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A Longitudinal Study of the Career Maturity Patterns of Individuals with Clefts

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ABSTRACT

An abstract of the thesis of Joyce Johnson Anderson for the Master of Arts in Speech Communication: Speech and Hearing Sciences presented November 13, 1997.

Title: A Longitudinal Study of the Career Maturity Patterns of Individuals with Clefts.

This longitudinal study sought to examine career maturity, and the variables thought to influence career maturity, in a sample of individuals with the congenital craniofacial anomaly of clefting by following them from adolescence (ages 14 to 18) into young adulthood (ages 22 to 26).

Sixteen subjects (6 males, 10 females) during adolescence and in young adulthood completed (a) a biographical questionnaire which provided educational and occupational information, (b) the Career Development Inventory, (c) the Tennessee Self-Concept Scale, (d) the Shipley Institute of Living Scale, and (e) self-ratings of speech and facial appearance acceptability to provide information concerning career maturity, mental ability, global self-concept, self-concept of facial appearance, self-concept of speech acceptability, and highest desired educational and occupational level at adolescence and young adulthood.

This study sought to answer the following questions:

1. Do patterns of career maturity in a sample of individuals with clefts as measured during adolescence persist or change as measured during young adulthood?

2. Do females with clefts differ from males with clefts in their level of career maturity as measured during adolescence and in young adulthood?

3. Do females with clefts differ from males with clefts in factors related to career maturity as measured during adolescence and young adulthood?

Descriptive statistical techniques were utilized to analyze data obtained.

The results of this study indicate that patterns of career maturity scores in individuals with clefts change from adolescence to young adulthood. The majority of females with clefts showed an increase in career maturity from adolescence to young adulthood, while most males with clefts showed a decline. Females with clefts set and achieved higher educational and occupational goals and were more likely to choose careers that emphasized speech communication skills than males. The females with clefts showed somewhat higher scores on factors thought to be related to career maturity, including mental ability, global self-concept, and self-concept of facial appearance and speech acceptability during both age periods, although group mean scores rose for both groups. The higher overall scores for females may contribute to the higher career maturity scores for females with clefts at adolescence and young adulthood.

A LONGITUDINAL STUDY OF THE CAREER MATURITY PATTERNS OF INDIVIDUALS WITH CLEFTS

by

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CHAPTER I

INTRODUCTION AND STATEMENT OF PURPOSE

Introduction

Clefting is a congenital anomaly that occurs in approximately 1 in every 600 newborn Caucasians; the incidence is somewhat higher in the Asian population and lower in the black population (Moller & Starr, 1993). The psychological and social impact of cleft lip and/or palate has been the subject of research for some time, as persons born with clefts may demonstrate differences in speech, facial appearance, and behavior years after treatment. Research conducted during the 1970s revealed a pattern of mild behavioral differences in adolescent individuals with clefts, such as increased inhibition and social withdrawal (Harper & Richman, 1978; Kapp, 1979; Richman, 1976; Richman & Harper, 1979). A more recent study conducted by Richman and Eliason (1986) indicated that these adolescents may have lower self-concepts and increased self-doubts regarding social relationships. Similarly, Broder and colleagues found that adolescents with clefts demonstrate less social independence (Broder, Smith, & Strauss, 1994). These studies and others have helped us to understand some of the psychosocial problems of adolescents with clefts, but they do not tell us anything about the long-term implications of clefts for adults that may relate to career selection, development, and satisfaction.

Statement of Purpose

The purpose of this study was to examine the career maturity patterns of individuals with clefts by collecting data during adolescence and again in young adulthood. Career maturity is defined as "the repertoire of behaviors pertinent to identifying, choosing, planning, and executing career goals available to a specific individual as compared with those possessed by an appropriate peer group" (Herr & Cramer, 1984, p. 15). Literature suggests that career maturity in adolescence and young adulthood is predictive of future career success and satisfaction (Jordaan & Super, 1974; Super, Kowalski, & Gotkin, 1967). Literature also suggests that there are factors such as age, gender, mental ability, and self-concept which can enhance or depress level of career maturity. Super (1953) developed the theory that career development is affected by factors such as mental ability, self-concept, and socioeconomic status. More recent literature supports this theory, that is that factors such as age (Jordaan & Heyde, 1979; Noeth & Prediger, 1978; Smith, 1975; Super & Thompson, 1979), gender (Herr & Enderlein, 1976; McNair & Brown, 1983), socioeconomic status (Holland, 1981; Jones, Hansen, & Putnam, 1976), mental ability (Lawrence & Brown, 1976; Letcher-Glembo, 1989; Watson & Van Aarde, 1986), and self-concept (Jones et al., 1976; Pound, 1978; Letcher-Glembo, 1989) affect career maturity. Little is known about the career maturity levels of individuals with special health care needs such as those with craniofacial anomalies. The career maturity of 40 adolescents with clefts, 14 to 18 years old, was examined in a 1989 study conducted by Letcher-Glembo. The purpose of the current study is to follow these 40 individuals with clefts longitudinally by re-testing them now that they are 22 to 26 years old. Specifically, this study sought to answer three specific research questions:

1. Do patterns of career maturity in a sample of individuals with clefts as measured during adolescence persist or change as measured during young adulthood?

2. Do females with clefts differ from males with clefts in their level of career maturity as measured during adolescence and in young adulthood?

3. Do females with clefts differ from males with clefts in factors (i.e., mental ability, global self-concept, self-concept of facial appearance acceptability, self-concept of speech acceptability, and desired future occupational and educational status thought to be related to career maturity as measured during adolescence and in young adulthood?

To address these questions, the following hypotheses are formed:

1. Young adults with clefts (22 to 26 years old) will demonstrate higher levels of career maturity than they did when tested as adolescents (14 to 18 years old).

2. While career maturity scores should advance systematically with age, the pattern of career maturity scores in a group of young adults with clefts should remain similar to the pattern of career maturity scores in this same group when they were tested as adolescents. In other words, the individuals who had depressed levels of career maturity in adolescence will be the individuals who demonstrate depressed levels of career maturity in young adulthood.

3. During both adolescence and young adulthood, females with clefts will demonstrate higher levels of career maturity than males with clefts.

4. Individuals with higher mental ability scores will demonstrate more advanced levels of career maturity, whereas individuals with lower mental ability scores will demonstrate more depressed levels of career maturity.

5. Individuals with more positive self-concepts will demonstrate higher levels of career maturity, while those with more negative self-concepts will demonstrate more depressed levels of career maturity. Self-concept will be measured in global terms on a standardized test of self-concept, as well as on more specific measures of self-rating of facial appearance acceptability and self-rating of speech acceptability.

6. Individuals who indicated a desire to achieve higher levels of educational and occupational goals in adolescence will be those individuals who have achieved higher levels of educational and occupational status in young adulthood.

Definition of Terms

The following terms are defined for the purposes of this study:

career development: The total constellation of psychological, sociological, educational, physical, economic, and chance factors that combine to shape the career of any given individual (Herr & Cramer, 1984).

Career Development Inventory: A standardized test designed to assess individuals in the areas of career planning, career exploration, career decision-making, world-of-work information, career development attitudes, career development knowledge and skills, and career orientation (Super, Thompson, Lindeman, Jordaan, & Myers, 1981).

career maturity: The repertoire of behaviors pertinent to identifying, choosing, planning, and executing career goals available to an individual as compared with those possessed by an appropriate peer group (Herr & Cramer, 1984).

career satisfaction: The degree to which an individual believes his or her occupation satisfies his or her wants and needs.

career selection: The act of choosing an occupation.

cleft(ing): A split or opening in the lip and/or palate due to a congenital defect that results from poor fusion of facial structures during the 5th to 10th week of embryological development (Moller & Starr, 1993).

cleft stigmata: Differences that persist in individuals with clefts years after treatment. These differences include, but are not limited to: facial deformities, such as lip scarring, asymmetrical nares, missing and/or malaligned teeth, and speech deviations, such as articulation errors and hypernasality.

facial acceptability: Social acceptance of the appearance of one's face.

facial appearance: The way an individual's face is perceived by him/herself and others.

facial stigmata: Persisting differences in structures of the face following cleft lip and palate repair that typically include lip scarring, asymmetry of vermilion border, missing and/or malaligned teeth, flaring of nasal alar base, and nasal deviations.

inhibition: The checking, restraining, or blocking of a mental process or physiological reaction.

mental ability: An individual's intellectual functioning ability.

perception: The act or faculty of perceiving; awareness through the senses or the understanding of something.

self-concept: The way an individual perceives him/herself.

Shipley Institute of Living Scale (SILS): A standardized instrument designed to assess general intellectual functioning in adults and adolescents (Shipley, 1940; Zachary, 1987).

social acceptability: Approval by human society.

socioeconomic status: For the purposes of this study, socioeconomic status levels based on the Occupational Status Scores (Nam, LaRocque, Powers, & Holmberg, 1975).

speech: The dynamic, neuromuscular process of producing speech sounds for communication; a verbal means of communicating or conveying meaning. Individuals with clefts are at risk for hypernasality, sound distortions, and impaired speech intelligibility due to high risk of velopharyngeal incompetency as well as facial and dental differences.

Tennessee Self-Concept Scale: A standardized instrument employed to measure an individual's self-concept (Fitts, 1965; Fitts & Warren, 1996).

vocational self-concept: This construct is a vital part of Super's (1953) theory of vocational behavior. According to Super, vocational self-concept is part of one's total self-concept and is the driving force that establishes one's career pattern throughout life. This construct develops through physical and mental growth, observation of work, identification with working adults, general environment, and general experiences (Zunker, 1990).

CHAPTER II

REVIEW OF THE LITERATURE

This study longitudinally investigated career maturity and associated factors in a sample population of individuals with clefts at adolescence and young adulthood. The literature relevant to this study will be presented in four major informational sections: factors that affect psychosocial functioning in the cleft population, review of the concepts of career development and career maturity, information regarding the factors that affect career maturity, and summary of past studies focusing on the career maturity of adolescents with clefts.

Factors That Affect the Psychosocial Functioning of Individuals with Clefts

Clefting: Incidence and Long-Term Effects

Cleft lip and/or palate is one of the most common human malformations (Leonard, Brust, Abrahams, & Sielaff, 1991). Clefts appear in approximately 1 in 600 Caucasian births, with a somewhat higher incidence in the Asian population and a lower incidence in the black population (Moller & Starr, 1993). Often, treatment of clefts requires many examinations and procedures extending over a number of years and provided by a number of different types of professionals. Even with optimal treatment, many types of facial deformities are possible outcomes, such as lip scarring, asymmetrical nares, missing and/or poorly aligned teeth, and speech problems, such as hypernasality and articulation problems

(Letcher-Glembo, 1989). Social acceptability is one of the main goals of surgical, dental, and behavioral treatment of clefts, along with other quality-of-life issues such as health, feeding, and speech intelligibility. The goal of social acceptability is based on the premise that facial acceptability is important to normal social adjustment, personality development, and success in school and career (Tobiasen, 1987). The social acceptability of speech has also been found to be an important factor that affects an individual's personal/social and occupational life. Researchers have determined that there is a relationship between the social acceptability of speech and each of the following factors: peer acceptance (Blood & Hyman, 1977), perceived notions of negative personality traits (Addington, 1968), occupational status (Penner, Belanger, & Starr, 1978), and perceived notions of attractiveness (Glass & Starr, 1979).

Social Implications of Clefting

The social implications of cleft lip and/or palate impairments were examined in a study by Tobiasen and Hiebert (1993). Children and adolescents were asked to rate photographs of faces that varied in terms of level of attractiveness and visible severity of cleft impairment. Photographs of children with cleft impairments were less "well liked" than those that depicted other physical disabilities, including upper extremity amputation (Richardson, 1970; Richardson, Goodman, Hastorf, & Dornbusch, 1961), ear deformity, dental malocclusion, and nasal malformation (Landsdown & Polak, 1975). The photographs of children with cleft impairments were labeled boring, stupid, sad, dirty, mean, and bad more frequently by grade-school children than were photographs depicting normal facial features (Schneiderman & Harding, 1984).

The relationship between facial appearance and behavior was stated to be significant by Tobiasen (1984), in that people have different expectations of people with different levels of attractiveness, and this may lead to children being treated differently depending on their level of attractiveness. This may cause children with differing levels of attractiveness to behave in different ways.

A study of adolescents with clefts by Richman, Holmes, and Eliason (1985) that compared self-ratings of facial appearance with ratings by their teacher and self-ratings of behavior with ratings by their parents revealed interesting results. Subjects who were rated as well-adjusted by their parents had similar ratings of their own behavior, and the well-adjusted subjects had similar ratings of facial appearance to that expressed by a teacher. The self-perception of the well-adjusted individuals appeared to be realistic. The poorly-adjusted individuals tended to rate their appearance and behavior better than their teachers and parents. Broder et al. (1994) examined the self-ratings of satisfaction with appearance and accomplishment of psychosocial tasks among school-aged children with visible and invisible clefts and a control group without clefts. Both cleft groups reported having more friends than other children. This finding was contrary to teacher reports, peer ratings, and observational data that indicated that the children with clefts were more socially isolated and less accepted by their peers than were children without clefts. The high popularity ratings may be attributable to denial on the part of those children, which could indicate that unpopular individuals are more likely to overestimate their social attractiveness to others or have difficulty integrating feedback from their social environment. The self-reported popularity data should be interpreted with caution (Broder et al., 1994).

Tobiasen et al. (1987) conducted a study that examined subjects with unilateral complete clefts of the lip and palate, cleft palate only, and the same two groups but with other associated congenital malformations, found parent reports of school and conduct problems to be worse when the subjects had associated congenital malformations when compared to subjects with clefts but no associated malformations. The results of a study by Starr (1986) indicated a relationship between self-perception of physical attractiveness and self-esteem. Studies by Peter and Chinsky (1974a) and Peter, Chinsky, and Fisher (1975) revealed a relationship between clefts and the feeling of being less secure in employment, being without work more frequently, and for longer periods of time.

The lack of adequate psychological theory and treatment for individuals with craniofacial disorders was cited by Bennett and Stanton (1993). They discussed various studies that have led to confusion as to the existence and degree of emotional dysfunction in individuals with clefts. Further research is needed to clarify these issues before appropriate treatment can be developed. Pillemer and Cook (1989) studied 25 craniofacial patients aged 6 to 16 years. They identified low self-esteem, impaired peer relationships, and greater dependency on significant adults as issues significant enough to require supportive psychotherapy services for many of the subjects. Eighty percent of the 195 directors of cleft/craniofacial teams surveyed by Broder and Richman (1987) stated that they believed mental health intervention was important to their patients. Eighty-three percent of the directors indicated that behavioral problems were an important issue, but only 25% of them used personality assessments in their clinics. Speech-language pathologists and other professionals can utilize the information obtained through such research to counsel their clients more effectively with respect to such psychosocial issues.

Self-Concept and Adjustment Levels of Individuals with Clefts

Strauss and Broder (1991) explored the gaps and opportunities in research concerning the psychosocial effects of cleft lip and/or palate and other craniofacial anomalies and described the social science model of research. In this study, adjustment and adaptation of patients and their families were examined in terms of the social, cultural, and psychological effects of being different in the areas of speech, appearance, and/or identity. The authors advocated the use of a broader set of research questions and the inclusion of researchers from many fields, including sociology, anthropology, ethics, economics, health sciences, and psychology, in order to improve our understanding of these issues.

Broder and Strauss (1989) compared the self-concepts of children with visible defects (cleft lips), invisible defects (cleft palate), mixed visible and invisible defects (cleft lip and palate), and a control group of children with no physical defects. Significant differences between the cleft and control groups existed, with the lowest self-concept scores demonstrated in the cleft lip and palate group. Low self-esteem was reported in children as young as 7 years of age. A milder cleft condition corresponded to a relatively higher level of self-esteem. A higher degree of overall facial attractiveness along with clefting did not improve self-esteem ratings.

Leonard et al. (1991) studied the self-concept of 105 children and adolescents with cleft lip and/or palate. They found that while most subjects (98%) had average to above-average self-concept scores, there was an interaction between age and gender. Girls showed a more negative self-concept in adolescence than childhood, and boys showed a more positive self-concept in adolescence than in childhood. Also, popularity scores for all of the children were below the mean for the normed population. While overall self-concept scores

did not differ significantly from the normal population, specific subtle self-concept components, such as social inhibition and concern with appearance, seemed to differ in individuals with clefts.

Broder et al. (1994) studied school-aged children with visible and invisible defects from cleft lip and/or palate and children without clefts. The subjects were asked to rate themselves in terms of satisfaction with appearance and accomplishment of psychosocial tasks. The results revealed that those children with visible defects felt greater dissatisfaction with their appearance than did the other subjects. Both groups with clefts showed less social independence.

Some of the early studies cited by Letcher-Glembo (1989) that examined subjects with clefts for possible psychological and social problems failed to find evidence of significant psychosocial difficulties. However, some studies that focused on adjustment problems of individuals with clefts revealed greater behavioral inhibition than control subjects and greater self-concern and self-doubt regarding social interaction (Harper & Richman, 1978). A study by Kapp (1979) indicated that children with clefts exhibited more disturbances in the emotional and social aspects of their self-concepts than children without clefts. A study by Strauss, Broder, and Helms (1988) that surveyed 102 adolescent patients and their parents indicated that a significant portion of both groups have considerable concerns about speech and facial appearance after treatment. While a majority of these individuals were satisfied with treatment, many were not. A psychosocial study of Icelandic adults with cleft lip and/or palate indicated relatively good psychosocial adjustment, but fewer individuals with clefts were married or living with a member of the opposite sex than in the comparison group. Females were more self-conscious than males with respect to

appearance, and both males' and females' expectations exceeded the actual outcome of treatment.

Summary of Factors That Affect Psychosocial Functioning

Cleft lip and/or palate often results in facial and speech impairments that persist throughout life. Studies indicate that unrealistic self-perceptions can result in personality adjustment problems, and that adolescents with clefts may have mild behavioral differences including increased inhibition, social withdrawal, and low self-concept. The psychosocial impact of clefting on adults is not well understood. In summary, research indicates that while there is not a "cleft palate personality," in most studies, individuals were found to be impacted by the cleft condition.

Concepts of Career Development and Career Maturity

Career development has been referred to as the total constellation of psychological, sociological, educational, physical, economic, and chance factors that combine to shape the career of any given individual (Herr & Cramer, 1984). Career maturity has been defined as "the repertoire of behaviors pertinent to identifying, choosing, planning, and executing career goals available to an individual as compared with those possessed by an appropriate peer group" (Herr & Cramer, 1984, p. 15).

The concept of career maturity was developed by Super (1957). The early information regarding the concept of career maturity came from a longitudinal study called the Career Pattern Study (Super et al., 1957) in which 300 ninth-grade males were studied over 21 years, at ages 14, 18, 21, and between 25 and 26 years. Questionnaires were used

and standardized tests were administered. It was found that career development proceeds from a random to a goal-oriented, specific activity; that it proceeds in the direction of increasing awareness and orientation to reality; that it proceeds from a state of dependence to independence; and that individuals who are mature select and pursue career goals (Thompson, Lindeman, Super, Jordaan, & Myers, 1981).

Factors That Affect Career Maturity

In 1953, Super examined the factors that affect career maturity. He stated that psychological variables such as socioeconomic status could affect career development. Subsequent research has supported some of his work. Various studies have shown that there are relationships between career development and age (Jordaan & Heyde, 1979; Noeth & Prediger, 1978; Smith, 1975; Super & Thompson, 1979) and career development and gender (Herr & Enderlein, 1976; McNair & Brown, 1983). The relationship between career development and socioeconomic status has been established in studies by Holland (1981) and Jones, Hansen, and Putnam (1976). A relationship between career development and mental ability was noted in studies by Lawrence and Brown (1976) and Watson and Van Aarde (1986), and a relationship between self-concept and career development was indicated in research conducted by Jones et al. (1976) and Pound (1978). Letcher-Glembo (1989) stated that the results of these studies indicate that career development increases systematically with age over the high school years, with females displaying a somewhat faster rate than males. The research on self-concept and career maturity suggested that the relationship between the two variables may be affected by race and gender.

Super (1953) noted that family is an important factor that influences the career development process. A study conducted in 1992 by Young and Friesen examined parental attempts to influence the career development of their children. The results of this study revealed that parents frequently attempt to influence their children's career development, often in a broad sense rather than in a narrow attempt to influence occupational choice, and that they do this by using a large variety of intentional behaviors. The authors cited the need for more research into the categorization of intentional behavior, the child's reaction to the parent's intentional behavior, and the child's own intentional behavior.

Career Maturity of Individuals with Clefts

It is important to understand how individuals with clefts are affected psychologically and socially because of the potential ramifications for career development and other quality-of-life issues. Because there was little information available pertaining to the effects of clefts on an individual's career development, Letcher-Glembo (1989) studied this issue. The purpose of that study was "to determine the career development status of adolescents with clefts and the effects of factors such as self-concept, speech, and facial appearance on their development" (Letcher-Glembo, 1989, p. 2). Two groups of individuals were studied; a group of 40 adolescents with clefts was compared with a control group of 40 adolescents without clefts. The effects of age, gender, mental ability, self-concept, self-perception of speech and facial appearance, and an objective panel's rating of speech and facial appearance were examined. The results of this study indicated that there was not a significant difference between the cleft group and the control group in terms of their career maturity. It was found that mental ability, self-concept, social acceptability of facial

appearance as judged by others, and a subject's statement of highest degree he or she hoped to obtain, were significant predictors in determining the level of career maturity for individuals in both the cleft and control groups. Objective ratings of facial appearance were a significant predictor of career maturity whereas self-ratings were not.

Summary

Career maturity is defined as "the repertoire of behaviors pertinent to identifying, choosing, planning, and executing career goals available to a specific individual as compared with those possessed by an appropriate peer group" (Herr & Cramer, 1984, p. 15). Career maturity is a complex issue that may be affected by many variables, including age, gender, self-concept, mental ability, socioeconomic status, speech, and facial appearance. The results of Letcher-Glembo's study (1989) indicated that the variables of mental ability, self-concept, desired highest degree (educational level) to be obtained, and social acceptability of facial appearance were significant in determining the level of career maturity of adolescents with and without clefts of the lip and/or palate. Further research is needed to provide a longitudinal understanding of the career maturity patterns of individuals with clefts.

CHAPTER III

METHODS

This study was designed to measure the career maturity patterns of a sample of individuals with clefts. This study is a component of a larger ongoing study that focuses on the career development of adolescents and adults, cleft and non-cleft, currently being conducted at Portland State University by Lisa Letcher-Glembo, Speech-Language Pathologist and Assistant Professor. Dr. Letcher-Glembo tested a group of adolescents with clefts in 1989 while at the University of Minnesota. The current study sought to retest the cleft subjects who participated in the 1989 study to collect longitudinal data to determine the extent to which age, gender, self-concept, mental ability, facial appearance, and speech affect their career maturity.

In order to complete the study, it was necessary to recruit previous subjects who had participated as adolescents in order to readminister tests of career maturity, mental ability, and self-concept, as well as to obtain updated biographical data and self-ratings of speech and facial appearance acceptability. The following summarizes the proposed subject sample, subject criteria and recruitment, test procedures, and rationale for choice of instruments used in the current study.

Subjects

Proposed Subject Sample Pool

Clefting is a congenital condition that results in lack of fusion of the lip, bony gum line, and/or roof of the mouth (Miller & Starr, 1993). Eighty cleft and non-cleft adolescents participated in a 1989 study entitled "The Career Maturity of Adolescents with Clefts." The individuals with clefts were followed at that time through interdisciplinary craniofacial centers in Minneapolis and St. Paul, Minnesota. It is not uncommon for individuals with clefts to be followed by a team of craniofacial disorders specialists from birth until approximately 21 years of age (Moller & Starr, 1993). For this reason, updated subject data typically are maintained by the interdisciplinary clinic at which the individual received ongoing services. Table 1 displays the original sample size.

The target sample pool for the current longitudinal study of individuals with cleft lip and/or palate was the *cleft* subject group from the original study. Specifically, the current study attempted to recruit the 10 original 14-year-old males and females with clefts, now 22 years of age; the 10 original 15-year-old males and females with clefts, now 23 years of age; the 10 original 16-year-old males and females with clefts, now 24 years of age; and the 10 original 17-year-old males and females with clefts, now 25 years of age.

Table 1

1989 Career Maturity of Adolescents with Clefts Study: Number of Subjects With and Without Orofacial Clefting in Each Age and Gender Group (N = 80)

	14 years (n)	15 years (n)	16 years (n)	17 years (n)	Subtotal by Gender
Cleft					
Male	5	5	5	5	20
Female	5	5	5	5	20
Noncleft					
Male	5	5	5	5	20
Female	5	5	5	5	20

Subject Criteria for Original Study

The subjects were recruited from among the original 40 subjects with clefts who participated in the Letcher-Glembo (1989) study. The subjects with clefts were recruited by Letcher-Glembo using the following criteria:

1. The subjects were from 14 to 17 years of age. This range was chosen because it provided a cross-section sampling of the ages in which career maturity is considered to be developing and to be predictive of eventual career success and satisfaction.

2. The subjects were enrolled in regular education classes and did not receive any special services with the possible exception of articulation therapy. The use of available measures of career maturity with individuals who have learning disabilities is not known. Limitations in subject availability and other resources prevented expansion of the scope of the study to include subjects with these conditions. Information related to these criteria was obtained from the subjects and their parents.

3. One-fourth of the sample was at each age level (14, 15, 16, and 17 years of age). This criterion was selected because previous studies have indicated that the age of subjects may affect their level of career maturity.

4. Half of the subjects were male and half were female. This criterion was chosen because previous studies have indicated that the gender of subjects may affect their level of career maturity.

5. All subjects were required to have parental/guardian approval to participate in the study. The subjects included in the study were minors and thus required parental or guardian consent.

6. Subjects did not have any neurological, physical, or severe medical problems with the exception of orofacial clefts. Previous studies have indicated that individuals with clefts and other congenital abnormalities perform differently from those with clefts on intelligence measures and other tests. Lack of available subjects and resources prevented inclusion of cleft subjects with these conditions. Information related to these criteria was obtained from clinic records, parent reports, and the investigator's observations.

7. All subjects had clefts of the lip, palate, or lip and palate. Subjects with submucous clefts were not included because of the difficulty in identifying such subjects and the limited number of potential subjects with this diagnosis.

8. The type of physical management used in primary and secondary repairs of clefts of the lip and/or palate was not considered in the selection of subjects due to the lack of complete information for many subjects and the difficulty in categorizing the procedures for use in the study.

9. All subjects were recruited through three interdisciplinary agencies providing comprehensive cleft habilitation within the State of Minnesota: The University of Minnesota Cleft Palate Maxillofacial Center, Minnesota State Department of Health Services for Children with Handicaps, and the Logan Levin Cleft Palate Clinic. Subjects who met age, sex, and clefting criteria were identified through patient files. In 1988-1989, all subjects who met these criteria were identified through patient files. All subjects who met these criteria were mailed a letter, approved by the University of Minnesota Committee on Use of Human Subjects in Research, describing the study and requesting their participation.

Subject Recruitment for Current Study

The subjects with clefts who participated in the first study were recruited by the principal investigator for the current study as follows:

1. Upon approval of the Portland State University and the University of Minnesota Use of Human Subjects in Research Committees, address/contact listings were updated through the three interdisciplinary agencies in Minnesota from which the subjects were initially recruited. A subject recruitment letter (Appendix A) was sent to each potential subject's home address along with two copies of a preliminary written consent form (Appendix B). The subjects had the opportunity to ask questions of the principal investigator by telephone or letter, if desired, before deciding whether or not to participate in the study.

2. The subjects who agreed to participate in the study were contacted by telephone by the principal investigator to arrange a time and date for participation in the study. The principal investigator traveled to Minnesota twice for extended blocks of time to enable data collection to take place between August 24, 1996 and January 5, 1997. The

subjects signed a detailed informed consent form on the day of data collection (Appendix C).

Subject Response Rate

Cleft subjects who participated in the 1988-1989 study as adolescents were candidates for inclusion in this longitudinal study. The Principal Investigator was able to locate 23 subjects of the 40 cleft subjects who had participated as adolescents. Three males and 1 female declined to participate in the current study. One male and 2 females consented to participate but then failed to do so as data could not be collected secondary to time and geographical distance constraints. The remaining 17 subjects could not be located despite attempts to do so by consulting telephone directories, comparing address and telephone listings with database information from clinics in which they had received service, calling their last known telephone numbers, and mailing initial recruitment letters to their last known addresses.

Final Subject Sample

For clarification, Table 2 summarizes the proposed distribution of subjects for this longitudinal, cross-sectional study of individuals with clefts. Table 3 summarizes the actual final distribution of subjects according to cleft type, age, and gender. Using the established criteria and recruitment procedures, 16 subjects were recruited for participation in this study.

Table 2

Young Adults: Proposed Distribution of Subjects with Orofacial Clefts in Each Age and Gender Group (N = 40)

	21 years (n)	22 years (n)	23 years (n)	24 years (n)	Subtotal by Gender
Male	5	5	5	5	20
Female	5	5	5	5	20

Table 3

Young Adults: Actual Distribution of Subjects with Orofacial Clefts in Each Age and Gender Group (N = 16)

	22 Years (n)	23 Years (n)	24 Years (n)	25 Years (n)	26 Years (n)	Subtotal by Gender
Male	0	1	4	1	0	6
Female	1	2	3	3	1	10

Measures and Procedures

All subjects completed the Career Development Inventory - College and University Form (CDI-CU), a measure of career maturity; the Shipley Institute of Living Scale (SILS), a measure of mental ability; the Tennessee Self-Concept Scale, Second Edition (TSCS:2), a global measure of self-concept; 7-point adjective self-rating scales of facial appearance and speech acceptability, to provide self-concept information in the areas of facial appearance and speech; and a biographical questionnaire, to provide information on current and future desired educational and occupational status.

Career Development Inventory

The CDI-CU was administered to the subjects to assess their current level of career maturity. During the initial phase of this study, Letcher-Glembo administered the CDI-High School Form to the subjects when they were adolescents. The CDI has been subjected to extensive reliability and validity studies (cited in Thompson et al., 1984). Data on its internal consistency, standard error of measurement, stability, content validity, construct validity, and factor structure are available (Thompson et al., 1984). The test-retest reliability coefficient for the CDI-CU is .86. This information suggests that it is a reasonably valid and reliable measurement tool.

The high school and college versions of the CDI contain individual and composite scales. The individual scales are designed to provide information on career planning, career exploration, decision-making, world-of-work knowledge, and knowledge of preferred occupational group. Composite scales contain combinations of items such as career planning and career exploration, decision-making and knowledge of world-of-work, and career planning and career expectation. Copyright laws prohibit inclusion of the CDI-CU test protocol in the appendix of this document. Sample CDI-CU questions are provided in Table 4.

Shipley Institute of Living Scale

The Shipley Institute of Living Scale (SILS) was administered to the subjects to examine their current level of mental ability. The test consists of two parts: a group of 40 multiple-choice vocabulary items and a set of 20 open-ended questions that require a person

Table 4

Sample CDI-CU Questions

Career orientation: How much thinking and planning have you done in the following areas? For [the] question below, choose the answer that best tells what you have done so far.

Finding out about educational and occupational possibilities by going to the library, sending away for information, or talking to somebody who knows.

(A) I have not yet given any thought to this.
(B) I have given some thought to this, but haven't made any plans yet.
(C) I have some plans, but am still not sure of them.
(D) I have made some definite plans, but don't know yet how to carry them out.
(E) I have made definite plans, and know what to do to carry them out.

❖ ❖ ❖

Knowledge of preferred occupation: Most occupations involve some combination of working with words, numbers, people, and things. In your Preferred Occupational Group, the

1.	most important is	(a) words.	(b) numbers.	(c) people.	(d) things.
2.	next most important is	(a) words.	(b) numbers.	(c) people.	(d) things.
3.	least important is	(a) words.	(b) numbers.	(c) people.	(d) things.

to abstract a rule with which to determine the next element in the list. The test provides vocabulary raw scores and *t*-scores, abstraction raw scores and *t*-scores, and total raw scores and *t*-scores (vocabulary and abstraction scores combined).

There are two general categories of intelligence tests: individual and group. Although individual tests provide a more detailed and valid picture of intelligence than group tests (Seligman, 1980), they are far more time-consuming to administer and score, and require considerably more training and experience to administer. For the latter two reasons, they are not appropriate for use in this study. In discussions with child development

researchers, the SILS (Shipley, 1940; Zachary, 1987) was identified as a useful screening measure for estimating mental ability. The stated purposes of the test are to measure intellectual impairment and to assess general intellectual ability. Numerous studies have demonstrated the validity of the SILS (Garvey & Fey, 1948; Sines, 1958; Wiens & Banaka, 1960 as cited in Paulson & Lin, 1970). Data on its internal consistency, test-retest reliability, standard error of measurement and validity are provided (Zachary, 1987). The test-retest reliability coefficients are as follows: Vocabulary Score, .60; Abstraction Score, .66; and Total Score, .78. These data indicate that it is a reasonably valid and reliable measurement instrument. Copyright laws prohibit inclusion of the SILS test protocol in the appendix of this document. Sample SILS test questions are provided in Table 5.

Table 5

Sample SILS Questions

SAMPLE SILS QUESTIONS

Vocabulary subtest: Circle the one word which means the same thing, or most nearly the same thing, as the first word:

IMPOSTER:	conductor	officer	book	pretender
SMIRCHED:	stolen	pointed	remade	soiled

❖ ❖ ❖

Abstraction Subtest. Complete the following by filling in either a number or a letter for each dash (___ ___ ___):

escape	scape	cape	___ ___ ___	
surgeon	1234567	snore	17635	___ ___ ___ ___ ___

Tennessee Self-Concept Scale

The Tennessee Self-Concept Scale, Second Edition (TSCS:2) was administered to the subjects to examine their current level of self-concept. A number of measures allow interpretations to be made about levels of self-concept, such as the Minnesota Multiphasic Personality Inventory, but these tests do not target specific dimensions of self-concept, as do the California Personality Inventory (CPI) and the Tennessee Self-Concept Scale:2 (TSCS:2). The CPI is a widely-used test (Buros, 1975) that purports to measure self-concept traits and personality characteristics. Factor analysis of the scales indicates that only a few unique traits are being measured and that interpretation of the test is difficult (Isaacson, 1985). For these reasons, the test was not selected for this study. The TSCS (Fitts, 1965; Fitts & Warren, 1996) was designed to assess an individual's feeling of self-worth, the degree to which the self-image is realistic, and whether or not that self-image is a deviant one (Walsh, 1984). Test-retest reliability for the subscales of the TSCS produces correlations in the high .80s. The test-retest reliability coefficient for the TSCS:2 Total Self-Concept Score is .82. Four kinds of procedures have been used to validate the score: (a) content validity; (b) discriminate analysis between groups; (c) correlation with other personality measures; and (d) personality conditions (Fitts, 1965). These data indicate that the TSCS is a reasonably valid and reliable test instrument.

The TSCS is available in a Counseling Form and a Clinical and Research Form. Both forms can be hand scored or machine scored by the publisher. The Clinical/Research Form was used in this study. The scoring of responses yields two summary scores (Total Self-Concept score, representing an overall measure of self-concept, and Conflict score), six self-concept scales (Physical Self-Concept, Moral Self-Concept, Personal Self-Concept,

Family Self-Concept, Social Self-Concept, and Academic/Work Self-Concept scores), and three supplementary scores, which involve combinations of scores from the six self-concept scales (identity, satisfaction, and behavior scores). Four validity scores are calculated as indices of the amount of variability the subject displays and as an attempt to rule out response biases (Inconsistent Responding, Self-Criticism, Response Distribution, and Faking Good scores). The Total Self-Concept Score is the most-important score of the TSCS:2 because it measures an individual's overall self-concept (Fitts & Warren, 1996). The scores provided in the TSCS:2, its demonstrated validity and reliability, and its proven usefulness as an instrument that distinguishes between different groups, particularly clinical and nonclinical ones (Walsh, 1984) suggest that it is the best measurement tool available for the purposes of this study. Copyright laws prohibit inclusion of the TSCS:2 test protocol in the appendix of this document. Sample test questions are provided in Table 6.

Table 6

Sample TSCS:2 Questions

Circle only one number for each statement using this scale:

1 = Always False
2 = Mostly False
3 = Partly False and Partly True
4 = Mostly True
5 = Always True

❖ ❖ ❖

1	2	3	4	5	I am satisfied to be just what I am.
1	2	3	4	5	I am not as smart as people around me.

Biographical Questionnaire

A biographical questionnaire was completed by the subjects in order to obtain information regarding current and desired future educational and occupational status (see Appendix D). As a part of the larger, ongoing Letcher-Glembo (1989) study, the biographical questionnaire also elicited information about socioeconomic status. Socioeconomic status, however, was not studied in this current master's level project. Questionnaire information was used to code the educational level of the subjects and the tentative highest desired educational level of each subject in the following manner: 1 = No schooling beyond high school, 2 = Vocational or Technical School Certificate, 3 = Two-year Associate of Arts Degree, 4 = Four-year Bachelor's Degree, 5 = Master's Degree, 6 = Doctorate Degree, 7 = Other.

Self-Rating of Facial Appearance

All subjects completed a self-rating scale to assess self-concept of facial appearance acceptability. A 7-point bipolar adjective scale constructed by Sinko and Hedrick (1982) was used to obtain the self-ratings of facial appearance acceptability (see Appendix E). The scale contains verbal descriptions that run along a continuum from *very unacceptable* to *very acceptable*. The instrument was based on a summative model that was assumed to measure attitudes, all of which were considered to be of approximately equal values (Kerlinger, 1973, cited in Sinko and Hedrick, 1982). Light pink paper was used to distinguish the rating scale form from the white paper used for the speech acceptability rating scale form. Self-ratings for facial appearance were coded with numbers after ratings were made but prior to data analysis, as suggested by Sinko and Hedrick (1982), as follows: 1 = very unacceptable, 2 = somewhat unacceptable, 3 = a little unacceptable, 4 = equally

acceptable and unacceptable, 5 = a little acceptable, 6 = somewhat acceptable, 7 = very acceptable.

Self-Rating of Speech Acceptability

All subjects completed a self-rating scale to assess self-concept of speech acceptability. The same 7-point bipolar adjective rating scale constructed by Sinko and Hedrick (1982) used for self-ratings of facial appearance acceptability was used to obtain the self-ratings of speech acceptability (see Appendix F).

Procedures and Order of Presentation

The following procedures were used prior to conducting the current study:

1. The examiner made an initial contact with potential subjects by mail.

2. Written consent to participate in the study was obtained from subjects who agreed to participate in the follow-up study.

3. The subjects agreed to meet with the examiner at their homes or local libraries at an appointed time and date.

Subsequently, each subject was tested in a single data-gathering session. Sessions ranged from 1 to 3 hours in length. All data were collected in the following order: the Career Development Inventory, the biographical questionnaire, the Shipley Institute of Living Scale, the self-rating of facial appearance, the self-rating of speech acceptability and finally, the Tennessee Self-Concept Scale. This order balanced *difficult* and *easy* tasks, reduced fatigue effect, and did not influence response on subsequent tasks. After all willing subjects were tested, test responses were scored.

Data Scoring

The three standardized tests were scored. The Career Development Inventory - College & University Form were computer-scored by the publisher. The Shipley Institute of Living Scale and the Tennessee Self-Concept Scale were scored by the examiner. Twenty percent of the examiner-scored tests were re-scored independently by a doctoral-level speech-language pathologist so that scoring discrepancies could be identified and corrected until there was 100% agreement.

Descriptive Statistical Analysis

This research study sought to answer three specific research questions. The following sections address each of those questions.

Career Maturity Patterns in Adolescents and Young Adults with Clefts

The first research question posed was: Do patterns of career maturity in a sample of individuals with clefts as measured during adolescence persist or change as measured during young adulthood? The subjects' scores from the Career Development Inventory were used to respond to this question. A two-sample pooled variance *t*-test comparison was to be computed at $p > .05$ significance level. However, due to the smaller number of subjects in the study than originally anticipated, figures were created and descriptive statistics were used to demonstrate patterns of career maturity from adolescence to young adulthood.

Gender Differences in Career Maturity Patterns

The second research question asked was: Do females with clefts differ from males with clefts in their level of career maturity as measured during adolescence and young

adulthood? A two-sample pooled variance *t*-test comparison was to be computed at $p > .05$ significance level; however, due to the small number of subject participants, figures and descriptive statistics were utilized to compare gender differences in career maturity patterns.

Gender Differences in Factors Related to Career Maturity

Factors thought to be related to career maturity were measured with two standardized tests, two self-rating scales, and a biographical questionnaire. The Shipley Institute of Living Scale was used as a measure of mental ability. The Tennessee Self-Concept Scale was used as a global measure of self-concept. Seven-point adjective self-rating scales of facial appearance acceptability and speech acceptability were used as measures of self-concept of facial appearance and speech. These measures were used during the adolescent period, when the subjects were 14 to 18 years of age, and during the young adulthood period, when the subjects were 22 to 26 years of age.

The third question posed in this study asked was: Do females with clefts differ from males with clefts in factors thought to be related to career maturity? The information provided by the Shipley Institute of Living Scale, the Tennessee Self-Concept Scale, the self-ratings of facial appearance and speech acceptability, and the information obtained from the biographical questionnaire were used to respond to this question. Ideally, multiple regression analysis would be used to determine which factors lead to the prediction of level of career maturity. However, neither it nor two-sample pooled variance *t*-test comparisons could be utilized due to the small sample size. Figures and descriptive statistics were used to compare data obtained for factors thought to affect career maturity at the adolescent and young adult stages of life for subjects in this study.

CHAPTER IV

RESULTS AND DISCUSSION

Results

The purposes of this study were to determine (a) if career maturity patterns as demonstrated in an adolescent group of individuals with clefts change or remain the same as these individuals transition into young adulthood, (b) if career maturity patterns in adolescence and young adulthood are the same for male and female subjects with clefts, and (c) if males and females with clefts differ in their performance on variables thought to affect level of career maturity as tested in adolescence and young adulthood. Sixteen individuals with clefts were tested on measures of career maturity, mental ability, and self-concept; they also completed biographical questionnaires to provide information about current and desired future educational and occupational status. The initial phase of testing was completed by Lisa Letcher-Glembo in 1988-1989 when subjects were between the ages of 14 and 18 years, and current testing was completed by the current Principal Investigator in 1996-1997 as the subjects, aged 22 to 26 years, transitioned into young adulthood. Study limitations will be discussed, followed by a demographic description of subject distribution and presentation of the study's findings.

Study Limitations

This study of 16 individuals with clefts, 10 females and 6 males, yielded a variety of longitudinal data on each subject. However, due to the limited number of subjects who

could be located, the failure of some subjects to respond to the initial recruitment letter, and because of time and distance constraints, the sample was not large enough to justify use of the desired statistical analyses of pooled *t*-test, two- and three-way analysis of variance (ANOVA), nor multiple regression, as originally planned.

There are other limitations to this study. There was not an equal distribution of males and females in the two subject groups. Another drawback is the fact that there is not a control group of non-cleft individuals examined in this study. Inclusion of the non-cleft control group from Letcher-Glembo's (1989) study would have made it possible to compare differences between cleft and non-cleft groups; however, re-testing of the original control group was not feasible.

The current study may contain a biased sample of individuals with clefts. Those who chose to participate may have had greater concerns with career development than those who did not choose to participate. On the other hand, those potential subjects who failed to respond or chose not to participate may have done so because of their own perception of not having achieved an adequate level of career development, or because of low self-esteem.

The initial recruitment letter was mailed by the principal investigator from Portland State University. The subject response rate may have been greater if the subjects had had a direct affiliation with Portland State University. Some of the subjects had received services at the Cleft Palate Maxillofacial Clinic at the University of Minnesota, which was mentioned in the initial recruitment letter, but many did not have such an affiliation. If the request to participate had come from the specific agency from which the subjects had received services, this may have positively affected the response rate. Also, the subjects were not

paid for their participation. If funding had been available, this may have resulted in a greater number of participants.

This study could have provided additional information if a panel of objective raters of facial appearance and speech acceptability were used. The theory that a mismatch between self-ratings and observer ratings of facial appearance are important factors in determining one's behavioral adjustment level (Letcher-Glembo, 1989; Richman et al., 1985) could have been examined in the present study by including a panel of objective raters of facial appearance. Photographic equipment malfunction, however, resulted in the inability to collect valid full-face photographs from which to obtain objective ratings by a panel of viewers.

Study Demographics

Six males and 10 females ranging from 22 to 26 years of age participated in the study. Most of the subjects were residents of the Minneapolis/St. Paul, Minnesota metropolitan area. One subject resided in LaCrosse, Wisconsin, 1 subject was a resident of Milwaukee, Wisconsin, while another subject lived in Chicago, Illinois. The subjects' cleft types are provided in Table 7. Seven subjects had unilateral cleft lip and palate (43.75%), 7 subjects had cleft palate only (43.75%), 1 subject had bilateral cleft lip and palate (6.25%), and 1 of the subjects had bilateral cleft lip (6.25%).

Career Maturity Patterns in Adolescents and Young Adults with Clefts

The first research question posed was: Do patterns of career maturity in a sample of individuals with clefts as measured during adolescence persist or change as measured

Table 7

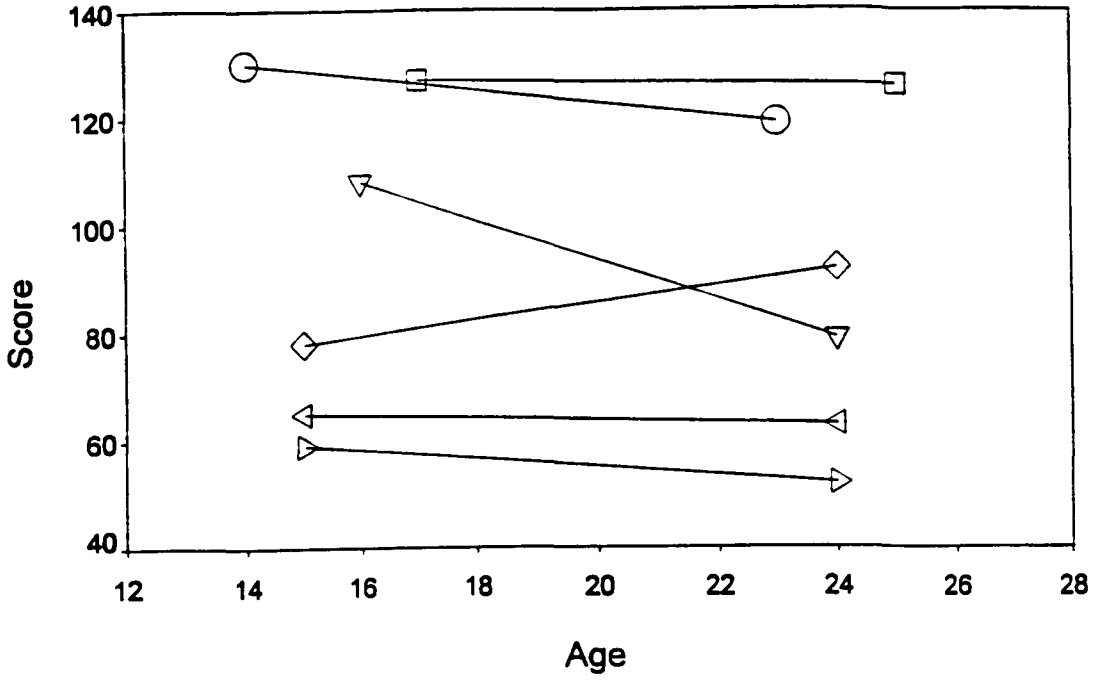
Number and Percentage of Subjects by Cleft Type (N = 16)

Type of Cleft	Subjects (n)	Total Subjects (%)
Unilateral Cleft Lip and Palate	7	43.75
Cleft Palate	7	43.75
Bilateral Cleft Lip and Palate	1	6.25
Bilateral Cleft Lip	1	6.25

during young adulthood? To answer this question, CDI-Career Orientation Total (COT) standard scores were obtained during the adolescent and young adulthood periods.

The CDI-COT standard scores represent the combined standard scores for Career Planning (CP), Career Exploration (CE), Decision-Making (DM), and World-of-Work Information (WW). These categories represent four of the five categories thought to comprise an individual's overall career maturity. The COT standard scores obtained with the Career Development Inventory-College and University Form (CDI-CU) at young adulthood were compared with the COT standard scores obtained with the CDI-School Form at adolescence. For ease of readability, these results are displayed in Figures 1 and 2 for male subjects and female subjects, respectively. While the tables are presented according to gender results, in terms of Research Question 1, they will be discussed in this section in terms of overall trends.

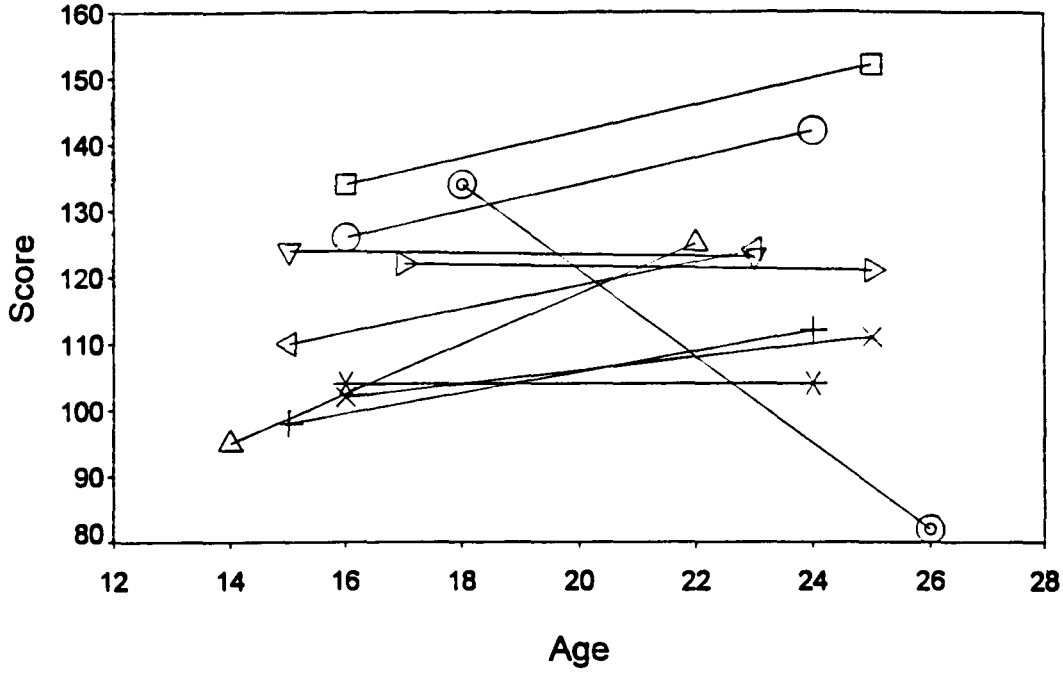
In comparing the CDI-COT standard scores of all subjects from adolescence to young adulthood, it is apparent that career maturity scores changed for most subjects from adolescence to young adulthood. COT standard scores changed for 15 of the 16 subjects



KEY	
◁ = Male Subject 1	□ = Male Subject 4
▷ = Male Subject 2	◇ = Male Subject 5
▽ = Male Subject 3	◯ = Male Subject 6

Figure 1

Career Development Inventory: Career Orientation Total Standard Scores for Male Subjects with Clefts Obtained During Adolescence and Young Adulthood (n = 6)



KEY	
▷ = Female Subject 1	× = Female Subject 6
△ = Female Subject 2	□ = Female Subject 7
◁ = Female Subject 3	▽ = Female Subject 8
✳ = Female Subject 4	◎ = Female Subject 9
○ = Female Subject 5	+ = Female Subject 10

Figure 2

Career Development Inventory: Career Orientation Total Standard Scores for Female Subjects with Clefts Obtained During Adolescence and Young Adulthood (n = 10)

from the adolescent to young adulthood periods. Seven scores increased, and 8 scores decreased. Some scores changed slightly, by as little as 1 point, while other scores changed significantly, by as much as 52 points. Thus, career maturity in this sample of individuals with clefts did not rise systematically with age for all subjects. The two hypotheses that related to this first research question were the following: (a) young adults with clefts will demonstrate higher levels of career maturity than they did when tested as adolescents, and (b) while career maturity scores should advance systematically with age, the pattern of career maturity scores in a group of young adults with clefts should remain similar to the pattern of career maturity scores during adolescence. In other words, those individuals who had depressed levels of career maturity in adolescence will be individuals who demonstrate depressed levels of career maturity in young adulthood. In response to these two hypotheses, we can state that the young adults with clefts did not always demonstrate higher levels of career maturity than they did as adolescents, and that the pattern of career maturity scores did not necessarily stay the same. For some individuals, scores increased or decreased significantly, while others showed little or no change.

Information regarding occupational group preferences for all subjects provided in the computerized score sheet of the CDI-CU was examined. Three subjects (18.8%) chose *Social Science: Teaching/Social Service* as their preferred occupational group, 2 subjects (12.5%) chose *Biological and Medical Science*, 2 subjects (12.5%) chose *Public Performance*, 2 subjects (12.5%) chose *Business: Management*, 2 subjects (12.5%) chose *Business: Sales/Promotion*, 2 subjects (12.5%) chose *Technical: Crafts*, 1 subject (6.3%) chose *Technical: Mechanical*, and 1 subject (6.3%) chose *Manual/Physical*.

Gender Differences in Career Maturity Patterns

The second research question to be answered was: Do females with clefts differ from males with clefts in their level of career maturity as measured during adolescence and in young adulthood? The hypothesis that relates to this question was: During both adolescence and young adulthood, females with clefts will demonstrate higher levels of career maturity than males with clefts. Male and female career maturity scores obtained during adolescence and young adulthood were examined.

Caution must be used in making general statements about the male and female group mean career maturity scores, because the sample size in each group is small (6 males and 10 females). The group mean COT standard score for the 10 females was 114.9 during adolescence; for the male group, the mean score was 94.5 during adolescence. During young adulthood, the mean score was 119.6 for the female group, and 88.5 for the male group. The group mean COT standard score for females was 20.4 points higher than the male group mean score during adolescence, and it was 31.1 points higher during young adulthood. Thus, the female group had a higher mean career maturity score than the male group during both adolescence and young adulthood. Moreover, the female group mean score rose by 4.7 points at young adulthood, and the male group mean score declined by 6 points. These findings support the theory that, in general, female career maturity advances systematically with age, and male career maturity does not (Letcher-Glembo, 1989). Letcher-Glembo's study supported earlier studies' findings that in general, female career maturity develops faster than male career maturity in the American culture (Herr & Enderlein, 1976; McNair & Brown, 1983).

The Career Development Inventory COT standard scores decreased from the adolescent to the young adulthood period for 5 of the 6 male subjects, with a range of decrease from 1 to 29 points. The remaining male subject's score increased by 14 points (see Figure 1). The COT standard score remained the same for 1 female subject from the adolescent to the young adulthood period (see Figure 2). The scores decreased for 2 subjects by 1 point and for 1 subject by 52 points. The COT scores increased for the remaining 6 female subjects, with a range of increase from 14 to 30 points. Thus, there are different patterns of career maturity scores for the male and female subject groups. The male scores generally declined, and the female group scores generally increased, with a few exceptions in each gender group.

In the current study, there appear to be gender differences in the patterns of career maturity COT standard scores as measured during adolescence and young adulthood. COT standard scores, as opposed to raw scores, are normed according to age. COT group mean standard scores were calculated by gender. In general, male scores decreased, while the majority of female scores increased, and the female group mean career maturity score was higher than the male group mean score during both adolescence and young adulthood. These trends are similar to the non-cleft normative population. In the non-cleft population, career maturity scores are believed to rise somewhat systematically with age for females, but not for males, and female group mean standard scores are higher than male group mean standard scores.

Gender Differences in Factors Related to Career Maturity

Factors thought to be related to career maturity were measured by data collected from the use of two standardized tests, two self-rating scales, and a biographical

questionnaire. The Shipley Institute of Living Scale was used as a measure of mental ability. The Tennessee Self-Concept Scale was used as a global measure of self-concept. Seven-point adjective rating scales of facial appearance and speech acceptability were used as measures of self-concept of facial appearance and speech. A biographical questionnaire included questions to elicit information about educational and occupational aspirations and accomplishments. These measures were used during adolescence, when the subjects were 14 to 18 years of age, and during young adulthood, when the subjects were 22 to 26 years of age.

The third research question posed in this study was: Do females with clefts differ from males with clefts in factors related to career maturity as measured in adolescence and young adulthood? The hypotheses that relate to this research question address the variables of mental ability, global self-concept, and the more specific self-concept issues of self-concept of facial appearance and speech acceptability, and how these variables affect career maturity. Study results of gender differences in factors related to career maturity will be presented in the following order: (a) mental ability as measured by the Shipley Institute of Living Scale, (b) global self-concept as measured by the Tennessee Self-Concept Scale, (c) self-rating scales of facial appearance, (d) self-ratings of speech acceptability, (e) educational aspirations and accomplishments as measured by responses on the biographical questionnaire, and (f) occupational aspirations and accomplishments as measured by responses on the biographical questionnaire.

Mental ability: Shipley Institute of Living Scale results. The first hypothesis that related to the third question was: Individuals with higher mental ability scores will

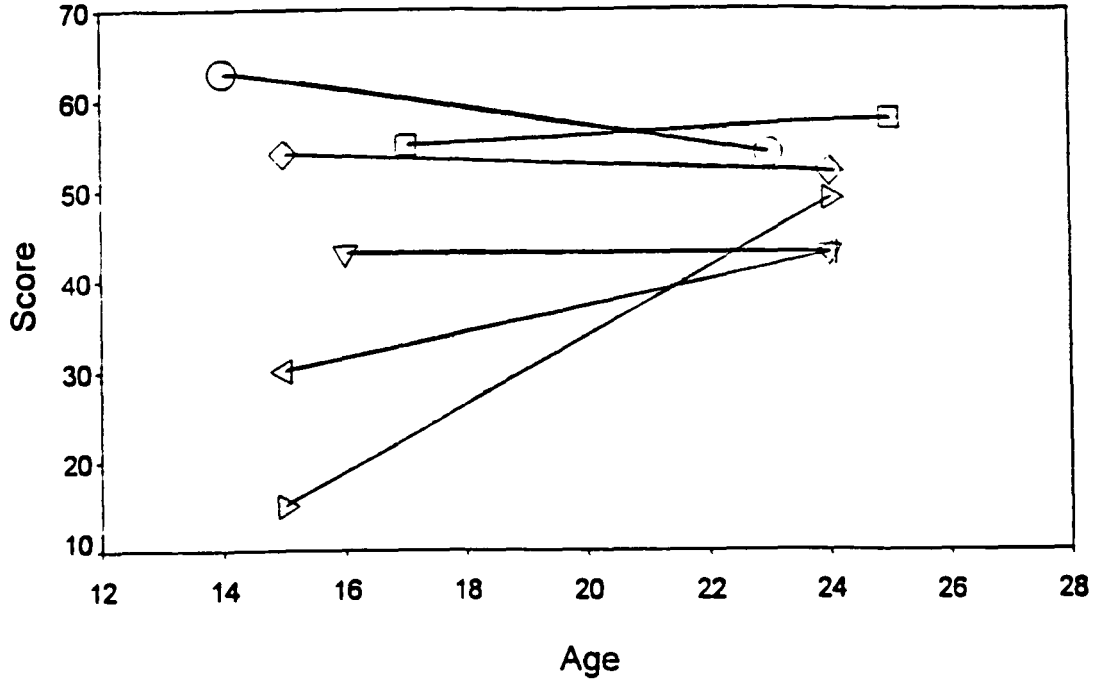
demonstrate more advanced levels of career maturity, whereas individuals with lower mental ability scores will demonstrate more depressed levels of career maturity.

The Shipley Institute of Living Scale (SILS), a test of intellectual functioning, is composed of verbal and abstraction subtests. The results of testing at adolescence and young adulthood were compared for males and females, respectively, on both the verbal and abstraction subtests (see Figures 3, 4, 5, and 6).

For male subjects, the pattern of individual scores on the SILS verbal subtest from adolescence to young adulthood was as follows (see Figure 3). One subject's score remained the same. The scores increased for 3 subjects, with a range of increase from 3 to 34 points. The scores decreased for 2 subjects, with a range of decline from 2 to 9 points.

For female subjects, the pattern of individual scores on the SILS verbal subtest was as follows (see Figure 4). One score remained the same. The scores increased for 6 subjects, with a range of increase from 3 to 21 points. The scores declined for 3 subjects, with a range of decline from 1 to 9 points.

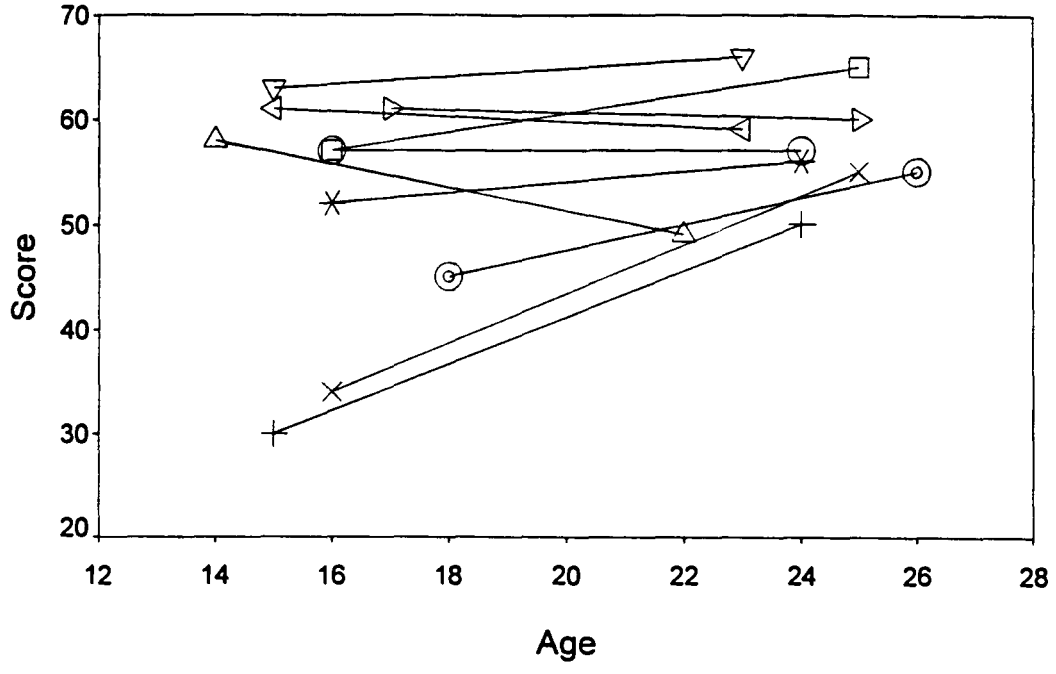
Group mean scores on the SILS verbal subtest were as follows. The male group mean *t*-score at adolescence was 43.3, and at young adulthood was 49.8. For the female group, the mean verbal *t*-score was 51.8 at adolescence and 47.2 at young adulthood. Thus, the female group mean score was higher than the male group mean score at both



KEY	
◁ = Male Subject 1	□ = Male Subject 4
▷ = Male Subject 2	◇ = Male Subject 5
▽ = Male Subject 3	○ = Male Subject 6

Figure 3

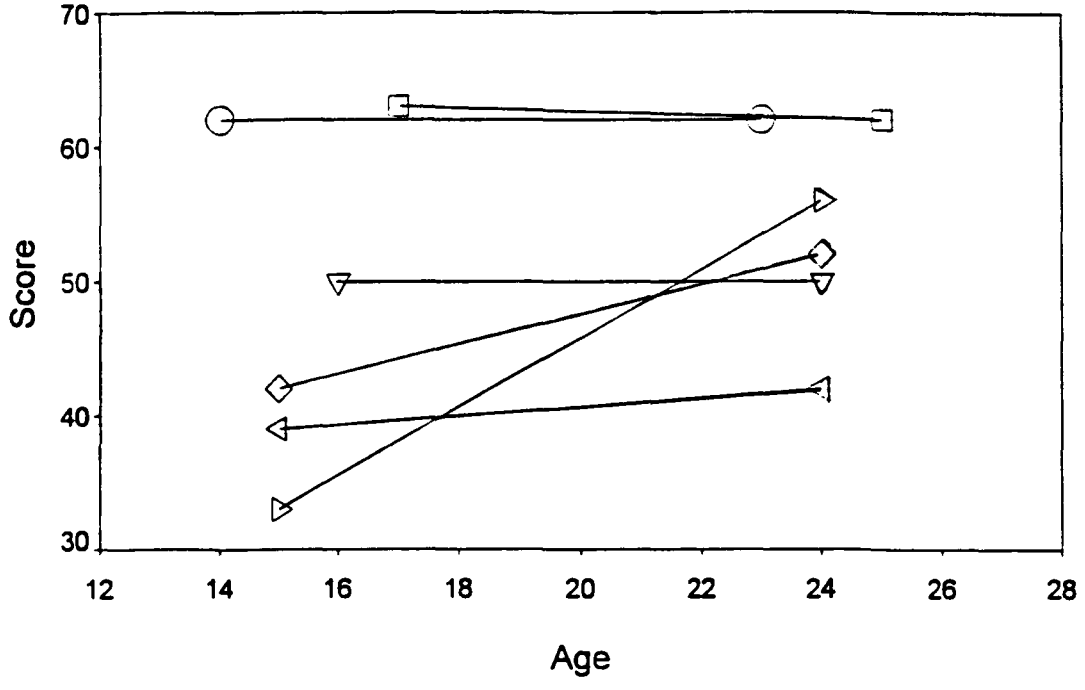
Shipley Institute of Living Scale Verbal *t*-scores for Male Subjects with Clefts Obtained During Adolescence and Young Adulthood (n = 6)



KEY	
▷ = Female Subject 1	× = Female Subject 6
△ = Female Subject 2	□ = Female Subject 7
◁ = Female Subject 3	▽ = Female Subject 8
✳ = Female Subject 4	◎ = Female Subject 9
○ = Female Subject 5	+ = Female Subject 10

Figure 4

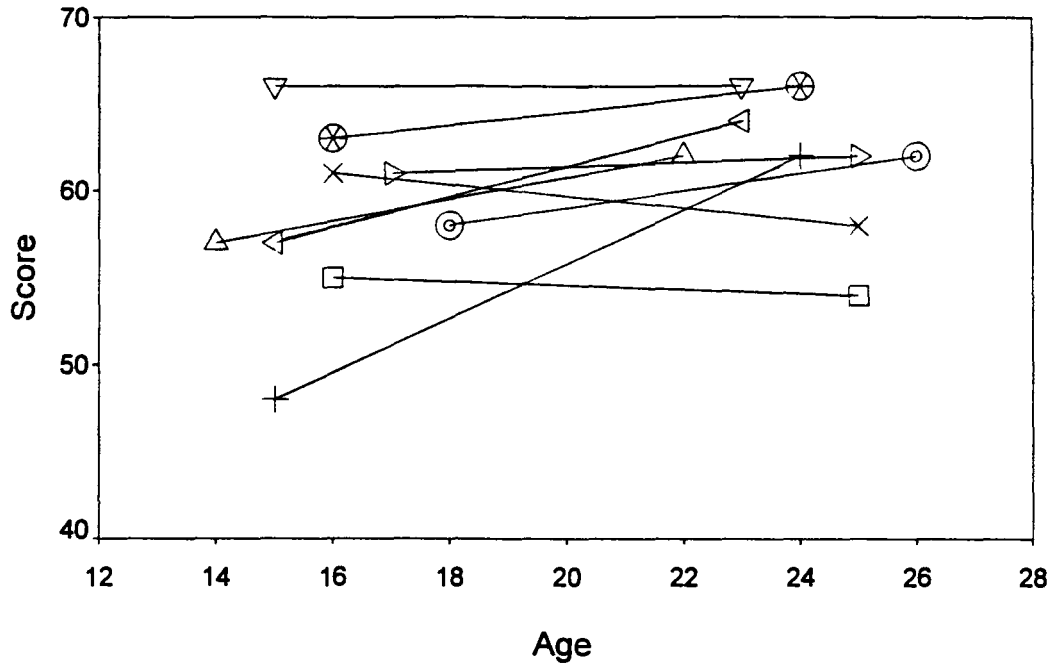
Shipley Institute of Living Scale Verbal *t*-scores for Female Subjects with Clefts Obtained During Adolescence and Young Adulthood (n = 10)



KEY	
◁ = Male Subject 1	□ = Male Subject 4
▷ = Male Subject 2	◇ = Male Subject 5
▽ = Male Subject 3	○ = Male Subject 6

Figure 5

Shipley Institute of Living Scale Abstract *t*-scores for Male Subjects with Clefts Obtained During Adolescence and Young Adulthood (n = 6)



KEY	
▷ = Female Subject 1	× = Female Subject 6
△ = Female Subject 2	□ = Female Subject 7
◁ = Female Subject 3	▽ = Female Subject 8
✳ = Female Subject 4	◎ = Female Subject 9
○ = Female Subject 5	+ = Female Subject 10

Figure 6

Shipley Institute of Living Scale Abstract *t*-scores for Female Subjects with Clefts Obtained During Adolescence and Young Adulthood (n = 10)

adolescence and young adulthood. Scores for both the male and female groups increased, by 6.5 and 5.4 points, respectively, from adolescence to young adulthood.

For male subjects, the pattern of individual scores on the SILS abstraction subtest was as follows (see Figure 5). Three scores increased, with a range of increase from 3 to 23 points. Two scores remained the same, and 1 score decreased by 1 point.

For female subjects, the pattern of individual scores on the SILS abstraction subtest was as follows (see Figure 6). Seven scores increased, with a range of increase from 1 to 14 points. One score remained the same. Two scores decreased by 1 and 3 points.

It is necessary to emphasize that the following group mean scores represent small sample sizes of 6 males and 10 females. Group mean scores on the SILS abstraction subtest were as follows. The male group mean abstraction *t*-score at adolescence was 48.1, and at young adulthood was 54.0. For the female group, the mean *t*-score was 58.9 at adolescence and 62.2 at young adulthood. Thus, the female group mean abstraction score was higher than the male group mean score at both adolescence and young adulthood. Scores for the male and female groups rose by 5.9 and 3.3 points, respectively.

The group mean verbal and abstraction *t*-scores on the SILS indicate that the male and female groups differ with respect to the variable of mental ability, and this factor may be associated with the higher group mean career maturity score in the female group as compared with the male group.

Global self-concept: Tennessee Self-Concept Scale results. The second hypothesis that relates to associated factors that affect career maturity was: Individuals with more positive self-concepts will demonstrate higher levels of career maturity, while those with more negative self-concepts will demonstrate more depressed levels of career maturity. Self-

concept was measured in global terms with a standardized test of self-concept, the Tennessee Self-Concept Scale. A comparison of the results of testing with the Tennessee Self-Concept Scale, First Edition (TSCS) at adolescence and the Tennessee Self-Concept Scale, Second Edition (TSCS:2) at young adulthood is shown for male and females subjects in Figures 7 and 8, respectively.

The Total Self-Concept (TOT) *t*-scores for male subjects increased for 4 of the 6 subjects, with a range of increase from 4 to 29 points (see Figure 7). The scores for the remaining 2 male subjects declined by 7 and 15 points. The TOT *t*-scores for female subjects increased for 7 of the 10 subjects, with a range of increase from 3 to 21 points, and decreased for 3 subjects, with a range of decrease from 4 to 18 points (see Figure 8).

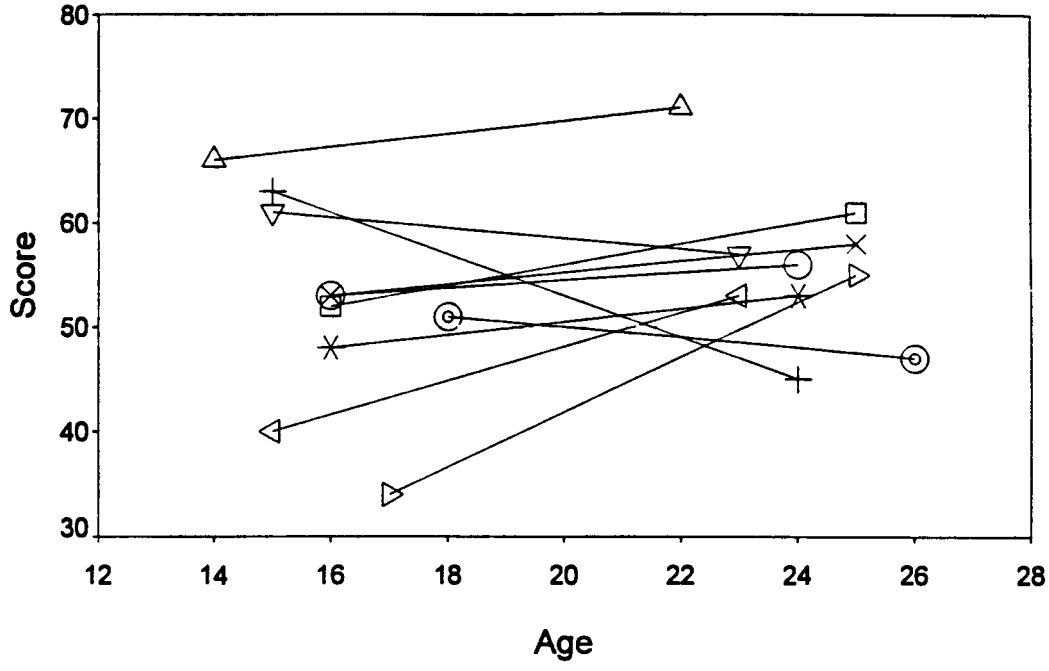
The small sample size of 6 males and 10 females must be borne in mind when making generalizations about male and female self-concept scores. The TOT group mean *t*-scores for males and females during adolescence and young adulthood were as follows. The group mean TOT score for males was 48.0 during adolescence and 53.8 during young adulthood. For females, the group mean TOT score was 52.1 during adolescence and 55.6 during young adulthood. Thus, the female group mean score was higher than the male group score at both the adolescent and the young adulthood periods. The TOT group mean scores rose for the male and female groups, by 5.8 and 3.5 points, respectively, from the adolescent to the young adulthood period.

Self-concept of facial appearance: Self-rating of facial appearance acceptability results. The second hypothesis that relates to associated factors that affect career maturity was: Individuals with more positive self-concepts will demonstrate higher levels of career

KEY	
◁ = Male Subject 1	□ = Male Subject 4
▷ = Male Subject 2	◇ = Male Subject 5
▽ = Male Subject 3	○ = Male Subject 6

Figure 7

Tennessee Self-Concept Scale Total Self-Concept *t*-scores for Male Subjects with Clefts Obtained During Adolescence and Young Adulthood (n = 6)



KEY	
▷ = Female Subject 1	× = Female Subject 6
△ = Female Subject 2	□ = Female Subject 7
◁ = Female Subject 3	▽ = Female Subject 8
✳ = Female Subject 4	◎ = Female Subject 9
○ = Female Subject 5	+ = Female Subject 10

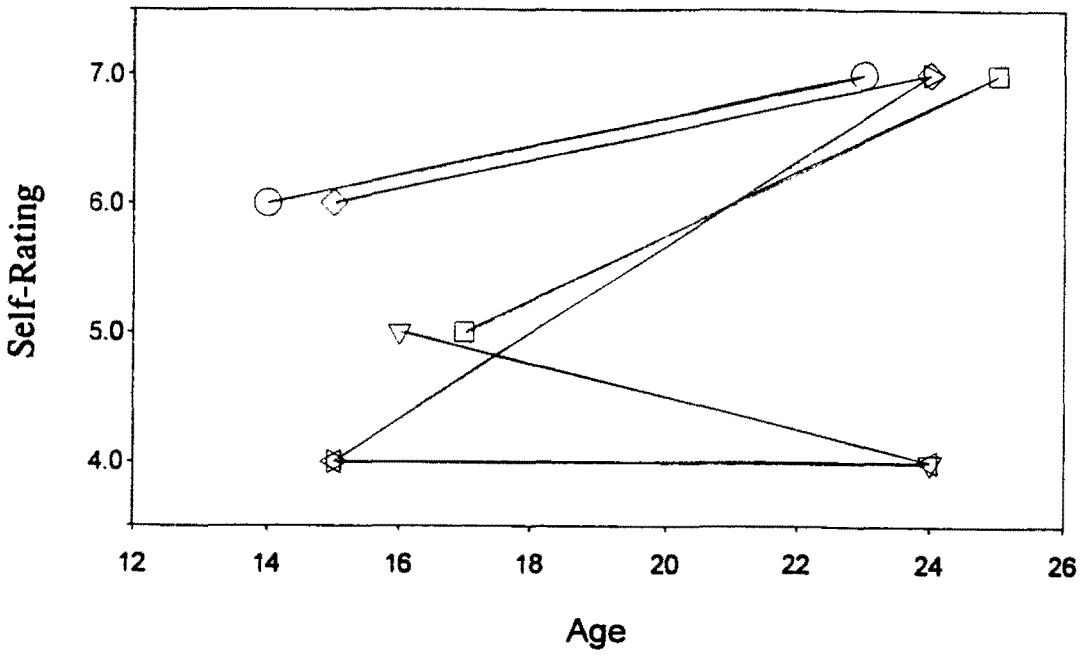
Figure 8

Tennessee Self-Concept Scale Total Self-Concept *t*-scores for Female Subjects with Clefts Obtained During Adolescence and Young Adulthood (n = 10)

maturity, while those with more negative self-concepts will demonstrate more depressed levels of career maturity. More specific self-concept issues of facial appearance and speech acceptability were measured with 7-point self-rating scales of facial appearance and speech acceptability. Self-ratings of facial appearance acceptability were obtained with a 7-point adjective rating scale, with a rating of 1 for *very unacceptable* to a rating of 7 for *very acceptable* (see Appendix E). Ratings were compared from the adolescent and young adulthood periods for male and female subjects (see Figures 9 and 10). Four of the male subjects' ratings increased, from *equally acceptable and unacceptable* to *very acceptable* for 1 subject, from *a little acceptable* to *very acceptable* for 1 subject, and from *somewhat acceptable* to *very acceptable* for 2 subjects (see Figure 9). One male subject's rating remained at *equally acceptable and unacceptable*, and 1 subject's rating decreased, from *a little acceptable* to *equally acceptable and unacceptable*.

Self-ratings of facial appearance for female subjects were as follows (see Figure 10). Four ratings improved, from *somewhat acceptable* to *very acceptable* for 3 subjects, and from *equally acceptable* to *very acceptable* for 1 subject. Four ratings remained the same, with 2 at *very acceptable* and 2 at *somewhat acceptable*. Two subjects' ratings decreased, from *somewhat acceptable* to *equally acceptable and unacceptable* and from *somewhat acceptable* to *a little unacceptable*.

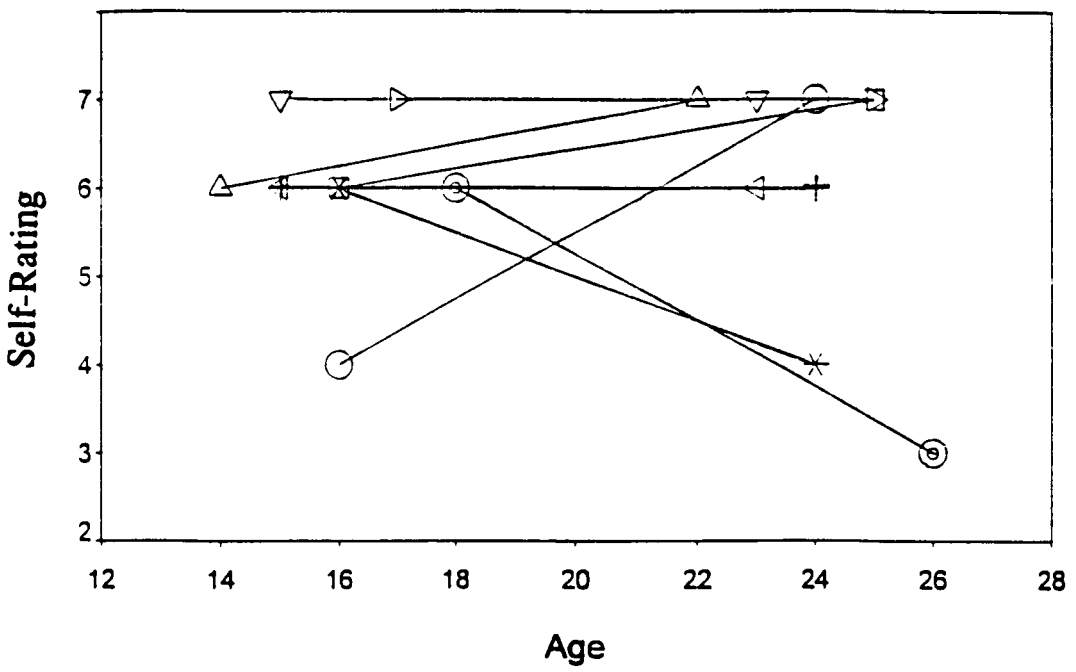
The male and female group mean scores for self-rating of facial appearance were as follows. The male group mean scores were 5.0 (*a little acceptable*) and 6.0 (*somewhat acceptable*) for the adolescent and young adulthood periods, respectively. Female group mean scores for self-rating of facial appearance were 6.0 and 6.1 respectively (both scores indicate *somewhat acceptable*). Thus, both male and female scores rose with age, with the



KEY	
◁ = Male Subject 1	□ = Male Subject 4
▷ = Male Subject 2	◇ = Male Subject 5
▽ = Male Subject 3	◯ = Male Subject 6

Figure 9

Self-Rating of Facial Appearance by Male Subjects with Clefts Obtained During Adolescence and Young Adulthood (n = 6)



KEY	
▷ = Female Subject 1	× = Female Subject 6
△ = Female Subject 2	□ = Female Subject 7
◁ = Female Subject 3	▽ = Female Subject 8
✳ = Female Subject 4	◎ = Female Subject 9
○ = Female Subject 5	+ = Female Subject 10

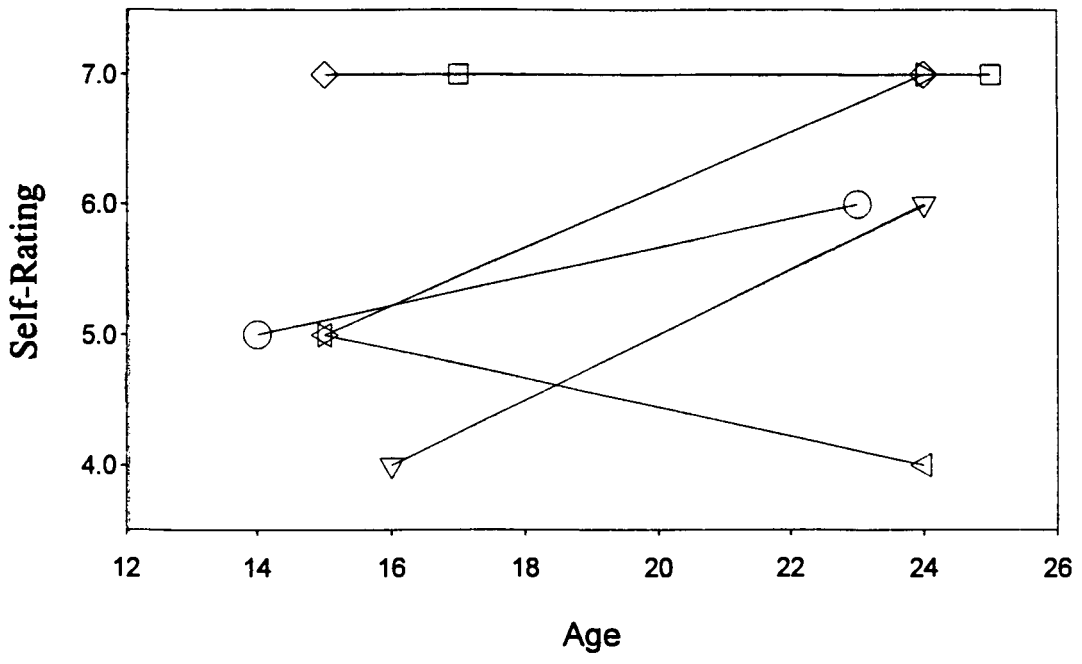
Figure 10

Self-Rating of Facial Appearance by Female Subjects with Clefts Obtained During Adolescence and Young Adulthood (n = 10)

female group rating themselves, on average, 1 point higher than the male group at adolescence, and 1/10th of 1 point higher at young adulthood.

Self-concept of speech: Self-rating of speech acceptability results. Self-ratings of speech acceptability were obtained using the same type of 7-point adjective scale used for self-rating of facial appearance (see Appendix F), with a rating of 1 for *very unacceptable* to a rating of 7 for *very acceptable*. Adolescence and young adulthood results were compared for male and female subjects, respectively (see Figures 11 and 12). For male subjects, 2 subjects' ratings remained the same, both at the highest rating of 7, for *very acceptable* (see Figure 11). Three subjects' ratings increased from *equally acceptable and unacceptable* to *somewhat acceptable* for 1 subject, from *a little acceptable* to *very acceptable* for 1 subject, and from *a little acceptable* to *somewhat acceptable* for 1 subject. One subject's rating decreased from *a little acceptable* to *equally acceptable and unacceptable*. The results of self-ratings of speech acceptability for female subjects were as follows (see Figure 12). Ratings increased for 3 subjects from *a little acceptable* to *very acceptable* for 1 subject, *somewhat acceptable* to *very acceptable* for 2 subjects, and from *a little acceptable* to *very acceptable* for 1 subject. Ratings stayed the same for 4 subjects, with 1 subject at *somewhat acceptable* and 3 at *very acceptable*. Ratings decreased for 3 subjects, from *very acceptable* to *equally acceptable and unacceptable* for 1 subject, and from *very acceptable* to *somewhat acceptable* for 1 subject.

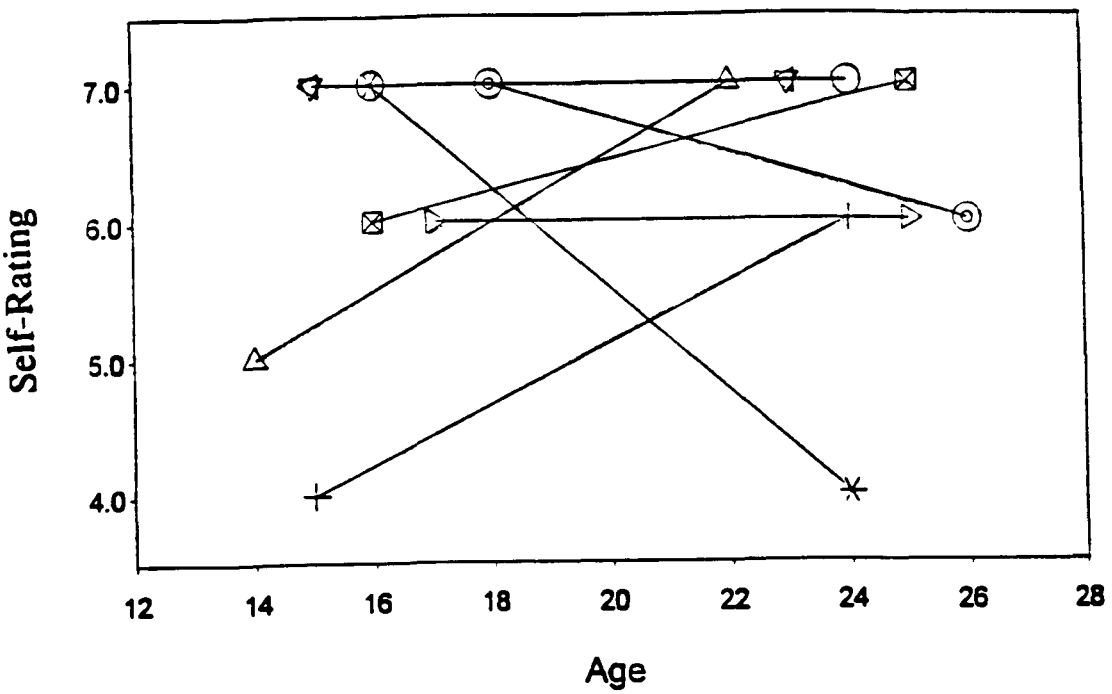
Male and female group mean scores for self-concept of speech were as follows. The male group mean scores for the adolescent and young adulthood periods were 5.5 (*a little acceptable*) and 6.1 (*somewhat acceptable*), respectively. For the female group, the scores were 6.2 and 6.4, both in the *somewhat acceptable* range. Thus, the female group mean



KEY	
◁ = Male Subject 1	□ = Male Subject 4
▷ = Male Subject 2	◇ = Male Subject 5
▽ = Male Subject 3	◯ = Male Subject 6

Figure 11

Self-Rating of Speech Acceptability by Male Subjects with Clefts Obtained During Adolescence and Young Adulthood (n = 6)



KEY	
▷ = Female Subject 1	× = Female Subject 6
△ = Female Subject 2	□ = Female Subject 7
◁ = Female Subject 3	▽ = Female Subject 8
✳ = Female Subject 4	◎ = Female Subject 9
○ = Female Subject 5	+ = Female Subject 10

Figure 12

Self-Rating of Speech Acceptability by Female Subjects with Clefts Obtained During Adolescence and Young Adulthood (n = 10)

score was higher than the male group mean score during both time periods. In general, both male and female group scores for self-concept of speech rose with age.

Educational aspirations and accomplishments: Biographical questionnaire results. The final hypothesis to be studied in terms of associated factors that affect career maturity was: Individuals who indicated a desire to achieve higher levels of educational and occupational goals in adolescence will be those individuals who have achieved higher levels of educational and occupational status in young adulthood. Information relating to current desired educational status was obtained with a biographical questionnaire (see Appendix D). The information obtained from the biographical questionnaire at adolescence and young adulthood was used to examine data relating to educational level. Tables 5 and 6 summarize the information obtained. It should be noted that subject numbers are consistent with those referred to in earlier figures. That is, Subject 1 referred to in Table 5 is also referred to as Subject 1 in Figures 1 through 12.

Questions on the adolescent biographical questionnaire included the following: What type and how many years of schooling beyond high school do you think that you will complete? Questions on the Young Adult Biographical Questionnaire included the following: What type and how many years of schooling have you completed? and, What type and how many years of schooling do you think you would like to pursue, if any, in the future? Information relating to desired future educational level at adolescence, reported actual educational level at time of testing during young adulthood, and desired future educational level as reported in young adulthood, were examined by gender (see Tables 8 and 9).

Table 8

Desired Future Educational Level at Adolescence, Educational Level at Young Adulthood, and Desired Future Educational Level at Young Adulthood for Male Subjects (n = 6)

Subject Number	Desired Future Educational Level at Adolescence	Educational Level at Young Adulthood	Desired Future Educational Level at Young Adulthood
1	High school diploma	Did not complete high school	High school diploma and vocational/ technical school certificate
2	Vocational/technical school certificate	Vocational/technical school certificate	Vocational/technical school certificate
3	Associate degree or Bachelor's degree	Vocational/technical school certificate and Associate's degree	Vocational/technical school certificate
4	Bachelor's degree	Bachelor's degree	Bachelor's degree or Master's degree
5	Vocational/technical school certificate	GED (high school equivalent)	Vocational/technical school certificate
6	Master's degree	Bachelor's degree	No further schooling desired

In terms of the desired future educational level at adolescence for male subjects, 1 subject wanted a high school diploma, 2 subjects wanted a vocational/technical school certificate, 1 subject wanted an associate's degree or bachelor's degree, 1 subject wanted a bachelor's degree, and 1 subject wanted a master's degree (see Table 8). In terms of the educational level at young adulthood for male subjects, 1 subject had not completed high school, 1 subject had received a GED (high school equivalent) certificate, 1 subject had

Table 9

Desired Future Educational Level at Adolescence, Educational Level at Young Adulthood, and Desired Future Educational Level at Young Adulthood for Female Subjects (n = 10)

Subject Number	Desired Future Educational Level at Adolescence	Educational Level at Young Adulthood	Desired Future Educational Level at Young Adulthood
1	Doctoral degree	Bachelor's degree	Master's degree
2	Master's degree	Bachelor's degree	Master's degree
3	Master's degree	Bachelor's degree	Master's degree
4	Bachelor's degree or Master's degree	Vocational/technical school certificate and one year of college	Associate degree
5	Bachelor's degree or higher	Bachelor's degree	Doctoral degree
6	Bachelor's degree	Bachelor's degree	Master's degree
7	Master's degree	Bachelor's degree	Master's degree
8	Doctoral degree	Bachelor's degree	Master's degree
9	Associate degree	One year of college	Vocational/technical school certificate and Associate degree
10	Vocational/technical school certificate	Bachelor's degree	Master's degree

received a vocational/technical school certificate, 1 subject had received a vocational/technical school certificate and an associate's degree, and 2 subjects had received bachelor's degrees. The information obtained regarding desired future educational level at young adulthood revealed the following for the 6 male subjects. The subject who had not completed high school wanted a high school diploma and a vocational/technical school

certificate. Three subjects stated that they wished to obtain vocational/technical school certificates (for 1 of those subjects, it would be his second such certificate). One subject indicated that he would like to either remain at the bachelor's degree level or obtain a master's degree. One subject stated that he desired no further schooling beyond his current educational level of bachelor's degree.

The educational status information was obtained similarly for the 10 female subjects (see Table 9). In terms of desired future educational level at adolescence, 1 subject desired a vocational/technical school certificate, 1 subject wanted an associate's degree, 1 subject wanted a bachelor's degree, 1 subject wanted a bachelor's degree or higher, 3 subjects wanted a master's degree, and 2 subjects wanted a doctoral degree.

In terms of educational level at young adulthood for female subjects, 1 subject had completed 1 year of college, 1 subject had completed a vocational/technical school certificate and 1 year of college, and 8 of the female subjects had received a bachelor's degree.

In terms of desired future educational level for female subjects at young adulthood, the following information was obtained: The subject who had completed a vocational/ technical school certificate and 1 year of college desired an associate's degree, the subject who had completed 1 year of college wanted to complete a vocational/technical school certificate and an associate's degree. Seven of the subjects desired to complete a master's degree. One subject desired to complete a doctoral degree.

In examining the information obtained from this relatively small sample of individuals with clefts, it is apparent that the female group, in general, had higher expectations for themselves regarding future educational level at adolescence than did the

male group, and they had achieved, in general, a higher educational level than the males at young adulthood. The females also expressed the desire to achieve higher future educational levels than the males at young adulthood. In general, it seemed that for the female group, those who had desired a relatively high educational level at adolescence had achieved a higher educational level at young adulthood, but this was not apparent in the male group.

It is important to note that subjects in this study, for the most part, were not old enough to have obtained a master's or doctoral degree at a customary age, and those who expressed the desire at adolescence to obtain an advanced degree, or any degree for that matter, may do so in the future. In general, the female group had desired and achieved a higher educational level than the male group. It is necessary to bear in mind that any of the subjects, male or female, may achieve their stated educational goals at some future time.

Occupational aspirations and accomplishments: Biographical questionnaire results. Select information obtained from the biographical questionnaires completed during adolescence and young adulthood was used to examine previously stated current and desired future occupational status by gender (see Tables 10 and 11). A question asked on the adolescent biographical questionnaire that related to occupation was as follows: "At this point in time, what occupation do you think that you'd most like to pursue in the future?" On the Young Adult Biographical Questionnaire, the following questions were asked: "At this point in time, what occupation do you think that you'd most like to pursue in the future?" and "Are you currently working? If so, please state your job title; if not currently working, but you were previously employed, please state your previous job title."

At adolescence, the male subjects listed the following as their desired future occupations (see Table 10): Baseball player, bank manager, lawyer, computer programmer,

computer technician, and naval architect. Occupational titles for those subjects, respectively, were as follows: tow truck driver, mechanical adjuster, construction laborer, computer analyst, back hoe operator, and naval architect/yacht designer (owner of firm). For those same subjects, respectively, their desired future occupations at young adulthood were as follows: towing company owner, tool and die mold maker, construction worker, computer analyst or speech-communications related job, construction/heavy equipment operator, and naval architect/yacht designer (owner of firm).

Table 10

Desired Future Occupation at Adolescence, Occupation at Young Adulthood, and Desired Future Occupation at Young Adulthood For Male Subjects (n = 6)

Subject Number	Desired Future Occupation at Adolescence	Occupation at Young Adulthood	Desired Future Occupation at Young Adulthood
1	Baseball player	Tow truck driver	Towing company owner
2	Bank manager	Mechanical adjuster	Tool and die mold maker
3	Lawyer	Laborer (construction)	Construction worker
4	Computer programmer	Computer analyst	Computer analyst or speech communication
5	Computer technician	Backhoe operator (construction)	Heavy equipment operator (construction)
6	Naval architecture	Yacht designer (owner of firm)	Naval architecture/ yacht designer (owner of firm)

Occupational status information was obtained from the adolescent and young adulthood biographical questionnaires for female subjects (see Table 11). The following occupations were listed by the 10 female subjects at adolescence as their desired future occupations: Astronomer or genetics biologist, lawyer, child psychologist, chemical scientist, cartoonist, high school English teacher, commercial artist, medical doctor, artist (jewelry or drawing), and beautician. Occupations at young adulthood for the same subjects, respectively, were as follows: manager/dry cleaning business, unemployed (interviewing for M.I.S. position), administrative assistant, medical transcriptionist, biology researcher, pre-school teacher, department store sales associate (preparing to audition for acting roles), executive search consultant, construction company administrative assistant, respite worker/child care worker. The same subjects, respectively, listed the following as desired future occupations at young adulthood: sales and promotion, manager of information systems (M.I.S.), youth counselor, cardiac sonographer, biology researcher/teacher or professor, teacher, actor, manager (human resources or general), construction project manager, and social worker.

In general, this study of a small sample of individuals with clefts indicates that the male and female groups desired a somewhat similar range of occupational levels at adolescence, with many of the desired occupations requiring some level of college education. By young adulthood, it appeared that while most of the female subjects had expressed a desire for a higher occupational status in the future, and although most females had obtained a bachelor's degree, many of them had occupations at the time of testing that did not require a bachelor's degree. Most of the male subjects had not earned a college degree, and most of their occupations at the time of testing did not require one. Their future

Table 11

Desired Future Occupation at Adolescence, Occupation at Young Adulthood, and Desired Future Occupation at Young Adulthood For Female Subjects (n = 10)

Subject Number	Desired Future Occupation at Adolescence	Occupation at Young Adulthood	Desired Future Occupation at Young Adulthood
1	Astronomer or genetics biologist	Manager, dry cleaning business	Sales and promotion
2	Lawyer	(Interviewing for M.I.S. position)	Manager of information systems (M.I.S.)
3	Child psychologist	Administrative assistant	Youth counselor
4	Chemical scientist	Medical transcriptionist	Cardiac sonographer
5	Cartoonist	Biology researcher	Biology research/ teacher or professor
6	High school English teacher	Pre-school teacher	Teacher
7	Commercial artist	Department store sales associate (preparing to audition for acting roles)	Actor
8	Medical doctor	Executive search consultant	Manager (human resources or general)
9	Artist (jewelry or drawing)	Construction company administrative assistant	Construction project manager
10	Beautician	Respite worker/child care worker	Social worker

desired occupations at young adulthood, for the most part, did not require a college education. Thus, we can state that in general, while neither gender group had achieved a consistently high occupational status, this may be somewhat attributable to their relatively

young ages. It appears that the female group, in general, desired to achieve a higher future occupational status than the males, with most occupations requiring a college degree. The female group also seemed to desire occupations that relied more on speech communication skills than did the male group.

Subjects' Performance at Adolescence and Young Adulthood Across Measures

Each subject completed a measure of career development, mental ability, global self-concept, self-rating of speech acceptability and self-rating of facial appearance acceptability. Subsequent sections of this document explain in detail how the subjects' results on these measures were utilized to respond to the study's specific research questions. As a means of examining an individual subject's test performance across measures. Tables 12, 13, 14, and 15 were created. Each subject was assigned a subject number. Each subject within each gender (male or female) and age (adolescent or young adult) group was ranked according to his or her performance on each of the following study measures as compared to the other subjects in the study group: Career Development Inventory, Tennessee Self-Concept Scale, Shipley Institute of Living Scale, self-rating of speech, and self-rating of facial appearance. The purpose of this was to provide quick insight as to whether or not there was consistency across a subject's performance. Tables 12 and 13 demonstrate rankings on test measures for the male subjects collected at adolescence and young adulthood, respectively. Tables 14 and 15 demonstrate rankings on test measures for the female subjects collected at adolescence and young adulthood, respectively.

Table 12

Male Subjects with Clefts Score and Self-Rating Rankings Obtained During Adolescence (n = 6)

	SUBJECT					
MEASURE	#1	#2	#3	#4	#5	#6
CDI	5	6	3	2	4	1
SILS-Verbal	5	6	4	2	3	1
SILS-Abstract	5	6	3	1	4	2
TSCS	5	6	Tie 3	Tie 3	1	2
SR-Facial	Tie 5	Tie 5	Tie 2	Tie 2	Tie 1	Tie 1
SR-Speech	Tie 3	Tie 3	6	Tie 1	Tie 1	Tie 3
Desired Educational Level	Hgh Sch Dip	Voc Tech	Asc Deg	Bac Deg	Voc Tech	Mas Deg

Key		
CDI	=	Career Development Inventory
SILS	=	Shipley Institute of Living Scale
TSCS	=	Tennessee Self-Concept Scale
SR-Facial	=	Self-Rating of Facial Appearance Acceptability
SR-Speech	=	Self-Rating of Speech Acceptability
Hgh Sch Dip	=	High School Diploma
Voc Tech	=	Vocational/Technical School Certificate
Asc Deg	=	Associate's Degree
Bac Deg	=	Bachelor's Degree
Mas Deg	=	Master's Degree
Doc Deg	=	Doctoral Degree

Table 13

Male Subjects with Clefts Score and Self-Rating Rankings Obtained During Young Adulthood (n = 6)

	SUBJECT					
MEASURE	#1	#2	#3	#4	#5	#6
CDI	5	6	4	1	3	2
SILS-Verbal	Tie 5	4	Tie 5	1	3	2
SILS-Abstract	6	3	5	Tie 1	4	Tie 1
TSCS	6	1	5	2	4	3
SR-Facial	Tie 5	Tie 1	Tie 5	Tie 1	Tie 1	Tie 1
SR-Speech	6	Tie 1	Tie 4	Tie 1	Tie 1	Tie 4
Desired Educational Level	Hgh Sch Dip	Voc Tech	Voc Tech	Bac or Mas Deg	Voc Tech	Wants no more ed (has Bac Deg)

Key		
CDI	=	Career Development Inventory
SILS	=	Shipley Institute of Living Scale
TSCS	=	Tennessee Self-Concept Scale
SR-Facial	=	Self-Rating of Facial Appearance Acceptability
SR-Speech	=	Self-Rating of Speech Acceptability
Hgh Sch Dip	=	High School Diploma
Voc Tech	=	Vocational/Technical School Certificate
Asc Deg	=	Associate's Degree
Bac Deg	=	Bachelor's Degree
Mas Deg	=	Master's Degree
Doc Deg	=	Doctoral Degree

Table 14

Female Subjects with Clefts Score and Self-Rating Rankings Obtained During Adolescence (n = 10)

	SUBJECT									
MEASURE	#1	#2	#3	#4	#5	#6	#7	#8	#9	#10
CDI	5	10	6	7	3	8	Tie 1	4	Tie 1	9
SILS-Verbal	Tie 2	4	Tie 2	7	Tie 5	9	Tie 5	1	8	10
SILS-Abstract	Tie 4	Tie 7	Tie 7	Tie 2	Tie 2	Tie 4	9	1	6	10
TSCS	10	1	9	8	Tie 4	Tie 4	6	3	7	2
SR-Facial	Tie 1	Tie 2	Tie 2	Tie 2	10	Tie 2	Tie 2	Tie 1	Tie 2	Tie 2
SR-Speech	Tie 6	9	Tie 1	Tie 1	Tie 1	Tie 6	Tie 6	Tie 1	Tie 1	10
Desired Educational Level	Doc Deg	Mas Deg	Mas Deg	Bac or Mas Deg	Bac Mas or Doc Deg	Bac Deg	Mas Deg	Doc Deg	Asc Deg	Voc Tech

Key		
CDI	=	Career Development Inventory
SILS	=	Shipley Institute of Living Scale
TSCS	=	Tennessee Self-Concept Scale
SR-Facial	=	Self-Rating of Facial Appearance Acceptability
SR-Speech	=	Self-Rating of Speech Acceptability
Hgh Sch Dip	=	High School Diploma
Voc Tech	=	Vocational/Technical School Certificate
Asc Deg	=	Associate's Degree
Bac Deg	=	Bachelor's Degree
Mas Deg	=	Master's Degree
Doc Deg	=	Doctoral Degree

Table 15

Female Subjects with Clefts Score and Self-Rating Rankings Obtained During Young Adulthood (n = 10)

	SUBJECT									
MEASURE	#1	#2	#3	#4	#5	#6	#7	#8	#9	#10
CDI	6	3	Tie 4	9	2	8	1	Tie 4	10	7
SILS-Verbal	3	10	4	6	5	Tie 7	2	1	Tie 7	9
SILS-Abstract	Tie 6	5	4	Tie 1	Tie 1	9	10	Tie 1	Tie 6	Tie 6
TSCS	6	1	Tie 7	Tie 7	5	3	2	4	9	10
SR-Facial	Tie 1	Tie 1	Tie 7	9	Tie 1	Tie 1	Tie 1	Tie 1	10	Tie 7
SR-Speech	Tie 7	Tie 1	Tie 1	10	Tie 1	Tie 1	Tie 1	Tie 1	Tie 7	Tie 7
Desired Educational Level	Mas Deg	Mas Deg	Mas Deg	Asc Deg	Doc Deg	Mas Deg	Mas Deg	Mas Deg	Voc Tech and Asc Deg	Mas Deg

Key		
CDI	=	Career Development Inventory
SILS	=	Shipley Institute of Living Scale
TSCS	=	Tennessee Self-Concept Scale
SR-Facial	=	Self-Rating of Facial Appearance Acceptability
SR-Speech	=	Self-Rating of Speech Acceptability
Hgh Sch Dip	=	High School Diploma
Voc Tech	=	Vocational/Technical School Certificate
Asc Deg	=	Associate's Degree
Bac Deg	=	Bachelor's Degree
Mas Deg	=	Master's Degree
Doc Deg	=	Doctoral Degree

Discussion

It is important to understand the psychosocial implications of clefting so that appropriate services in terms of psychological and career counseling may be provided. This study provided longitudinal data concerning adolescent and young adulthood outcomes for individuals with clefts in terms of career maturity, mental ability, global self-concept, self-concept of facial appearance and speech acceptability, and current and desired future educational and occupational status. Results of the subjects' psychosocial status in these areas will be discussed.

Career Maturity

The CDI-COT scores revealed some interesting differences between the male and female subjects. The males' level of career maturity declined for 5 of the 6 subjects, while the females' level of career maturity increased for 6 of the 10 subjects. The group mean score was higher for females than males during both adolescence and young adulthood.

It is interesting, but not surprising, that the overall level of career maturity for females was higher than it was for males during both the adolescent and young adulthood periods. Super (1953) indicated that career maturity can be affected by many variables including gender. The relationship between career maturity and gender has been examined in other studies. In their study of 1,553 9^{th} to 12^{th} grade students, Herr and Enderlein (1976) found that female adolescents had higher career maturity scores than males at all grade levels. McNair and Brown (1983) also found this to be true in their study of 259 students. Letcher-Glembo (1989) found that as a group, adolescent girls had higher career maturity scores than males. The results of the present study are in agreement with past studies that

indicate that in general, females display a higher level of career maturity than do males of the same age.

It is not surprising that the overall level of career maturity for females rose with age. It is surprising, however, that the overall level of career maturity for males declined from the adolescent to the young adulthood period. Past studies have examined the relationship between career maturity and age. As summarized by Thompson, Lindeman, Super, Jordaan, and Meyers (1984), the results of Super's Career Pattern Study (1957) indicated that career maturity advances somewhat systematically with age. Other studies have shown this same relationship (Noeth & Prediger, 1978; Jordaan & Heyde, 1979; Super & Thompson, 1979). It should be noted that in Letcher-Glembo's study (1989), however, career maturity scores advanced somewhat systematically with age for females with clefts, but for males with clefts, there was a decline in career maturity for 15-year-old males. Thus, the results of the present study are in agreement with Letcher-Glembo's study (1989). Females with clefts, in general, showed an increase in career maturity from the adolescent to the young adulthood period. The males with clefts in the present study, on the other hand, did not show a systematic increase of career maturity with age. Further research is needed to examine the differences in career maturity patterns for males and females at different ages.

The patterns of career maturity did not stay the same for all subjects from adolescence to young adulthood. In other words, some of the subjects had higher levels of career maturity than others during the adolescent period, but those same subjects did not necessarily have higher career maturity levels than the others during the young adulthood period. These results imply that the pattern of career maturity is not necessarily stable for

males or females with clefts from adolescence to young adulthood. Further research is needed to examine the issues that affect longitudinal patterns of career maturity scores.

The CDI computer-scored data relating to occupational preferences indicated that the most commonly stated occupational preference group among all subjects with clefts across gender groups was social science: research (18.8%), followed biological and medical science: research (12.5%), public performance (12.5%), business: management (12.5%), business: sales and promotion (12.5%), technical: crafts (12.5%), physical science: applied (6.3%), technical/mechanical (6.3%) and manual/physical (6.3%). This information was not computer-scored for gender groups separately.

Mental Ability

In examining other factors believed to be associated with career maturity, testing with the Shipley Institute of Living Scale, a test of mental ability, revealed that verbal and abstraction *t*-scores rose for both the male and female subject groups from adolescence to young adulthood. The female group mean score was higher than the male group mean score at both adolescence and young adulthood. The pattern of scores did not remain the same from the adolescent to the young adulthood period. Some scores increased, some scores decreased, and some scores remained the same.

The results of several studies have indicated a relationship between career maturity and mental ability. Lawrence and Brown (1976) conducted a study of 266 12^{th} grade students and found a high correlation between mental ability and career maturity. Watson and Van Aarde (1986) found a moderately high correlation between career maturity and mental ability scores in their study of 600 black male and female 8^{th} to 12^{th} grade subjects.

Letcher-Glembo's study (1989) of adolescents with clefts indicated a significant relationship between career maturity and mental ability.

Because past studies have found a relationship between career maturity and mental ability, it is not surprising that for males with clefts in the current study, there appears to be a fairly strong relationship between the two variables. It is surprising, however, that for the females with clefts studied, there does not appear to be as strong a relationship between career maturity and mental ability.

The mental ability scores obtained in this study were not surprising in some respects. It was expected that the mean scores would increase with age for both gender groups. It also was not surprising that the female group's mean score was higher than the male group's mean score. This has been a common occurrence when the Shipley Institute of Living Scale has been used to measure mental ability. It is somewhat surprising, however, that the individual scores showed such variability from adolescence to adulthood, although this pattern may occur in the general population as well as in the cleft population. It is not clearly understood why the pattern of individual scores for mental ability showed the variability that it did for both female and male subject groups, with some scores improving, some declining, and some staying the same, from the adolescent to the young adulthood period. Further research is needed to examine the issues that affect longitudinal patterns of individual mental ability scores.

In general, the males' verbal scores were somewhat similar to their career maturity scores at adolescence. Only one male showed a substantially higher score on the verbal ability measure than on the measure of career maturity at adolescence. At young adulthood,

however, three of the males' scores on the career maturity measure were noticeably lower than their verbal scores.

In terms of abstract ability scores, all of the males at adolescence had somewhat similar abstract ability and career maturity scores. At young adulthood, this was also generally true, although for one subject, the abstract ability score rose substantially in young adulthood without a noticeable increase in career maturity.

For females, levels of verbal ability were not as similar to levels of career maturity at adolescence as they were for the male group. The two subjects who scored highest in terms of verbal ability during adolescence were in the mid-range of scores in terms of career maturity. The two subjects who scored highest in terms of career maturity were in the mid-range in terms of verbal ability. The other subjects did not show a clear score pattern when comparing verbal ability and career maturity at adolescence. At young adulthood, one female's verbal ability score had risen noticeably, but her career maturity score had dropped dramatically. There is no clear pattern of scores in this area for the other female subjects at young adulthood. Two subjects with relatively high scores in terms of verbal ability had relatively high scores in terms of career maturity. The highest scorer on the verbal ability measure, however, was in the mid-range of scores for career maturity.

In terms of abstract ability and career maturity for female subjects at adolescence, there was not a clear relationship between the scores. The subject who scored the highest in terms of abstract ability was in the mid-range of scores for career maturity. Two subjects who scored relatively high in terms of abstract ability scored relatively low in terms of career maturity. Three of the subjects' scores were in the mid-range on both measures. At

young adulthood, the abstract ability and career maturity scores for female subjects showed no clear relationship. The subject who had the lowest score on the abstract ability measure had the highest score on the career maturity measure, and the subject who had the lowest score on the career maturity measure was in the mid-range of scores for abstract ability. Three subjects who scored relatively high on the abstract ability measure were in the mid-range of scores for career maturity. Two subjects had scores in the mid-range for both abstract ability and career maturity. One subject who had a relatively high score in abstract ability also had a relatively high score in career maturity.

Global Self-Concept

Testing with the Tennessee Self-Concept Scale, a measure of global self-concept, indicated that group mean self-concept scores rose for both males and females during adolescence and young adulthood, and the female group mean score was higher than the male group mean score at both testing periods.

For example, the 2 males who scored highest on verbal and abstract mental ability also showed the highest career maturity scores both as adolescents and young adults. For other males, for example, a relatively high career maturity score and low mental ability score were noted. For females, the results also were mixed. The females with the highest mental ability, verbal or abstract, were also the highest scorers in terms of career development. For other females, there was no apparent relationship between the scores. For example, 1 female's career maturity score fell significantly, while her verbal and abstraction mental ability scores improved.

The male who scored the highest on the TSCS as a young adult (and the lowest as an adolescent) had the lowest career maturity score as a young adult, both as an adolescent

and as a young adult. The other male scores, however, fell in a general pattern that seemed to confirm the hypothesis that career maturity scores are related to self-concept scores. For females, the results were mixed. Receiving a higher or lower career maturity score did not appear to be related to receiving a higher or lower self-concept score. In terms of gender, the female group scored higher than the male group in both self-concept and career maturity.

In general, past studies have indicated that the relationship between self-concept and career maturity is significant but complex. According to Zunker (1990), Super determined that self-concept is a significant factor that determines one's level of career maturity. In Lawrence and Brown's study of 266 12th graders (1976), it was found that self-concept was the second best predictor of career maturity; mental ability was first. In Pound's study (1978) of 500 male and 500 female students, self-concept was determined to be a primary predictor of career maturity. However, in McNair and Brown's (1983) study, self-concept added significantly to the prediction of career maturity for white males only. Self-concept was not highly correlated to career maturity for black males, white females, or black females. Thus, the relationship of self-concept is complex. Most research indicates that there is a relationship between the two variables, but further study is warranted to determine the apparent differences in the relationship depending on one's race or gender.

In the present study, there appears to be a stronger relationship between career maturity and self-concept for males than females. It can be noted in examining the relative rankings of scores that the male subjects who ranked relatively high or low in career maturity also ranked at a similar level for self-concept. It also should be noted that all of the subjects who participated in this study were Caucasian.

The self-concept scores as they relate to career maturity were surprising in some respects. Based on Letcher-Glembo's research (1989), it was expected that, in general, self-concept scores and career maturity scores would be similar for most subjects, because self-concept was shown to have a significant impact on career maturity. In other words, those individuals with higher self-concept scores would tend to have higher self-concept scores. For males in the current study, this was usually true. For females, however, this was not necessarily true, and there was not a clear relationship between self-concept and career maturity scores.

Self-Concept of Facial Appearance

In general, the self-ratings of facial appearance scores for the male subject group showed a positive trend from adolescence to young adulthood, with 4 scores increasing, 1 decreasing, and 1 remaining the same. It is interesting to note that at adolescence, none of the males had rated their facial appearance as *very acceptable*, but at young adulthood, 4 of the males rated their facial appearance as such. The female subject group results were more mixed, with 4 scores increasing, 4 scores remaining the same, and 2 scores decreasing. It is important to note, however, that 2 of the scores that remained the same were at the highest level of *very acceptable* at adolescence and young adulthood, so an increase in those scores was not possible. The other scores that remained the same were at the next-highest rating of *somewhat acceptable*. Thus, in general, both male and female groups showed a positive trend in these scores from adolescence to young adulthood.

It is interesting to note that Letcher-Glembo (1989) found no significant relationship between self-rating of facial appearance and level of career maturity in adolescents with and without clefts. However, an objective panel's rating of a subject's facial appearance was

found to be a significant predictor of level of career maturity. Therefore, it is not surprising that there is not a clear relationship in the current study between level of career maturity and self-rating of facial appearance.

The fact that self-concept of facial appearance rose, in general, for both males and females is interesting because it shows a similar pattern to global self-concept for both groups. It is important to note these trends for individuals with clefts in order to understand the differences between the cleft group and the non-cleft population. It is interesting to note that the results of testing were mixed for both male and female subject groups in terms of self-concept of facial appearance; for example, some subjects obtained high scores in both self-rating of facial appearance and career maturity, while others showed no clear relationship between those two variables. Females, in general, rated their facial appearance higher than did males.

Self-Concept of Speech

The results of self-ratings of speech acceptability were similar to the results of self-ratings of facial appearance acceptability. The female group mean score was higher (*somewhat acceptable*) than the male group mean score (*a little acceptable*) during adolescence, but during young adulthood, both mean scores fell into the *somewhat acceptable* range. Thus, in general, both male and female groups showed improvement with age in terms of self-ratings of speech.

When self-concept of speech acceptability is compared to career maturity, the results were mixed for males and females. The 3 males who rated their speech acceptability at the highest rating of *very acceptable* as young adults were in the high, middle, and low

career maturity scores for male subjects. The 2 females with the highest scores in terms of career maturity as young adults also rated their speech at the highest level of *very acceptable*. However, 3 other females who rated their speech at the highest level were in the middle range of career maturity scores for the female group. It should be noted that in Letcher-Glembo's study (1989), self-rating of speech acceptability was not found to be a significant predictor of career maturity, nor was an objective panel's rating of a subject's speech acceptability. Thus, the lack of a clear relationship between career maturity and self-rating of speech acceptability in the present study is not surprising.

Current and Future Desired Educational Status

The educational status information obtained from the adolescent and young adulthood questionnaires resulted in some interesting comparisons between the male and female subjects. Three of the males had achieved their adolescent educational goals at young adulthood, while 3 had not. However, for 1 male subject, it is important to note that he has been able to achieve his stated occupational goal with a bachelor's degree, and he no longer desires a master's degree for this reason. Of the female subjects, 1 had exceeded her educational goals, and 2 subjects had achieved their stated goals. The remaining 7 female subjects had not yet achieved their stated educational goals. However, 3 of those subjects had stated at adolescence that their educational goal was to obtain a master's degree (for 1 subject) or a doctoral degree (for 2 subjects). Most of these subjects are too young to have completed these advanced degrees; the average of the subjects was 24:00 and 24:10 years for male and female subjects, respectively.

It is interesting to compare the level of education desired and achieved by male and female subjects. Three of the 6 male subjects indicated a desire to obtain some type of

college degree, while 9 out of 10 of the female subjects indicated a desire for some type of college degree. All 10 female subjects at young adulthood had attended at least 1 year of college, and 8 of the 10 female subjects had received bachelor's degrees. In comparison, 2 of the 6 male subjects had achieved bachelor's degrees, 1 subject had achieved both an associate's degree and a vocational/technical school certificate, 1 had received a vocational/technical school certificate, 1 had received a GED high school equivalency certificate, and 1 had not completed high school.

In terms of desired future educational level at young adulthood, 1 subject expressed an interest in either staying at the bachelor's degree level or obtaining a master's degree, 1 subject indicated that he would not seek any further schooling beyond his bachelor's degree, and 4 male subjects stated the desire for a vocational/technical school certificate as their highest preferred educational level.

Thus, there is a difference between male and female subject groups both in terms of desired educational level at adolescence and young adulthood, as well as a difference in terms of educational level achieved at young adulthood. In general, the female group had desired and achieved a higher educational level than the male group.

Current and Future Desired Occupational Status

Information concerning current and future desired occupational status was obtained from the adolescent and young adult biographical questionnaires. Both male and female subjects presented a wide variety of choices concerning preferred occupation. Of the 6 male subjects, two of the preferred occupations at adolescence were related to their actual occupations at young adulthood. Of the 10 female subjects, 1 of them worked in a field related to her originally stated goal.

In the Principal Investigator's opinion, the male subjects' desired occupations did not rely heavily on speech communication skills. The job titles usually implied that some type of technical skill was required. Their current job titles included driver, mechanical adjuster, laborer, computer analyst, back hoe operator, and yacht designer. One of the male subjects expressed an interest in the speech communication field, but stated that he was content in his current occupation as a computer analyst. Four of the 6 male subjects' preferred occupations at young adulthood that did not appear to require a college education.

The female subjects indicated occupational preferences at young adulthood that required a higher level of education and a greater emphasis on speech communication skills. While the degree to which an occupation relies on speech communication is difficult to determine, it is the Principal Investigator's opinion that 9 of the 10 female subjects desired occupations where speech communication skills seemed to be emphasized (sales and promotion, manager of information systems, youth counselor, biology research/teacher or professor, teacher, actor, manager of human resources, construction project manager, and social worker); only one occupation, cardiac sonographer, may not require a high level of speech communication skills. Moreover, the occupations chosen as desirable at adolescence and young adulthood by female subjects required, for the most part, more education than did the male subjects' occupational choices. The females' current occupations at young adulthood placed an emphasis on speech communication skills, but it is questionable whether many of them required a college education. For example, although 8 of the 10 female subjects had received a bachelor's degree, it appears that only two occupations, biology researcher and manager of information systems (the subject was interviewing for that position) actually required a bachelor's degree. This may be the case in the general

population, however, during the young adulthood period. There may be a relatively high percentage of individuals during the young adulthood period who have earned a college degree, but who are underemployed or working in an occupation that is relatively unrelated to their field of study in college.

It is interesting to note that 9 of the 10 female subjects' future career goals at young adulthood appeared to require at least a bachelor's degree, and the remaining subject's choice of occupations (cardiac sonographer) appeared to require an associate's degree. Thus, the female subject group set relatively high occupational goals in comparison with the male subject group.

The results of this study were as follows:

Patterns of career maturity scores in this sample of individuals with clefts changed from adolescence to young adulthood. Some scores increased, some declined, and some remained the same.

The majority of females with clefts showed an increase in career maturity scores from adolescence to young adulthood. They also appeared to set and achieve higher educational and occupational goals, and they appeared to select careers that relied more heavily on speech communication abilities. Most males in the study showed a decline in career maturity from adolescence to young adulthood.

In general, females had higher scores on factors thought to be related to career maturity, including mental ability, global self-concept, self-concept of facial appearance, and self-concept of speech acceptability, during both adolescence and young adulthood, although group mean scores rose for both groups. This may account for the higher scores obtained by the female subject group in terms of career maturity.

CHAPTER V

SUMMARY AND IMPLICATIONS

Summary

There were three main objectives to this study. The first objective was to determine whether the patterns of career maturity as measured in adolescents with clefts persist or change compared with patterns of career maturity as measured in the same individuals as young adults. The second objective was to determine whether females with clefts differ from males with clefts in their level of career maturity as measured during adolescence and in young adulthood. The third objective was to determine whether females with clefts differ from males with clefts in factors related to career maturity as measured during adolescence and young adulthood.

Six hypotheses were formed to address those objectives:

1. Young adults with clefts (22 through 26 years old) will demonstrate higher levels of career maturity than they did when tested as adolescents (14 through 18 years old).

2. While career maturity scores should advance systematically with age, the pattern of career maturity scores in a group of adolescents with clefts should remain similar to the pattern of career maturity scores in this same group when retested as adults.

3. At both the adolescent and young adult stages of life, female adolescents with clefts will demonstrate higher levels of career maturity than males with clefts.

4. Individuals with high mental ability scores will demonstrate more advanced levels of career maturity, whereas individuals with lower mental ability scores will demonstrate more depressed levels of career maturity.

5. Individuals with more positive self-concepts will demonstrate higher levels of career maturity while those with more negative self-concepts will demonstrate more depressed levels of career maturity. Self-concept will be measured in global terms on a standardized test of self-concept as well as on more specific measures of self-rating of facial appearance acceptability and speech acceptability.

6. Individuals who indicated a desire to achieve higher levels of educational and occupational goals in adolescence will be those individuals who have achieved higher levels of educational and occupational achievement in young adulthood.

Findings

The first hypothesis states that the subjects will achieve higher career maturity scores as young adults than as adolescents. The results of this study indicate that this is not always true. Five of 6 male subjects received lower career maturity scores as young adults than as adolescents; 1 male subject's score increased. For female subjects, 6 out of 10 received higher scores, 3 scores decreased, and 1 remained the same. The results indicate that there may be gender differences in this area. Group mean scores for males and females indicated that in general, female career maturity advanced somewhat systematically with age, while male career maturity did not.

The second hypothesis states that while career maturity scores should advance systematically with age, the patterns of career maturity scores at both the adolescent and

young adult periods should be consistent. The results of this study indicate that career maturity scores do not always rise systematically with age; although the scores rose for a majority of the female subjects, they declined for most of the male subjects. Because this is a small sample size, it will be necessary to examine a larger sample to determine whether this trend is true for the cleft population in general. The second part of this hypothesis relates to whether the patterns of scores are consistent during the adolescent and young adulthood periods. In other words, it is necessary to determine whether individuals who demonstrate depressed career maturity during adolescence continue to do so during young adulthood. For some subjects, this was the case, but for others, it was not. It is important to note that in both the male and female groups, several of the subjects' career maturity increased or decreased significantly between the adolescent and young adulthood periods. Thus, patterns of career maturity scores are not consistent from adolescence to young adulthood for this sample group of individuals with facial clefts.

The third hypothesis states that females will show higher career maturity scores than males at both the adolescent and young adult periods. In terms of group mean career maturity scores, it was true that females had achieved higher scores than males at both adolescence and young adulthood.

The fourth hypothesis states that those subjects with higher mental ability scores will receive higher career maturity scores. This is sometimes true, but it is not always the case. Eight subjects with high mental ability scores demonstrated more advanced levels of career maturity than individuals with lower mental ability scores, but for five subjects, there was no apparent relationship between the two scores.

The fifth hypothesis states that the subjects with higher self-concept scores, as measured by the Tennessee Self-Concept Scale and the self-ratings of speech and facial appearance acceptability, will also show higher career maturity scores. This was not always true. Eleven of the 16 subjects showed similarity between self-concept and career maturity, and five did not.

The sixth hypothesis states that those individuals who express a desire to achieve higher educational and occupational goals at adolescence will have achieved higher educational and occupational goals as adults. The results were mixed. Two male subjects stated a desire to achieve relatively high educational and occupational goals at adolescence and had achieved these goals by young adulthood. Three of the male subjects had set relatively low educational goals during adolescence, and 4 of the males had not achieved their occupational goals by young adulthood. The 10 females, in contrast, had set and achieved relatively high educational goals in comparison to the males, and most of them desired further education at young adulthood that would lead to a master's or doctoral degree. They had set relatively high occupational goals, and while they had not all kept or achieved the goals that were stated during adolescence, most of the females stated that they had future career goals that required at least some college training, with a majority of them desiring an advanced degree.

Implications

Clinical Implications

The long-term effect of clefting is a complex issue, and it can be difficult to understand because of the many individual differences displayed in the cleft population. For

example, some of the subjects in this study were relatively successful in terms of their overall career maturity while displaying somewhat lower abilities in at least some of the factors thought to be related to career maturity that were examined in this study. On the other hand, some of the other subjects displayed relatively depressed scores in career maturity despite performing within normal limits on factors thought to be related to career maturity.

It is apparent that other factors are involved in addition to the variables examined in this study. For example, it is the Principal Investigator's opinion that the parents' level of education may be a significant factor in determining a subject's level of career maturity. For example, for male subjects #4 and #6, it is the Principal Investigator's opinion that the fact that their mothers and/or fathers had a college education may have had an influence on their level of career maturity, and for male subject #6, the fact that his mother had experience in counseling may have enabled her to help her son to set higher goals and reach a higher level of success in his career than if she had not had that occupational background.

It is possible that psychological stress may have made a difference in career maturity for some of the subjects. For example, it is unclear why female subject #9 showed a rather dramatic decline in career maturity from adolescence to young adulthood. Some type of psychological trauma may have inhibited her ability to increase her level of career maturity from adolescence to young adulthood. It is noted that this particular subject demonstrated a more "alternative" appearance in that her hair was dyed white at both adolescence and young adulthood. It is possible that her appearance contributed in some way to her decline in career maturity by limiting her social acceptability to others in more conservative social settings, including place of employment.

It is important to understand the psychosocial implications of cleft lip and palate. Little research had been conducted to examine the effect of this congenital anomaly on the adolescent and adult cleft populations in terms of career development. The results of this study of a small sample of individuals with clefts indicate that in general, as a group, males with clefts showed lower levels of career maturity than the females with clefts at both adolescence and young adulthood, and the male career maturity scores, in general, declined from adolescence to young adulthood. The male group set and achieved lower educational and occupational goals than the females with clefts. They also appeared to select occupations that relied less on speech communication skills than did the females with clefts. More research is needed to determine whether the career maturity issues examined in this study pertain primarily to individuals with clefts or if they represent issues that affect the general population. This information will help us decide when to make referrals for mental health and career counseling, if deemed necessary. It will also help us to determine whether counseling is necessary for individuals with clefts who are over 21 years of age. In other words, it may be determined that adults, as well as children, are in need of counseling services.

This study was conducted to provide information concerning the career maturity of individuals with clefts so that appropriate psychological and career counseling might be offered, if deemed necessary. For example, psychological counseling may be used to help individuals with clefts have a more realistic perception of their facial appearance and/or speech acceptability, as it has been suggested by some researchers that those individuals who rate their own facial appearance and speech in a similar way to the ratings of others display better overall psychological adjustment.

As Letcher-Glembo's larger, ongoing study of adolescents and adults with clefts continues, it will provide a larger research sample of individuals with clefts, and it will be possible to perform the statistical analysis needed in order to have a better understanding of the general trends in this population. It will also be necessary to examine data concerning the adult non-cleft population to determine whether the same issues for individuals with clefts are also present in the non-cleft population. For example, while it is true that some of the adults with clefts (especially males) in this study displayed depressed career maturity scores at adolescence and/or young adulthood, this may occur in the non-cleft population as well. It will be necessary to determine whether counseling is warranted if the same conditions are found in the cleft and non-cleft population.

The need for psychological counseling is being examined in other areas of health care. For example, it was recently decided that childhood cancer survivors may be offered psychological counseling to help them cope with the long-term effects of chronic illness. Health care and allied health care professionals may be interested in sharing their research methodology and findings with professionals in other fields in order to gain a broader understanding of these issues. It might also be useful to develop a comprehensive system of sharing information on a state, national, and international level, within and across disciplines, to gain a better understanding of the need for psychological and career counseling for health care patients, as well as to examine the efficacy of such intervention.

Future Research Implications

It will be necessary to examine a larger sample of cleft and non-cleft individuals to determine whether these gender differences occur on a larger scale for both populations. The results of this study also may stimulate further research into gender differences in

career development within the cleft and non-cleft populations. It would be interesting to determine whether the gender differences that are present in this study in terms of career maturity are present in a larger group of cleft and non-cleft subjects. It also will be necessary to examine a larger group of subjects to determine whether males, with and without clefts, set and achieve lower educational and occupational goals than females with and without clefts. Future research also could examine whether males, with and without clefts, are less likely than females, with and without clefts, to choose careers that emphasize speech communication skills. It would be interesting to compare the results of study with the cleft population with a control group of subjects without clefts to determine whether these issues are important for the population in general or primarily for individuals with clefts.

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APPENDIX A

SUBJECT RECRUITMENT LETTER

PORTLAND STATE UNIVERSITY

Dear :

You may recall that you participated in a study in 1988-89 that looked at the way adolescents, aged 14 to 17, planned their careers. We are currently engaged in a follow-up study of the way young adults, aged 21 to 25, decide on their future careers. The goal of this study is to help researchers better understand the career development of individuals born with cleft lip and/or palate.

We would need to meet with you one time for about 1 to 3 hours of your time, at your home or a mutually convenient place, between August 17 and September 24, 1996. During that time, you would complete a questionnaire, three standardized tests, read a short passage in order to provide an audiotaped speech sample, and have your picture taken. The speech sample and photograph will be used to obtain ratings of speech and facial characteristics.

Any information that we obtain from you would be kept strictly confidential. You will not be identified in any written reports or publications that result from this study. There is a slight risk of being identified in the facial photograph that is used by individuals to describe your facial appearance.

The participants will not be paid in this study and you may not benefit directly from your participation. You will receive a copy of your written test results, if you wish, following the study. The test results will be sent with a cover letter that will remind you of which tests you took. It will also provide information that will assist you in the interpretation of what the test results mean. Results will not be immediately available.

We invite you to participate in our study. If you would like to participate, we will need you to sign the enclosed form and return it to us in the enclosed stamped, self-addressed envelope. Please keep the second copy of the form for your records. If you are not sure that you want to participate because you have some questions you would like to have answered first, any of the individuals listed below would be happy to talk with you about the study. If you decide not to participate, or decide to participate and then decide to drop out, it will have no effect

COLLEGE OF LIBERAL ARTS & SCIENCES • DEPARTMENT OF SPEECH COMMUNICATION • SPEECH & HEARING SCIENCES PROGRAM
POST OFFICE BOX [illegible] • PORTLAND, OREGON [illegible] • [illegible] • FAX (503) [illegible]

on any future relations you may have with Portland State University or the University of Minnesota.

Sincerely yours,

Joyce Anderson, B.A.
Graduate Student
Speech & Hearing Sciences
Portland State University
(503) 228-5936

Lisa Letcher-Glembo, Ph.D.
Professor
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(612) 625-5945

Tom Sweet, M.A.
Director
Facial Dental Clinic
Minnesota Department of Health
(612) 623-5163

- -

Preliminary Consent Form

Name:_____ Address:_____

_____ _____

Age:_____ _____

Birthdate:_____ Phone No. (___)_____

____ Yes, I wish to participate in this study.

____ No, I do not wish to participate in this study.

____ I would like more information before I decide to participate. Please call me so I can ask some questions about the study.

Please keep this copy for your records.

APPENDIX B

PRELIMINARY WRITTEN CONSENT FORM

Preliminary Consent Form

Please complete this page and return it in the self-addressed, stamped envelope enclosed.

Name:	
Address:	
City/State:	**Zip:**
Telephone:	**Birthdate:**

❑ **Yes, I wish to participate in this study.**

❑ **No, I do not wish to participate in this study.**

❑ **I would like more information before I decide to participate. Please call me so I can ask some questions about the study.**

APPENDIX C

INFORMED CONSENT FORM

Consent Form

A Longitudinal Study of the Career Maturity of Young Adults with Clefts

You are invited to participate in a research study on the career development of young adults with clefts. The purpose of the study is to learn about the career development of people with clefts in order to develop better career counseling strategies for use with such individuals. You were selected as a possible participant because you participated in a study on the career development of adolescents with clefts in 1988-89 that was conducted through the University of Minnesota. The current study involves doing the same things that were done in the first study, which includes completing a questionnaire, taking three tests concerning self-concept, career development, and intellectual functioning, having a facial photograph taken, and providing a recorded speech sample. The picture and recording will be used by a panel of individuals to describe your facial appearance and speech. Joyce Anderson, the researcher for this study, would come to your home and the entire process would take approximately 1 to 3 hours, as in the previous study.

The three tests will include questions such as the following:

Career Development (circle the letter for the answer that best tells what you have done so far):

Getting money for college or for job training.

A. I have not yet given any thought to this.
B. I have given some thought to this, but haven't made any plans yet.
C. I have some plans, but am still not sure of them.
D. I have made some definite plans, but don't know yet how to carry them out.
E. I have made definite plans, and know what to do to carry them out.

Biographical Questionnaire: At this point in time, what occupation do you think that you'd most like to pursue in the future? (Write your answer in the blank provided below):

Self-Concept: Rate the following statement on a scale of 1 to 5 as follows: 1 = Always false; 2 = Mostly false; 3 = Partly false and partly true; 4 = Mostly true; 5 = Always true.

_____ I have a lot of self control.

You may not receive any direct benefit from taking part in this study. You can have a copy of your written test results, if you wish. A cover letter will be sent to you with the test results that will remind you of which tests you took. It will also provide information that will assist you in the interpretation of what the test results mean. There will be minimal risk to you because you will not have to do anything besides filling out written forms, having your picture taken, and reading a paragraph aloud.

There is a slight risk that you may be recognized from the facial photograph by the individuals who describe your facial appearance.

Joyce Anderson will answer any questions you have about the study and what you are expected to do. All of the information you give will be kept confidential to the extent permitted by law, and the names of all people in the study will be kept confidential. There will be no names used in any of the reports that may be published about this study, and you will not be identifiable in any way aside from the slight risk of being recognized from the facial photograph by the 10 raters of speech and facial appearance. Research records will be kept in a locked file; only the researchers will have access to the records. The photographs and audiotaped speech samples will be examined by 10 unfamiliar viewers and listeners as part of the study. These individuals will not be given your name or any information that could identify you. The photographs and speech sample recordings will be destroyed after the completion of the study.

You do not have to take part in this study, and you may withdraw from the study at any time. Refusal to participate or withdrawal from the study will not affect your relationship with the University of Minnesota or Portland State University in any way, now or in the future.

If you have read and understand the information and wish to participate in the study, please sign and date this form below. You will be given a copy of this form for your records.

_____ _____

Signature Date

_____ _____

Investigator Date

Joyce Anderson, Graduate Student
Speech & Hearing Sciences
Portland State University
P. O. Box 751
Portland, OR 97207-0751
(503) 228-5936

_____ _____

Lisa Letcher-Glembo, Ph.D., Professor Date

Speech & Hearing Sciences
Portland State University
P. O. Box 751
Portland, OR 97207-0751
(503) 228-5936

If you have concerns or questions about this study, please contact the Chair of the Human Subjects Research Review Committee, Research and Sponsored Projects, 105 Neuberger Hall, Portland State University, Portland, OR 97207, Telephone (503) 725-3417.

APPENDIX D

BIOGRAPHICAL QUESTIONNAIRE

Biographical Questionnaire

1. Are you a male or a female? ❑ Male ❑ Female

2. At this point in time, what occupation do you thing that you'd most like to pursue in the future?

_____

3. What type and how many years of schooling have you completed?

❑ Did not complete high school
❑ High school diploma
❑ Vocational/technical school certificate
❑ 2 Year Associate of Arts Degree (Community College)
❑ 4 Year Bachelor's Degree
❑ Master's Degree
❑ Doctorate Degree (Ph.D.)
❑ Other _____ _____

4. What type and how many years of schooling do you think you would like to pursue, if any, in the future?

❑ Do not wish to pursue any more schooling
❑ High school diploma
❑ Vocational/technical school certificate
❑ 2 Year Associate of Arts Degree (Community College)
❑ 4 Year Bachelor's Degree
❑ Master's Degree
❑ Doctorate Degree (Ph.D.)
❑ Other _____

5. Are you currently working?

❑ Working. Please give job title _____
❑ Not current working. If previously employed, please give previous job title _____

6. Which of the following types of dwellings do you live in?

❑ Apartment ❑ Townhouse
❑ Condominium ❑ Other _____
❑ House

7. Do you own or rent your home?

❑ Rent ❑ Own ❑ Other _____

8. Which of the following items do you own?

❑ Microwave ❑ Boat ❑ VCR

14. Do you own a car? ❑ Yes ❑ No

15. Have you ever taken a trip outside of the United States? ❑ Yes ❑ No

16. If the answer to Question 15 is yes, how many times and to where?

_____

_____

17. If you had to guess, what social class do you think you fall into?

❑ Upper class ❑ Middle class ❑ Lower class

APPENDIX E

7-POINT ADJECTIVE SELF-RATING SCALE OF FACIAL APPEARANCE ACCEPTABILITY

Facial Appearance

Very Unacceptable	Somewhat Unacceptable	A Little Unacceptable	Equally Acceptable and Unacceptable (neither acceptable nor unacceptable)	A Little Acceptable	Somewhat Acceptable	Very Acceptable

APPENDIX F

7-POINT ADJECTIVE SELF-RATING SCALE OF SPEECH ACCEPTABILITY

Speech

Very Unacceptable	Somewhat Unacceptable	A Little Unacceptable	Equally Acceptable and Unacceptable (neither acceptable nor unacceptable)	A Little Acceptable	Somewhat Acceptable	Very Acceptable