

Conclusion

In conclusion, it is proposed that a great many influences have the potential to affect creative ability. And that they are dependent on the interaction between the influence and the individual person. If we are to learn from the fifty participants in this study, we must see that each and every one of them found influences that had a profound impact on the development of their creative ability. But even more so we must see that it was not simply the influences themselves. It was that each of these creative people found influences that were a good fit for them. They found *their* passion; *their* expression; their *life* purpose.

These notions warrant additional research and development. It may be worthwhile to further explore the manner in which individual influences such as *an early start* or *reinforcement in childhood* translate into the more global categories of passion, meaning and motivation. Factors such as *an early start* do not contribute to creative ability unless they translate into the global influences such as meaning and motivation. Further research may help change the focus of some of the questions we ask in this field. Instead of asking, "Should I enroll my child in an early start program?" we may learn to ask, "Will an early start program promote meaning and motivation for this particular child?"

The following section is a tribute to the fifty people who took part in this study. It is what I have learned from them. It might be called a poem, a reflection or even a prayer. It is my attempt to embody the wisdom shared with me by these gifted people.

If I Am To Be Creative

If I am to be creative, let me do what I love. Let me respond to the call of passion I hear so deeply within myself. It may seem irrational and contrary to the world's view of success, but it is the path my heart yearns to follow. And it is where I belong. If I can but do what I love to do, I shall need no prodding, no coercion. I shall work and create as naturally as I breathe. Effortlessly. Tirelessly. If I am to be creative let me do what I love.

If I am to be creative let me do what I am meant to do. I may have difficulty telling others why I know this is my path, but I will know. It is there in my heart and it calls to me with an unspoken voice. I shall know this is where I belong when I see the hearts of others touched by what I create and indeed when I feel my own heart being touched. This is simply Life telling me that I have found my place. If I am to be creative, let me do what I am meant to do.

If I am to be creative, let me have support. Few things will carry me so far and through so much hardship as the love and encouragement I receive. Few things will inspire me to believe in myself like the belief in me offered from someone who cares. And I will know this belief by the glint in their eyes and the warmth of their gaze even when the words are never spoken. Few things will offer me a place of shelter like their kindness, their words of encouragement, their standing beside me. If I am to be creative, let me have support.

If I am to be creative, let me have mentors. For though they may only touch my life briefly, if the moment has been strong and true, I shall remember it all my days. I shall remember being taken under wing; at times protected, at times pushed to

do what I did not believe I could do. I will learn from them not as one learns in a classroom or from the words of a book. I will learn because my heart has been touched and there is no deeper learning than this. If I am to be creative, let me have mentors.

If I am to be creative, let me have courage. For I know there will be times I will tested, times when I must endure, times when I will come to a fork in the road and must decide. And I know there will be times when the very nature of what I do will require that I stand alone; to declare myself, to honour what I love and what I believe in. If I am to be creative, let me have courage.

If I am to be creative let me work with conviction and commitment. Let me neither rest on talent nor wait for inspiration. Let me rise in the morning and begin the day with discipline and intent. Let me not wait for the muse to visit; let me work that she may be ever invited and that she may visit often and find me at the ready. If I am to be creative let me work with conviction and commitment.

If I am to be creative, let me do that which allows me to express myself. For this is how I will make contact with the world. This is how others will know me. This is how I shall cope with hard times and celebrate times that are good. This is how I shall grow strong and empowered. If I am to be creative let me do that which allows me to express myself.

If I am to be creative let me have support and guiding mentors, let me have courage and a firm conviction, let me do that which allows me to express myself. But above all, if I am to be creative, as creative as I possibly can be, let me respond to the call of passion within myself: Let me do what I love.

Limitations of the Study

The study did not incorporate random sampling. The basis for participant selection was availability via a *snowball* sampling approach and confirmation that inclusion was warranted through meeting the established criteria. While these measures were important components of the study they nonetheless limit the ability to generalize the findings.

While the original intent was to build the study around two distinct groups, artists and non-artists, for the sake of exploring differences between the populations, this task proved more daunting than originally anticipated. Many participants identified creative involvement in a variety of areas and some qualified for inclusion in both groups. While this may be understandable it also poses a limitation on the study. The groups could more accurately be likened to overlapping circles than to distinct groups. While some participants belong in a single category, others clearly belong in both. As well, some participants were categorized as non-artists, although their work involved artistic-type activities such as writing. The university professors and some of the entrepreneurs and teachers fell into this category. Though some non-fiction writing styles are similar to those used in fiction, the fiction writers were classified as artists and the non-fiction writers as non-artists. Again, this poses a limit on the study because the designations overlap. As such, in hindsight the scope of this project proved to be daunting. If doing the study again, the researcher would indeed choose a narrower perspective. It would do more justice to the topic if only one or two occupational groups were focused upon.

Another limitation of the study is the limited demographics of the sample. With few exceptions the participants represent white, middle class society in, or nearing, midlife. An attempt was not made to incorporate a representative percentage of age ranges, specific cultures or minority groups. Though the scope of the study precluded such measures the ability to generalize the results is again limited.

As well, to a large degree the findings are subjective in nature. They are based on self-report and on the participant interpretations of their life experiences. In this sense, the findings don't represent the most significant influences on creative ability, but rather they represent what the participants *believed* these influences were. Also, the participants were evaluating experiences that in some cases occurred many years, and sometimes even decades, previously.

Finally, the criteria for inclusion were based on creative production and external success and this also, at least potentially, put limits on the study. It is likely that some individuals who are indeed creative would not have qualified for inclusion. Their creative ability may simply manifest itself in a manner other than the perspective outlined in this study. As well, it is also possible that some participants met all the criteria but were in fact not truly creative. In fact, the very term "creative" is itself open to interpretation and is not an easy one to quantify and operationalize. While the criteria for inclusion represent an informed and reasonable structure it is clear that they provide an imperfect measure for a complex construct.

This points to another issue in the study. Originally the intent was to research "highly creative" individuals. However, demonstrating that individuals were "highly" creative, as opposed to the slightly lesser classification as "creative" proved to be a

more significant challenge that originally anticipated. As such, this study focused on "creative" individuals. Refinements in the criteria for inclusion will be explored in future research with the hope that "highly creative individuals" can be more clearly and more easily identified. Refinements may include the development of a point system. Products simply are not all equal. A song is a product, but a song recorded and on a CD is a more significant product. A poem is a product and could have potentially carried the same weight as a published novel. Fortunately that did not occur. Most participants far exceeded the "five" criteria but nonetheless, there is room for refinement in the criteria for inclusion.

Recommendations for Further Research

A number of possibilities for additional research also emerge from this study. First, while the present work was purposely general in scope, further insight could be gained by incorporating a more specific focus. For instance, the variable "support" stood out as having major impact on the influence of creative ability. The sources of this variable varied a great deal and included support from parents, spouses, families and mentors as well as the support inherent in sources such as school, home and work environments. Additional studies exploring the specific impact of support could be highly beneficial. Questions to be considered include: Is there a particular source of support (i.e. parental) that is essential? Is there a critical period during childhood where support is most necessary and/or most beneficial? Can adult mentorship compensate for a lack of childhood support? In general, can adult support compensate for a lack of support in childhood? And vice versa? In what ways can teachers offer support in the classroom environment?

Further research regarding the subscales is another possible area of valuable exploration. In the present study, factor analysis was not utilized because of the sample size and the limiting ratio of the number of participants to survey items. Increasing sample size and integrating factor analysis may prove to be highly beneficial in the exploration and identification of relevant subscales of influence.

Finally, the role that constructivism may play in creativity development also warrants additional consideration. It may be especially useful to integrate an in-depth qualitative methodology for the purposes of identifying the links between the variables and why each is meaningful and important to the individual. What are the connections? Are there patterns? For instance, each of the participants in the present study has a specific *profile* of influences, a list of variables identified as having a significant impact. Qualitative interviews, and the subsequent analysis, could reveal important connections between the variables and the individual. How does one potential influence become important to one person and not to another? What is the link? Are there any identifiable patterns? For instance, numerous items—mentors, support system, spiritual practice and work habits, just to name a few—were among the most important influences for some participants but not for others. Understanding the underlying meaning behind this pattern may prove invaluable. What made a particular influence such as mentors in adulthood so important for some individuals? Was it because mentorship was simply not important to some, or because some crucial component of mentorship, some underlying meaning-making experience, was absent? And if the latter is the case, would the addition of the missing component result in mentorship, or any of the variables in question, becoming much more

influential for more people? The same question could be asked for most, if not all, of the variables in this study.

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Appendix A

The Questionnaire

CREATIVITY QUESTIONNAIRE

General Introduction:

You have been identified as a highly creative person for reasons discussed with you in your initial interview. Since some highly creative people do not think of themselves as creative at all (often because of the common misconception that creativity occurs only in the arts) it is important that any uncertainty around this issue be settled prior to completing the questionnaire.

The questionnaire uses terms such as "creativity", "creative expression" and "creative activities". As you respond to the items, keep in mind that these terms do not refer only to activities such as painting, writing or music. Rather, they refer to creative expression in ANY area of interest. For example, while a musician's childhood "creative activities" may have taken the form of playing the guitar and writing songs, a scientist's childhood creative expression may have taken the form of chemistry-set experiments or collecting and creatively displaying insects. These terms refer to your area(s) of interest and specialty (whether that is being creative as an entrepreneur, a scientist, a teacher - or someone in the arts).

Introduction to the Questionnaire:

In PART I you are asked to respond to a list of factors and to identify the importance of each in terms of your own life experience. In PART II you identify the three factors most important to you, and in PART III provide specific details about these factors.

If you have any questions about the instructions or the items please feel free to contact Jim Henry for clarification.

Contact Information	
Name:	_____
Phone (W):	_____
Phone (H):	_____
Email:	_____

PART I: The Factors

This section involves the use of a 5-point rating scale, 1 2 3 4 5, where,

1 = strongly disagree;
2 = disagree;
3 = neither disagree nor agree;
4 = agree; and
5 = strongly agree.

Each item in this section identifies and describes a particular factor. You are asked to respond to each of them in two ways.

First, identify the degree to which this factor describes you and your life experience. In other words, did this occur in your life? (For example, in Item 3: Creativity Training, the person who did not ever receive any formal creativity training would circle "1. Strongly disagree". The person who received a great deal of creativity training would circle "5. Strongly agree".)

Second, you are asked to assess the degree to which this factor had a POSITIVE impact on the development of your own creativity. In other words, how important was it to you? Did it have a significant impact on your developing creativity?

Note: This questionnaire is a collection of POSSIBLE factors that influence creativity. *There are no right or wrong answers*. What is important is to identify the factors significant for YOU. As such, there is space at the end of the section to add factors that may have been important to you but which are not included in the list.

Please respond to all items.

1.   **Early Start**: I had an early start in my area(s) of specialization. I began practicing and/or studying at an early age.

> This describes me and my life experience.   1 2 3 4 5
> This factor had a positive impact on the development of my creative ability.   1 2 3 4 5

2.   **Reinforcement (in childhood)**: As a child, I received reinforcement (i.e. praise, applause, awards, popularity, recognition or financial gain etc.) for being creative.

> This describes me and my life experience.   1 2 3 4 5
> This factor had a positive impact on the development of my creative ability.   1 2 3 4 5

3.   **Reinforcement (in adulthood)**: As an adult, I received reinforcement (i.e. praise, applause, awards, popularity, recognition or financial gain etc.) for being creative.

> This describes me and my life experience.   1 2 3 4 5
> This factor had a positive impact on the development of my creative ability.   1 2 3 4 5

4.   **Creativity Training**: I took part in formal creativity training. (e.g. I took creativity courses or workshops or I was provided with a significant amount of information about the creative process by teachers, parents or others.)

> This describes me and my life experience.   1 2 3 4 5
> This factor had a positive impact on the development of my creative ability.   1 2 3 4 5

5.   **Home Environment (while growing up)**: I grew up in an environment that was supportive and encouraging when it came to creative expression and exploration. I was encouraged to take risks and to experiment in my creative activities.

> This describes me and my life experience.   1 2 3 4 5
> This factor had a positive impact on the development of my creative ability.   1 2 3 4 5

6.   **School Environment**: I had experiences during my school years (i.e. classroom environment, extra-curricular activities, influence of a particular teacher, interactions with peers) that were supportive and encouraging when it came to creative expression and exploration. I was encouraged to take risks and to experiment in my creative activities.

> This describes me and my life experience.   1 2 3 4 5
> This factor had a positive impact on the development of my creative ability.   1 2 3 4 5

7.   **Mentors and Role Models (in Childhood)**: While growing up I had role models or mentors who had an impact on my thinking and attitudes about creativity and/or my area of interest. They really seemed to believe in me.

> This describes me and my life experience.   1 2 3 4 5
> This factor had a positive impact on the development of my creative ability.   1 2 3 4 5

8.   **Mentors and Role Models (in Adult Life)**: In my adult life I had role models or mentors who had an impact on my thinking and attitudes about creativity and/or my area of interest. They really seemed to believe in me.

> This describes me and my life experience.   1 2 3 4 5
> This factor had a positive impact on the development of my creative ability.   1 2 3 4 5

9.   **Required Participation**: My parents required that I take part in lessons or training related to my area(s) of specialization even when I did not want to.

> This describes me and my life experience.   1 2 3 4 5
> This factor had a positive impact on the development of my creative ability.   1 2 3 4 5

10.   **Self-Expression**: Being creative provided me with the opportunity to express myself emotionally in a way that I seldom had elsewhere. It provided me with a sense of release, an outlet to express my inner experience.

> This describes me and my life experience.   1 2 3 4 5
> This factor had a positive impact on the development of my creative ability.   1 2 3 4 5

11. **Extended Involvement**: I worked in my area of interest for ten years or more.

> This describes me and my life experience.   1 2 3 4 5
> This factor had a positive impact on the development of my creative ability.   1 2 3 4 5

12. **Spiritual or Personal Growth Practice**: I took part in a regular spiritual or personal growth practice (i.e. meditation, yoga, tai chi, long distance running, other _____). (Please specify activity.)

> This describes me and my life experience.   1 2 3 4 5
> This factor had a positive impact on the development of my creative ability.   1 2 3 4 5

13. **Life Purpose**: It felt like part of my purpose in life to be creative in this way. I had a very clear sense (either in childhood or adulthood) of what I wanted to work on and to accomplish in my life.

> This describes me and my life experience.   1 2 3 4 5
> This factor had a positive impact on the development of my creative ability.   1 2 3 4 5

14. **Work Environment**: As an adult I had work environments (either because of the people, the projects, the opportunities) that fostered and encouraged creative thinking and production in a significant way.

> This describes me and my life experience.   1 2 3 4 5
> This factor had a positive impact on the development of my creative ability.   1 2 3 4 5

15. **Genes**: I believe that most or all of my ability to be creative came from the genes I inherited from my parents.

> This describes me and my life experience.   1 2 3 4 5
> This factor had a positive impact on the development of my creative ability.   1 2 3 4 5

16. **Therapy**: I dealt with one or more troubling or difficult personal issues in a therapeutic environment (individual, couple or group counselling or therapy).

> This describes me and my life experience.   1 2 3 4 5
> This factor had a positive impact on the development of my creative ability.   1 2 3 4 5

17. **Passion**: I had passion and love – an "inner spark" - for my area of interest. I got a lot of satisfaction, enjoyment and fulfillment simply from taking part in it. I loved doing it.

> This describes me and my life experience.   1 2 3 4 5
> This factor had a positive impact on the development of my creative ability.   1 2 3 4 5

18. **Drugs**: I used substances to induce altered states of consciousness.

> This describes me and my life experience.   1 2 3 4 5
> This factor had a positive impact on the development of my creative ability.   1 2 3 4 5

19. **Spiritual Experience**: I had a powerful spiritual, religious or personal growth experience (i.e. a near death or peak experience, a profound insight, an experience of divine presence, etc.).

> This describes me and my life experience.   1 2 3 4 5
> This factor had a positive impact on the development of my creative ability.   1 2 3 4 5

20. **Opportunities:** I had opportunities (lucky breaks, synchronicities, chance occurrences, being in the right place at the right time) that opened the way to significant advancement in being creative.

> This describes me and my life experience.   1 2 3 4 5
> This factor had a positive impact on the development of my creative ability.   1 2 3 4 5

21. **Capacity to Be Alone**: I had a great capacity to be alone (either as a child or as an adult) and I spent a lot of time in solitude.

> This describes me and my life experience.   1 2 3 4 5
> This factor had a positive impact on the development of my creative ability.   1 2 3 4 5

22. **Divine Inspiration**: I believe that I am creative because I am able to receive ideas from another level of reality (i.e. the unconscious, higher Self, God, soul, etc.).

    This describes me and my life experience.   1 2 3 4 5
    This factor had a positive impact on the development of my creative ability.   1 2 3 4 5

23. **Work Habits**: I worked very hard at my creative endeavours.

    This describes me and my life experience.   1 2 3 4 5
    This factor had a positive impact on the development of my creative ability.   1 2 3 4 5

24. **The Work of the Masters**: I was very inspired by someone else's creative work or accomplishments. I saw/heard their work and felt a great motivation to follow that path.

    This describes me and my life experience.   1 2 3 4 5
    This factor had a positive impact on the development of my creative ability.   1 2 3 4 5

25. **Courage and Perseverance**: I persevered - stuck by my ideas - in the face of disagreement, uncertainty and even rejection or ridicule. If I needed to, I was able to stand alone and I resisted the pressure to conform. I was able to "hang in there".

    This describes me and my life experience.   1 2 3 4 5
    This factor had a positive impact on the development of my creative ability.   1 2 3 4 5

26. **Formal Knowledge**: I learned a great deal about my particular field. I had specialized training.

    This describes me and my life experience.   1 2 3 4 5
    This factor had a positive impact on the development of my creative ability.   1 2 3 4 5

27. **Support System**: As an adult, I received support from loved ones (i.e. spouse, girlfriend/boyfriend, friends, relatives).

    This describes me and my life experience.   1 2 3 4 5
    This factor had a positive impact on the development of my creative ability.   1 2 3 4 5

28. **Tragedy or Trauma**: I had an extremely difficult and painful tragedy or trauma occur in my life. And I worked through it.

    This describes me and my life experience.   1 2 3 4 5
    This factor had a positive impact on the development of my creative ability.   1 2 3 4 5

If there are factors that had a significant impact on your creative development but are not covered above, please enter them in the spaces below and rate them to the right.

29. _____

_____

_____

    This describes me and my life experience.   1 2 3 4 5
    This factor had a positive impact on the development of my creative ability.   1 2 3 4 5

30. _____

_____

_____

    This describes me and my life experience.   1 2 3 4 5
    This factor had a positive impact on the development of my creative ability.   1 2 3 4 5

PART II: Most Significant Factors

Drawing from the above list and/or from the other factors you outlined in items 28-30, identify the THREE factors that, in your view, were MOST IMPORTANT in the development of your creative ability. List them in order of importance with the first being the most important.

1. _____

2. _____

3. _____

PART III: Description of the Significant Factors

Please discuss and describe each of the factors identified in PART II in terms of your own life experience. Use the questions outlined below as a guideline. Be as specific as you can. (While your description can be as long or as short as you would like, one half of a page to a full page of typed material, for each factor, would be an optimum length.)

Description Guideline:

Describe each of the factors in terms of your own life experience. Be as specific as you can.

• What in particular about this factor influenced you and had an impact on your creativity?

• Are there important experiences you can recall? Particular moments that were especially meaningful?

FACTOR 1: _____

_____

_____

_____

_____

_____

FACTOR 2: _____

_____

_____

_____

_____

_____

FACTOR 3: _____

_____

_____

_____

_____

_____

Final Note: I would like to thank you for completing the questionnaire. Your time, effort and your contribution are very much appreciated.

-Jim Henry

Appendix B
Consent Form

I am consenting to participate in a study titled: *Factors Influencing Development of Creativity in Creative People* as part of a PhD dissertation being completed by Jim Henry. The purpose of the study is to identify and explore some of the important factors influencing the development of creativity.

- I will be asked to complete a questionnaire constructed by Jim Henry and understand that, for the purposes of clarifying information on the questionnaire, this may also involve a follow-up telephone call.

- I understand that the information I provide will be confidential and that the only persons who will see the completed documents will be Jim Henry, his thesis supervisor and his clerical assistant;

- I understand that the information collected in the questionnaire will be integrated into the discussion of the study and that this information will be presented anonymously;

- I understand that an anonymous profile of each participant's accomplishments will be presented in the study and that specific details may be altered in order to maintain anonymity;

- I understand that my participation is voluntary and that I may withdraw from the study at any time with no penalty;

- I understand that follow-up articles based on the findings in the dissertation may be published in educational journals;

- I understand that there are no foreseeable harms that may arise from research participation;

- I understand that – as in the case of any disclosure of personal information – confidentiality is limited by legal and ethical requirements.

Thank you for your participation!

_____   _____
NAME (please print)   SIGNATURE

_____
DATE

If you have any questions about the study or this form please contact: