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# Connecting Personality Traits of Students With Learning Disabilities

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Connecting Personality Traits of Students With Learning Disabilities

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### Abstract

The purpose of this study was to examine the relationship between personality type of students with learning disabilities using the Myers-Briggs Type Inventory and the students' GPAs. It was predicted that students with an introvert personality would have a higher GPA at the end of their freshman first semester than students with extravert personality type. Sixty-eight students identified with learning disabilities upon entering college and taking the Myers-Briggs Type Indicator were compared.

The data was analyzed using Chi Square and a t-test. The results showed that the sample was representative of the population. Even though the Introverts did have higher GPAs than the Extraverts, the difference was not significant.

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## Connecting Personality Traits of Students With Learning Disabilities

Many students are not able to benefit from regular education programs. Of the students who seem to be challenged by the regular education environment and subsequently receive special assistance, 48.5% are diagnosed as having specific learning disabilities (U.S. Department of Education, 1991). These students are learning to cope with education in different ways. According to the International Journal of Practitioners in Learning Disabilities (1996), these individuals are receiving accommodations to enhance their learning and to make them more successful. These accommodations include things such as extended time on task, oral testing, alternative test forms, tape recorded lectures, preferential seating, use of a reader, assignments given orally and in writing, or other individualized adjustments.

Many people wonder, with increasing numbers of different types of students receiving the label of learning disabilities, what does this term truly mean? According to the Diagnostic and Statistical Manual (DSM-IV, 1994), learning disorders must be diagnosed by looking at individually administered standardized achievement tests. If these results are substantially below the individual's schooling and level of cognitive ability, the individual meets the criteria for a specific learning disability (LD). The statistical differences for this criterion vary. The diagnosis may be made using a significant difference between the achievement and Intelligence Quotient (IQ) scores of as little as

fifteen points to as much as thirty points.

The disability can effect many areas of an individual's life. Notable differences can be seen in a college student's grade point average (GPAs) if he/she is not receiving the proper accommodations. GPA is figured by taking the total number of points earned and dividing by the number of credit hours attempted (Providence Academic Information, 1996). Pass/fail courses are not included. A college GPA can determine whether a student is allowed to stay in school or asked to leave. Having a learning disability may affect a student's ability to achieve at the college level, but does it affect one's personality?

Can it be determined if an LD student has the personality to be successful in college? One method of determining personality differences and characteristics is to use a published personality test. The Myers-Briggs Type Indicator (MBTI) is such an instrument (see Appendix A for sample questions). The Myers-Briggs Type Indicator, an assessment tool derived from Carl Jung's Theory of personality types, identifies the predominant manner of processing and outputting information for introverted and extroverted individuals. This assumption is postulated by applying Jungian theory in counseling, education, and business. The theory in essence states that much seemingly random variation in behavior is orderly and consistent due to the difference in the way that individuals perceive and judge things. The MBTI is a four letter personality-type designator. It examines four aspects of one's personality and uses these to categorize sixteen possible personality types (Claxton and Murrell, 1987).

According to Myers and McCaulley (1989) when test-retest reliability was conducted using the Myers-Briggs Type Inventory the results were consistent. Changes in type code would sometimes appear on one letter and



this was due to changes in mood. This was found to be rare but does happen. Other reliability tests such as split-half and Phi have also been done and shown favorable results for the MBTI.

The type table used are evidence of the construct validity according to Myers and McCaulley (1989). The MBTI has many different forms. Questions used on these forms have been tested carefully. The behaviors that the questions are describing can be easily observed. Questions that were found faulty were eliminated and are no longer used. When testing questions, larger samples of adults were used because it was expected to have reached higher levels of type development and would be clearer on reporting their preferences. Males and females were equally represented. Testing has also been done using eleventh and twelfth graders in high schools. Other varying groups have been tested and as a result revised forms have been made. Included would be an abbreviated self-scoring version. Computer scored forms are also available for the longer forms.

The construct validity was also tested by Beyler and Schmeck (1992). The construct validity was supported by measures of assessing the individual levels of the MBTI. The categories of introversion and extraversion were on scales from holistic and analytical and found to be favorable measures.

Jung's idea was to help individuals to understand each other. He wanted the theory to be practical and easy to use. Human behavior had to be put in categories that were understandable. The first step was to divide individuals into two groups. One would have to be either perceiving or judging. According to the theory it would not be possible to be both. If one is perceiving, one is open and eager to find out about things. If one is judging, one is closed and are ready to take action (Mamchur, 1992).

Claxton and Murrell (1987) reported indirect evidence of differences in

type and learning style. Examples would include a "J" code person would possess qualities such as thoroughness, responsibility, dependability, and the ability to meet deadlines, complete assignments, and attend to details. This type person is usually very successful in college. The extrovert has qualities such as competitiveness, leadership and expression of self. This type individual is usually successful at whatever they set for their desired goals.

A framework of learning style exists according to Claxton and Murrell (1987). The framework includes four levels. The levels are instructional preference, social interaction, information processing, and personality type. The traits of one level have an effect on the next level. The further the level is from the core, the harder it is to assess. The personality lies at the core which would make it the easiest to assess. The Myers-Briggs Type Inventory was noted as doing a good job of assessing the personality to help make a connection to the learning style.

Woods (1993) pointed out that the preferences we have in our personality type cannot be dramatically changed but we can better understand ourselves and others by knowing our type. Learning what each type is like may help us to understand people that are so different from us. It helps us to learn to deal with conflicts that we may have with others. For example, if one knows that a teacher is a certain type, one should try to present ones work in a way that would be pleasing to that preference. If a teacher knows of an existence of a predominant type in a particular class, then adjustments may need to be made for that as well as the isolated types. Variety may very well be the key to success in teaching all types.

In order to obtain the personality type of an individual he or she must fill out a questionnaire answering yes, no, or undecided to specific test items (see Appendix A for sample questions). The individual's responses are

scored based on the number of responses made in favor of a certain trait. Since the Myers-Briggs is measuring more than one trait, it is somewhat time consuming to complete the questionnaire (Gay, 1996).

The MBTI scale contrasts a person's preferences in the areas of intuition with feeling, intuition with thinking, sensing with judging, and sensing with perceiving. Sensing (S) refers to the preference for taking in information through the five senses. Intuition (N) is taking information in through a sixth sense thought of as an unconscious way of perceiving. Thinking (T) is the preference to organize and structure information in a logical way. Feeling (F) is the preference to organize and structure things in order to make decisions based on personal values. Judgment (J) is the preference for living a well planned and organized life. Perception is a way of living life in a spontaneous and flexible manner (Briggs-Myers and McCaulley, 1985).

In addition to these components, a preference for extraversion or introversion is noted. Extrovert (E) means one has a personal preference for drawing one's energy from the outside world of people, activities, and things. Introversion (I), on the other hand, means to prefer to draw one's energy from his/her own internal world of ideas, emotions or impressions (Claxton and Murrell, 1987).

Does one's personality type make a difference in college achievement or how one does in the real world? Sherman and Handy (1994) reported that MBTI individuals tend to marry opposite types when they are younger. Marrying the opposite is probably a way to compensate for what they feel they are lacking and the desire to be whole. As one gets older he/she is more attracted to individuals with similar personalities. The individual is ready to be with someone who enjoys what he/she enjoys. Couples with similar types of personalities do not necessarily have fewer marital problems. They

do, however, understand the other person's perception of the world and are not surprised by their responses. In college is often where they meet their mate and begin to understand and get to know them.

The opposite type score can be used to identify problems in a relationship. Identification is one thing, but working through things is another. This research does not explain how to solve or work through the problems (Claxton and Murrell, 1987).

Assumptions are often made about personality types. For example, some people may think that the best accountants are introverts. A study was done by Nourayi & Cherry (1993) on accounting students' performance and personality types. They found that individuals with a sensing type generally performed better in accounting courses. No difference was found in comparing introverts and extraverts. This would indicate that introverts and extroverts may be equally suited for accounting courses.

Counseling, according to Piper and Rodgers (1992), is an area where personality indicators, such as the Myers-Briggs, are very useful. It is important to understand the client's personality before one can help him/her set and attain goals. Understanding the personality is especially true when working with the Department of Student Affairs. The counselor may know personality and student development theories quite well. The application of personality theories requires that the counselor understand the personality of the individual he/she is counseling. Through the use of tests, such as the Myers-Briggs, this component can be added to the professional's practice.

High school guidance counselors often use the MBTI for career and educational counseling. In a study done by Skinner and Schenck (1992), learning disabled students were tested using the MBTI. These students were resource students. The interest was to see if the students with learning

disabilities had a personality pattern. Many similarities were found on the MBTI. The main similarity found using the MBTI was a statistically significant number of Extraverts than Introverts. A larger proportion of girls were extraverts than boys.

According to Street and Kromrey (1994), some studies have indicated that individuals with a certain personality type are more likely to commit suicide. Street and Kromrey found that a person's personality type alone did not make them predisposed to suicide. Other factors need to be considered when suicide occurs. Suicide occurs when the personality interacts with historical, environmental and other variables involving the emotions.

Students with learning disabilities, like other students do have particular types of personality patterns. Counselors should use these results to guide the students in career choice and high education choices. These personality patterns should not be the only consideration for guiding the students. Intellect, motivation and socioeconomic status must be considered along with personality type (Skinner and Schenck, 1992).

Although evidence is still inconclusive, several studies using the Myers-Briggs Type Indicator have attested that achievement and personality in college science courses are related. Tharp (1993) found that college science courses are structured to favor learners who can work alone. The majority of students entering college, however, do not fall into the IJ type. They are, in fact, the opposite, which is the EP type. This personality trait is believed to be a reason why many students drop out of college.

The teaching field is made up of individuals with many different types of personality according to Myers and McCaulley, (1989). Different personality types can be good because the student population is made up of all different personality types. The type codes of the teachers may tell a lot about how

they carry out the teaching process. Certain types plan every detail and write detailed lesson plans. They may go strictly by the book. Other types like to let students learn through exploration and do little to influence things but let the students' creativity guide the lesson. Some students will prefer the structure while others prefer the freedom to explore and learn things more openly. Students need to learn to adapt to each setting in order to achieve maximum potential.

Administrators also play a key role in the education process and according to Myers and McCaulley (1989), their knowledge of personality type will also have an impact. The administrator needs to know the personality types of the students attending the school where he/she is the administrator so that the administration and faculty can plan activities accordingly. They can predict how changes in policy for the coming year will affect the students presently attending as well as the incoming students. The administrator also needs to know the teacher types in order to cover any blindspots the administrator may have in matching students and teachers. If the school does not have many teachers of a particular type, training needs to be done to help them adopt effective teaching strategies to work with the other type students. The strategies not based on the teachers' own types may not come natural to teachers.

In a study discussed by Provost and Anchors (1987), roommate matching is done at some schools using the MBTI. Roommate matching has received positive and negative feedback. The roommates do seem to get along better when they are closely matched. However, it is believed that roommate matching limits student development because the students are not being exposed to enough students with different personality types. Students with different personality types are believed to complement each other and

enhance learning through different means. Roommates with different functions do model behaviors that roommates need to be exposed to.

MBTI has received much criticism according to Zemke (1992). Businesses use the results of the MBTI for team building and career management decisions. It is believed to help sales people to become more effective in handling individuals and groups. Making sales people more effective with people can be done by appealing to the type of person or persons with which one is working. Critics of this application of the Myers-Briggs think that it is a way for management to delve into one's personality. They suggest that the individual's personality is something that business personnel should not attempt to change. These critics believe that this type of intrusion may cause people to act as if they are an extravert when they are actually an introvert believing the extravert is the preferred business type. These critics also think that by typing people, one is giving the individual an excuse to act the way he/she is acting. Some employees even worry that it can be a way of getting rid of employees when needs for a reduction in employees occurs. Students need to learn to deal with their personality type in college so that this type of problem will not occur. Proper college training can make the individual better able to deal with their own personality and that of future employers.

The MBTI is very popular, even though it has faced criticism (Zemke, 1992). The reason for the popularity is that it is given in a non-threatening, positive, fun manner. Training people to administer the test is fairly easy and quick. Most people enjoy taking the test and talking with colleagues while comparing personalities.

Hendrickson and Gieslicke (1994) completed a study on librarians. They found that library managers tend to be introverts. They are impersonal

and like closure rather than leaving things open-ended. They are not good at team work and tend to ignore people's feelings. Librarians may be an example of people who tend to use their personality type as an excuse for why things are done the way they are. Using one's personality type as an excuse makes it difficult for others to make changes in any areas. In order to work through the problem it is important to obtain an understanding of the library managers' personality types. Training can be provided to help the library managers understand others within their organization. With tailored training, those involved may be able to work together more easily.

Coe (1992) stated that the MBTI is a useful management tool for strengthening employer relations by building work teams. Management improves supervisory relations and facilitates managers organizational change by using the MBTI. Most importantly the MBTI is helpful to the managers by explaining and resolving employee conflict. According to Coe using the MBTI to help with employee conflict is a useful application of the MBTI. Using the MBTI can also be a misuse. When management employs the MBTI in the selection process, it is improperly used to fit applicants to particular jobs. The instrument's inherent limitations include: (1) an inability to measure shadow integration; (2) the failure to measure how well one performs the four functions; and (3) the ability to easily beat the test, giving an advantage unfairly to someone familiar with the MBTI (Coe, 1992,p.519).

Using the MBTI has been proven to be effective for business management according to Mani (1995). The Ogden Internal Revenue Service Center used the MBTI to help win the Presidential Award for Quality in 1992. After giving the MBTI the center directors were able to place individuals in management positions more effectively. Individuals considering management positions were made more aware of whether a management position would be



suited for each one personally.

Research using the Myers-Brigg found that LD students have specific personality types and career interests (Skinner and Scheneck, 1992). These researchers postulated that this information can be used to help counselors guide LD students in career decisions. The high school students with learning disabilities receiving resource services were assessed to be predominately the Extraverted-Perceiving type. Based on these results, a high school counselor would then be able to list careers suitable for this personality type and guide the students in choosing their career.

The MBTI is used in career matching to prevent major mismatches according to Myers and McCalley, (1989). It cannot however guarantee that all job tasks related with certain careers will match the personality preference. As we all know specific tasks are related to every job that we find undesirable. If you can however find a job that has more desirable tasks than undesirable ones, the work environment would naturally be more intrinsically rewarding to the person performing the task.

According to Anchors and Robinson (1992), using an instrument like the Myers-Brigg with college students may increase understanding about differences among individuals. The purpose of this study was to examine the relationship between Jung's concept of psychological type and the accomplishment of developmental tasks among college age students. This study supported the notion that individual differences exist beyond traditional models of student development. These researchers indicated that those who use the Student Task Development Inventory-2 (SDTI-2) should exercise caution when forming generalizations for groups of males and females. By merging the MBTI and SDTI-2, a better understanding of college students is gained. Finally, this study suggested the need to incorporate psychological

type, or other models of individual differences, into our understanding of student development.

Higbee and Dwindle (1992) performed a study with three at risk college students. The study found that getting a full picture of each student through evaluation of aptitude, intelligence and self-awareness is very important. Through the use of the Myers-Briggs Type Indicator, examiners were able to appraise the students' self-awareness. This can help a student by making him/her aware of strategies and teachers that might work best for the individual. With this knowledge the counselor can help the student achieve a balance which reduces stress and anxiety. Through a better understanding of one's own personality the likelihood of the at-risk student continuing in school successfully will be attained.

Provost and Anchors (1987) pointed out a correlation between certain personality types and the dropout rates at some colleges and universities. The dropout rate for certain majors with certain personality types is higher than for other majors and types. Some colleges have no correlation between personality type and dropout rates. Many factors could be influencing these rates. Such factors could be the personalities of the instructors, teaching styles, learning styles, and other personal and financial problems.

Van (1992) suggested that the knowledge of a student's learning type can aid teachers and counselors in retaining high-risk college students. Van reviewed other studies which show that the student's interests, application and academic success are positively related to the presentation of material in a manner which is equal with the individual's learning styles.

According to Provost and Anchors (1987), nondisabled students' aptitude scores are the best predictors of academic success. An impact is also seen with the Sensing/Intuition preference personality type. Researchers

believed that the preference for Intuition is positively related to high aptitude scores. In a study called TRAILS things looked differently. Researchers found that college students with a preference of Judgment had better first term GPAs. The aptitude of these students did not play the major role. The personality type played the major role. Researchers also found that individuals with a preference for Feeling as opposed to Thinking had higher first term GPAs. When the relationship between Extraversion/Introversion and aptitude scores were considered by the authors, it was found that Introversion was related to a higher first term GPA than Extraversion. The study further indicated that the problem with the study was that it did not take into account students being analyzed taking courses that they prefer. Different personality type students prefer different career choices. These choices may be based on their personality type. Students will therefore do better in classes that are a better match to personality type. The natural gifts of the student cannot always be accounted for in certain courses that are required in all colleges and universities. Studies like this one make it possible to look at dropout rates with more insight as to what might be causing the problems. It also better enables individuals with different personality types to receive the help that may be needed.

In a study done by Isacc (1975), a group of fifth graders were categorized as being either introvert and extravert. They were given assignments to do, and then they were scored with comments written on them. The assignment consisted of letters of the alphabet being written on the paper in random order. The students were to cross out all of the "t's". The students were then retested with some interesting results. The reinforcement comment written on the papers had an impact. The introverts who received "good" and the extraverts receiving "poor" were the two groups

that were motivated to do better on retest. The study shows a correlation between the type of reinforcement and performance based on personality type. This is truly something interesting that teachers should know about when working with these students.

College students with learning disabilities, according to Schafer (1994), need instructors, counselors, and employers to take their personality type into account. If their type is taken into account the college environment should be more motivating and inviting. The type codes of the learning disabled population indicate that most individuals with learning disabilities learn best through a multi-sensory environment. This knowledge should be of great interest to educators in planning for instruction. They need to have more hands-on, interactive, practical, and step-by-step instruction in classroom settings. Even the way the room looks can make a difference in the learning process. It needs to be motivating and inviting to make learning a more active process. Abstract things in the environment have little value to these students.

Longwood College according to, Scott Lissner, Director of the Learning Center, does provide accommodations for students with learning disabilities. Students must make a written request to receive accommodations. The student's responsibility is to contact the instructors and make the arrangements that are necessary. All students are entitled to services at the Learning Center, but only students identified as having a disability are entitled to accommodations.

Services that are available to all students include the writing lab where trained individuals will work with students to help them become better writers. Trained individuals even help them with the computer software programs, punctuation, and grammar.

The Center also uses peer tutoring. Students may request a peer tutor for any subject taught at Longwood. The tutors are upper level students who have made good grades in the subject with which the student is requesting help. The sessions are usually one hour per week.

Learning strategies workshops are also available for Longwood students. A number of study skill topics are covered. After attending a workshop students may schedule individual appointments for additional follow-up. At the follow-up appointment students are reminded of accommodations that are available to help students with learning disabilities to be more successful. Examples of accommodations would be oral testing, taking tests on computers, and extended testing time.

Career counseling and counseling on personal issues are also offered by Career Planning and Placement and the Counseling Center at Longwood College. Individuals may get help with things such as writing a resume, job interviewing and counseling about personal issues of any nature.

Health services are provided for all students at Longwood College. The college has trained doctors and nurses to work with the students. The local hospital is located near the college and is very helpful.

Computer facilities are readily available at Longwood. There are several computer labs and student assistants to help with any problems a student might encounter. The labs contain IBM compatible as well as Macintosh.

Accommodations are made for students with many types of disabilities. The accommodations a student receives is based on the individual student's need. Accommodations are made for in class assignments, during examinations, and out of class assignments. Longwood has a list of possible

accommodations but does not limit the students to that list if others are needed.

Receiving accommodations does not lessen a student's responsibilities but merely evaluates the student on their ability and not their disability. If accommodations were not made the instructors would not know if the student knew the material or if the disability prevented the student from showing their true knowledge. Longwood prides itself in giving students with disabilities an equal opportunity for the same education others are receiving. These accommodations are available to students with disabilities, but it is the student's responsibility to taken advantage of what is provided. High school students may have teachers to follow them to be sure they take advantage of their accommodations, but at college it is the student's responsibility to request the accommodations.

### Purpose of Research

The purpose of this research is to examine the relationship between the GPAs of college students with learning disabilities and their personality type as measured using the Myers-Briggs Type Indicator. In order to succeed in college and have a higher GPA, students with learning disabilities must be able to think alone and concentrate for long periods of time in solitary study. School settings predominantly serve students having introverted personality type with long periods of passive listening, reading and writing. Few classes offer active involvement in the instruction process. Therefore it is predicted that students with higher GPAs will have a greater frequency of introvert personality types than students with lower GPAs. If this relationship is identified it is hoped that this will lead to better ways of serving this population.

## Method

### Participants

Over the course of four years (fall of 93 through fall 1996) the MBTI was given to all incoming first time freshman at Longwood College, a medium size college in the Mid-Atlantic rural town of Farmville. The MBTI data of 68 students who were freshman during 1993-1996, and, who were identified as having learning disabilities, were analyzed. The GPAs of these students for their first semester freshman year were obtained. The data of the students with learning disabilities were analyzed using a Chi-Square and a T-test. The frequencies of types by categories using the GPA of the freshman year were compared in this study.

### Materials

The Myers-Briggs Type Indicator was used in this study. The MBTI is a questionnaire used to obtain a personality type code. The Grade Point Averages were divided into the following 4 categories: Group I, 0 - .999; Group II, 1.0 - 1.999; Group III, 2.0 - 2.999; Group IV, 3.0 - 4.0. The range was found to be too big and was changed to 1/2 point ranges divided into 8 categories. The categories were: Group I, 0 - .499; Group II, .500 - .999; Group III, 1.0 - 1.499; Group IV, 1.500 - 1.999; Group V, 2.0 - 2.499; Group VI, 2.500 - 2.999; Group VII, 3.0 - 3.499; and Group VIII, 3.5 - 4.0.

### Procedure

Data were collected from MBTI assessment conducted on 68 students identified as having learning disabilities from the fall of 1993 to the fall of 1996. The sample included all students who had taken the MBTI and who had been identified as having a learning disability from the fall of 1993 to the fall of 1996. The first semester GPAs of these students were collected through the Learning Center and grouped into the designated categories. The data from

the MBTI and the GPAs were analyzed using Chi-Square to determine the frequencies between personality type and if the sample is representative of the Longwood College population and the National population. Because the data can be categorized into mutually exclusive categories the Chi-Square analysis allowed for comparison of expected proportions.



## Results

Data were collected from MBTI assessment conducted on 68 freshmen students at Longwood College identified as having learning disabilities from the fall of 1993 through the fall of 1996. The first semester GPAs of these subjects were collected through the Learning Center and grouped into designated categories of one grade point differences and one-half grade point differences. A Chi Square was done to compare the students with learning disabilities to the Longwood College population and another one to compare the sample population to the national population. A t-test was done to see if the results were statistically significant.

The first Chi Square (see Appendix B), comparing the sample to the Longwood College population, showed that the sample was representative of the Longwood College population. The second Chi Square (see Appendix C) comparing the sample to the national population showed that the Longwood College sample was over represented with significance at the .05 level for type code ENFP. The Longwood College population is also over represented on this type. Therefore expected results was for the sample to also be over-represented if the sample was to be representative of the Longwood College population.

The t-test (see Table I) showed that although the Introverts did have higher GPAs than the Extraverts the difference was not significant. Thus it is assumed that the higher GPA occurred only by chance. Therefore, the hypothesis that students with higher GPAs will have a greater frequency of introvert personality types than students with lower GPAs was rejected.

Table I

## Comparison Of The GPA Scores and Personality Type

Group	N	$\bar{X}$	SD	t
Extraverts	38	2.24	13.99	.72
Introverts	30	2.39	13.31	

### Discussion

The results of study did not support the hypothesis that students with higher GPAs will have a greater frequency of introvert personality types. Still some things can be considered that may help the students. First of all in looking at Appendix D a bell shaped curve indicating that the students do seem to fit the normal curve will be seen. The bell shaped curve approximates a normal distribution. In a normal bell shaped curve most of the students' grades would fall in the large part of the bell. These scores would be considered the average with a few being below and a few being above the bell. This indicates that Longwood College seems to be adequately supplying the needs of the students with learning disabilities. To further aid these students the college should be sure to look into addressing some possibilities.

First of all during Longwood Seminar, a required orientation course, the seminar leader should explain in depth the implications of the type code to the students with learning disabilities. This explanation may help them to deal with problems that may arise during their college years as well as help in choosing their careers. Extraverts need to know that their energy is directed outward toward people and things which can create problems for freshmen who may tend to go to more parties. Going to more parties can negatively affect their grades. It is difficult for them to turn down the opportunity to be with others in a social setting where they can talk and enjoy themselves.

Extraverts are very verbal and can be longwinded. They answer quickly, sometimes without thinking of the consequences. Extraverts may need to control this when speaking with their professors in order to avoid blurting out things that may not be appropriate.

Extraverts are very relaxed and confident. Learning is preferred through active participation and discussion. Verbal communication relays enthusiasm and helps develop ideas. By talking things over with others the Extraverts can often get a good start on assignments.

Extraverts tend to talk a lot and need to learn to use verbal moderation in a classroom setting. In giving a presentation the Extravert may overtalk, laugh, and use animated facial expressions and gestures. Sometimes these things are so natural that overuse occurs.

Introverts get energy from inner thoughts and ideas which can present problems. Dorm living is not a quiet way to live and can sometimes cause problems for Introverts. They need to find places that are quiet such as the library where they can draw on their inner self. The library contains study rooms that can be locked and is generally quiet. The library has long hours and even longer hours during exam time. The Introvert needs to become very familiar with the many possibilities of using the library. Certain dorms may also have designated places where things are to be kept quiet. The Introvert needs to ask the resident assistant for help with finding quiet places to study.

The Introvert usually talks only by choice and has something meaningful to say when they do speak. Limited talking can cause problems when working with group projects. When working with group projects the Introvert would want to write down some important things that he/she could do to help. The Introvert should volunteer to do the parts that he/she is most comfortable with so that he/she does not get stuck with doing the talking or uncomfortable parts.

Introverts are reserved and questioning. Benefits can be gained when doing group work or individual work by being reserved and questioning. The

Introvert may be the one to raise the question that no one else has thought of, especially the Extravert who has probably been busy chatting or laughing.

The Introverts enjoy the quiet environment, working alone and may consider the telephone to be a nuisance. These student needs to be told about the voice mail system the college has so that they can receive messages when it will not interrupt with their studying.

Writing is very enjoyable to the Introvert. Writing can definitely be a plus to a college student. This student needs to be guided to the courses that are more writing intensive and not more oral in nature. Introverts need verbal praise and encouragement from professors if they are to participate verbally in class. Teaching faculty need to be aware of the type codes of the students.

The second thing that should be addressed at Longwood Senior Seminar is involvement of the faculty in getting to know the students and their type codes. When Introverts are given praise they will try harder and when Extraverts receive a poor comment on an assignment, it becomes a challenge to do better. Faculty need to know the type of comments that are the most effective when putting comments on papers. If the opposite is done the students will not try as hard.

The third thing the Longwood seminar leader should address is how each type may best study. The Introvert needs to study alone with a book to read. Introverts like to dig the information out for themselves. The library may be their most valuable resource. The Extraverts like to study with groups or study buddies. Extraverts remember best by talking things over and they are better able to problem solve this way. Extraverts should go through a study skills book and see which things are better suited for each type and apply the ones that would work best.

Next the seminar leader should encourage the students to find out as much as they can about the instructors and their teaching styles. If possible they should try to match student schedules to the instructors that would expect things of them that are best for their own type. For example an Introvert may want an instructor that relies heavily on the text whereas an Extrovert may want one who believes in group work or active learning. Matching students with the right faculty reduces anxiety and gives better scores.

One way to find out about an instructor's teaching style is to ask them what their type code is. Instructors with the Extravert type code may prefer active instruction full of talk, group projects, and experimental learning. They tend to allow students choices about what to study and how to study it. Introverts tend to be quite different and prefer to lecture rather than to have discussions. They like structured learning from the textbook or instructional materials from their plans. They do not tend to give choices in assignments.

The students need to learn strong self-advocacy skills. Self-advocacy skills will help them to identify themselves to their instructors in a positive manner. The MBTI can sometimes open that door. It gives the students the opportunity to bring their type code up to get a feel for the instructor and then be able to talk more in depth about their disability and the accommodations that would be helpful. Self advocacy training is especially important for the Introverts who seem to have difficulty talking with people. They need to learn appropriate strategies for dealing with instructors with a minimum of verbal contact. After the initial verbal contact they may find that they are able to contact by writing in the future but that one on one contact is very important in the beginning so that the instructors can put a face with the name.

The seminar leader needs to be sure that the students make a contact with the director of the Learning Center. Here they will be told the adaptations they can expect in college. These may be different from the high school setting and require adaptations. The student is expected to operate more independently and, for some, this may present a problem. The director should also warn the extrovert not to get too caught up in socializing and to remember the purpose of being at school. The introvert on the other hand may need to be reminded that other people are there and making friends can be valuable tools in an academic setting.

The career choices or majors of the students should also be discussed during freshman seminar. Students should be made aware of the interaction needed for their chosen careers or fields of study. Extraverts may not want a job where there is little contact with people since that is where they draw their energy. Introverts on the other hand may not want a job where they will have constant contact and interaction with people. For example, being a bond trader or working as a stock broker requires a lot of telephone contact and introverts generally do not like to talk on the phone and consider it a nuisance. This would be more of a job for an extravert who thrives at being able to talk with people constantly. The Guide to the Development and Use of the Myers-Briggs Type Indicator (Briggs-Myers and McCaulley, 1985) contains a listing of occupations attractive to each type code. This listing is very exclusive and would be beneficial for all types to review. When looking at the career list the students may find some careers that had not previously been considered. The list is not intended to limit career choices but to encourage attractive ones.

At the beginning of each year when faculty get new students it would be helpful if the faculty had the type codes made available to them so that

they could take them into consideration when making plans and assignments. If the students could be given a choice of assignments and could do the type that best suits their code their progress would be better.

The following is a list of competencies that would be helpful for instructors to apply:

1. Set up training and instruction as a supplement during non-class time for students who may need extra help.
2. Meet with students to determine their educational needs.
3. Help the student to determine realistic goals for the class.
4. Teach procedures in a manner that allow for individual differences in students.
5. Prepare and make clear all assignments students are to complete in a procedural manner.
6. Use alternative teaching strategies whenever possible for reinforcement.
7. Make sure the students have human and material resources.
8. Keep regular office hours so that students may be able to contact the instructor.
9. Provide a classroom that has an environment that is conducive to learning. It should be attractive, comfortable, and be appropriately arranged.
10. Use the Learning Center to help coordinate for students with learning disabilities.
11. Encourage interaction of students with learning activities.
12. Give students timely feedback on their progress. Don't keep them guessing about their grades.



The above points should be used with all students. When working with Extraverts you should remember a lecture is likely to bore the student and therefore they will gain nothing from the lecture. If the lecture is changed into something like an exciting sales pitch you might just catch the interest of the Extravert. This student needs to be entertained. The instructor should use lots of audio and visual aids. Moving about the room will also help to stimulate the Extravert rather than lecturing from a lecture stand.

A discussion approach with the Extravert should be leaderless and fast paced. Extraverts need to be allowed to be impulsive without any problems. Don't make the discussion too confining. Allow the student to use those natural ideas.

Extraverts will probably prefer assignments that are project based. They love to build, make, and gather things. Having to read a chapter in a book and answer questions are not for this student. The student may not even complete assignments of this type.

Role playing, games, and construction are great classroom activities for these students. Give the lesson a little competition and watch them dig into the lesson. If activities are fun they will be more meaningful. The students will enjoy attending class. At the college level it can be easy not to attend class if you find it boring.

The Introvert needs a very structured environment. Lesson need to be organized and from a textbook. Graphic organizer are much desired by the Introvert. Any outline given to this type student will be followed as if the law. Listening to lecture, taking notes and limited responding verbally are what this student prefers.

If the Introverts are to participate in class discussions they need to know in advance. Introverts like to read and prepare for what they will say

and do. This type of students like to do workbook and worksheets. These students do not care to be creative but prefer to memorize things as assigned.

It is important to remember as an instructor that even if you teach to your students' preference, they still may have problems. Sometimes students of either type just can't understand the subject matter. The instructor need not feel guilty if they have tried to help the student. A positive response is the best the instructor can do at times.

### Limitations

The results of this study may have been different if the sample size had been larger. If all of the students had been taking the same subjects or had the same major, some differences may have been noted. What was going on in the students' personal lives could affect their performance. If the instructors' teaching preferences could have been matched to the students the result may have been different. Some students could have been taking the more difficult courses while others were taking the easier ones for them during this semester. Since this was done during the first semester some students may have been homesick if this was their first time away from home. Many factors might have affected student performance.

### Suggestions for Future Research

For further study an analysis could be done on the other three digits of the type code. Certain combinations of codes could reveal different insight about the students. A study of a longer period of time using the same students might be more reflective of the students actual performance. To combine all the courses the students would take and not just the first semester would give each student the chance to prove him/herself in different areas.

## References

Academic Information. (8/5/96). Providence Academic Information. [online]. Available: Microsoft Internet Explorer.

Anchors, W., & Robinson, D. (1992). Psychological type and the accomplishment of student development tasks. NASPA, 29, 131-135.

Beyler, J., & Schmeck, R.R. (1992). Assessment of individual differences in preferences for holistic-analytic strategies: evaluation of some commonly available instruments. Educational and Psychological Measurement, Inc, 52, 709-719.

Briggs-Myers, I., & McCaulley, M. H. (1985). Manual: A Guide to the Development and Use of the Myers-Briggs Type Indicator. Consulting Psychologist Press.

Claxton, S.C., & Murrell, P.H. (1987). Learning Styles: Implications for Improving Educational Practices. College Station, TX: Association for the Study of Higher Education.

Coe, C.K. (1992). The MBTI: Potential uses and misuses in personal administration. Public Personnel Management, 21, 511-522.

Douglass, F., & Douglass, R. (1993). The validity of the Meyers-Briggs type indicator for predicting expressed marital problems. Family Relations, 42, 422-426.

Felder, R. (1993). Reaching the second tier, learning and teaching styles in college science education. Journal of College Science Teaching, 22, 286-290.

Higbee, J.L. (1992). Factors related to the academic success of high risk freshman: three case studies. College Student Journal. 380-386.

Humes, C.W. (1992). Career planning implications for learning disabled high school students using the MBTI and SDS-E. School Counselor, 39, 362-368.

Issac, S.W. (1975). Personality types, learning styles and teaching strategies: From learning theory and research to educational practice. Presented at MBTI-I, the First Biennial National Conference on the Use of the Myers-Briggs Type Indicator.

Mamchur, C. (1992). Poor Uncle Harry. The Journal of Experiential Education, 15, 46-50.

Mani, B.G. (1995). Progress on the Journey Total Quality Management Using the Myers-Briggs Type Indicator and The Adjective Check List in Management Development. Public Personnel Management, 24, 365-393.

Meese, R.L. (1994). Teaching Learners with Mild Disabilities. Pacific Grove, CA: Brooks/Cole Publishing.

Myers, I. B., & McCaulley, M. H. (1989). A Guide to the Development and Use of the Myers-Briggs Type Indicator, Palo Alto, CA: Consulting Psychologists Press.

Nasca, D. (1994). The impact of cognitive style on communication. NASSP Bulletin, 78, 99-107.

Nourayi, M. (1993). Accounting students' performance and personality types. Journal of Education for Business, 69, 111-115.

Piper, T.D., & Rodgers, R.F. (1992). Theory-practice congruence: factors influencing the internalization of theory. Journal of College Student Development, 33, 117-123.

Pittienger, D. (1993). The utility of the Myers-Briggs type indicator. Review of Educational Research, 63, 467-488.

Provost, J.A. & Anchors, S. (1987). Applications of the Myers-Briggs Type Indicator in Higher Education. Palo Alto, CA: Consulting Psychologist Press.

Rosen, K., & Stith, S. (1993). Intervention strategies for treating women in violent dating relationships. Family Relations, 42, 427-433.

Sherman, R., & Jones, J. (1994). A response to the article on the validity of the Myers-Briggs type indicator for predicting expressed marital problems. Family Relations, 43, 94-95.

Schafer, A.K. (1994). Psychological (Myers-Briggs) type differences among adults with learning disabilities in a community college. Proceedings of the First Biennial International Conference on Education of the Center for Applications of Psychological Type, 273-284.

Street, S., & Kromrey, J. (1994). Relationships between suicidal behavior and personality type. Suicide and Life Threatening Behavior, 24, 282-292.

Taggart, W.M., Kroeck, K.G., & Escoffier, M.R. (1991). Validity evidence for the myers-briggs type indicator as a measure of hemisphere dominance: another view. Educational and Psychological Measurement, 51, 775-783.

Tharp, G.D. (1993). The connection between personality type and achievement in college biology. Research & Teaching, 22, 276-279.

U.S. Department of Education (1991). Thirteen annual report to Congress on the implementation of the Individuals with Disabilities Education Act. Washington, DC: U.S. Department of Education (as cited in Meese 1994).

Van, B. (1992). The MBTI: Implications for retention. Journal of Developmental Education, 16, 20-25.

Woods, D.R. (1993). Models for learning and how they're connected relating Bloom, Jung, and Perry. Journal of College Science-Teaching, 22, 250-254.

Zemke, R. (1992). Second thoughts about the MBTI. Training, 29, 43-47.

Appendix A  
Sample Questions

## Appendix A

## Sample Questions Taken From Myers-Briggs Type Indicator

## Part I

1. Are you usually
  - (A) a "good mixer," or
  - (B) talk with one person at a time?
  
2. When you are with a large group of people, would you usually rather
  - (A) join in the talk of the group, or
  - (B) talk with one person at a time
  
3. Do you tend to have
  - (A) deep friendships with a very few, or
  - (B) broad friendships with many different people
  
4. In a large group, do you more often
  - (A) introduce others, or
  - (B) get introduced
  
5. Among your friends, are you
  - (A) one of the last to hear what is going on, or
  - (B) full of news about everybody
  
6. Do you
  - (A) talk easily to almost anyone for as long as you have to, or
  - (B) find a lot to say only to certain people or under certain conditions?
  
7. Can the new people you meet tell what you are interested in
  - (A) right away, or
  - (B) only after they really get to know you?
  
8. Do you usually
  - (A) show your feelings freely, or
  - (B) keep your feelings to yourself
  
9. Would you say you
  - (A) get more enthusiastic about things than the average person, or
  - (B) get less excited about things than the average person?



10. At parties, do you  
(A) sometimes get bored, or  
(B) always have fun?

Part II

Which Word in Each Pair Appeals to You More?

1. (A) gentle  
(B) firm
2. (A) convincing  
(B) touching
3. (A) facts  
(B) ideas
4. (A) statement  
(B) concepts
5. (A) theory  
(B) certainty
6. (A) literal  
(B) imaginative
7. (A) firm-minded  
(B) warm hearted
8. (A) determined  
(B) devoted
9. (A) benefits  
(B) blessings
10. (A) compassion  
(B) foresight

Appendix B

Chi-Square of Longwood College Sample

MBTI Type Table

N = 68

		SENSING types		INTUITIVE types		
		with THINKING	with FEELING	with FEELING	with THINKING	
INTROVERT	ISTJ	N = 2 % = 2.94 I = 0.49	ISFJ N = 6 % = 8.82 I = 0.92	INFJ N = 5 % = 7.35 I = 1.89	INTJ N = 2 % = 2.94 I = 2.15	
	ISTP	N = 1 % = 1.47 I = 0.42	ISFP N = 5 % = 7.35 I = 1.09	INFP N = 5 % = 7.35 I = 0.90	INTP N = 4 % = 5.88 I = 1.42	
	EXTROVERT	ESTP	N = 3 % = 4.41 I = 0.88	ESFP N = 4 % = 5.88 I = 0.69	ENFP N = 12 % = 17.65 I = 1.07	ENTP N = 4 % = 5.88 I = 1.01
		ESTJ	N = 8 % = 11.76 I = 1.82	ESFJ N = 6 % = 8.82 I = 1.08	ENFJ N = 1 % = 1.47 I = 0.31	ENTJ N = 0 % = 0.00 I = 0.00

**LEGEND:**

% = percent of total choosing this group who fall into this type.  
I = Self-selection index: Ratio of percent of type in group to % in sample.  
N = 68

Source of Data: Freshmen with LD 1993 - 1996 and LC Freshmen 1989 - 1996  
Group Tabulated: LC Freshmen with LD (1993 - 1996)

Note concerning symbols following the selection ratios:

- " implies significance at the .05 level, i.e., Chi-square > 3.8;
- # implies significance at the .01 level, i.e., Chi-square > 6.6;
- \* implies significance at the .001 level, i.e., Chi-square > 10.8.
- \_ (underscore) indicates Fisher's exact probability used instead Chi-square.

Base population used in calculating selection ratios:

Longwood College Freshmen (1989 - 1996)

Base total N = 2926. Sample and base are dependent.

Base population used in calculating selection ratios was 15,853 CAPT Form G Databank of College.

Appendix C

Chi-Square of National Population

MBTI Type Table  
N = 68

		SENSING types		INTUITIVE types					
		with THINKING	with FEELING	with FEELING	with THINKING				
INTROVERT	ISTJ	N = 2 % = 2.94 I = 0.40	ISFJ	N = 6 % = 8.82 I = 0.91	INFJ	N = 5 % = 7.35 I = 2.20	INTJ	N = 2 % = 2.94 I = 0.45	
	ISTP	N = 1 % = 1.47 I = 0.39	ISFP	N = 5 % = 7.35 I = 1.33	INFP	N = 5 % = 7.35 I = 1.32	INTP	N = 4 % = 5.88 I = 1.81	
	EXTROVERT	ESTP	N = 3 % = 4.41 I = 1.15	ESFP	N = 4 % = 5.88 I = 0.83	ENFP "	N = 12 % = 17.65 I = 1.74	ENTP	N = 4 % = 5.88 I = 1.45
		ESTJ	N = 8 % = 11.76 I = 1.37	ESFJ	N = 6 % = 8.82 I = 0.73	ENFJ	N = 1 % = 1.47 I = 0.27	ENTJ	N = 0 % = 0.00 I = 0.00

**LEGEND:**

% = percent of total choosing this group who fall into this type.

I = Self-selection index: Ratio of percent of type in group to % in sample.

N = 68

Source of Data: Freshmen with LD 1993 - 1996 and CAPT Form G Databank  
Group Tabulated: LC Freshmen with LD (1993 - 1996)

Note concerning symbols following the selection ratios:

" implies significance at the .05 level, i.e., Chi-square > 3.8;

# implies significance at the .01 level, i.e., Chi-square > 6.6;

\* implies significance at the .001 level, i.e., Chi-square > 10.8.

\_ (underscore) indicates Fisher's exact probability used instead Chi-square.

Base population used in calculating selection ratios:

CAPT Form G Databank of College Students

Base total N = 15853. Sample and base are dependent.

Appendix D

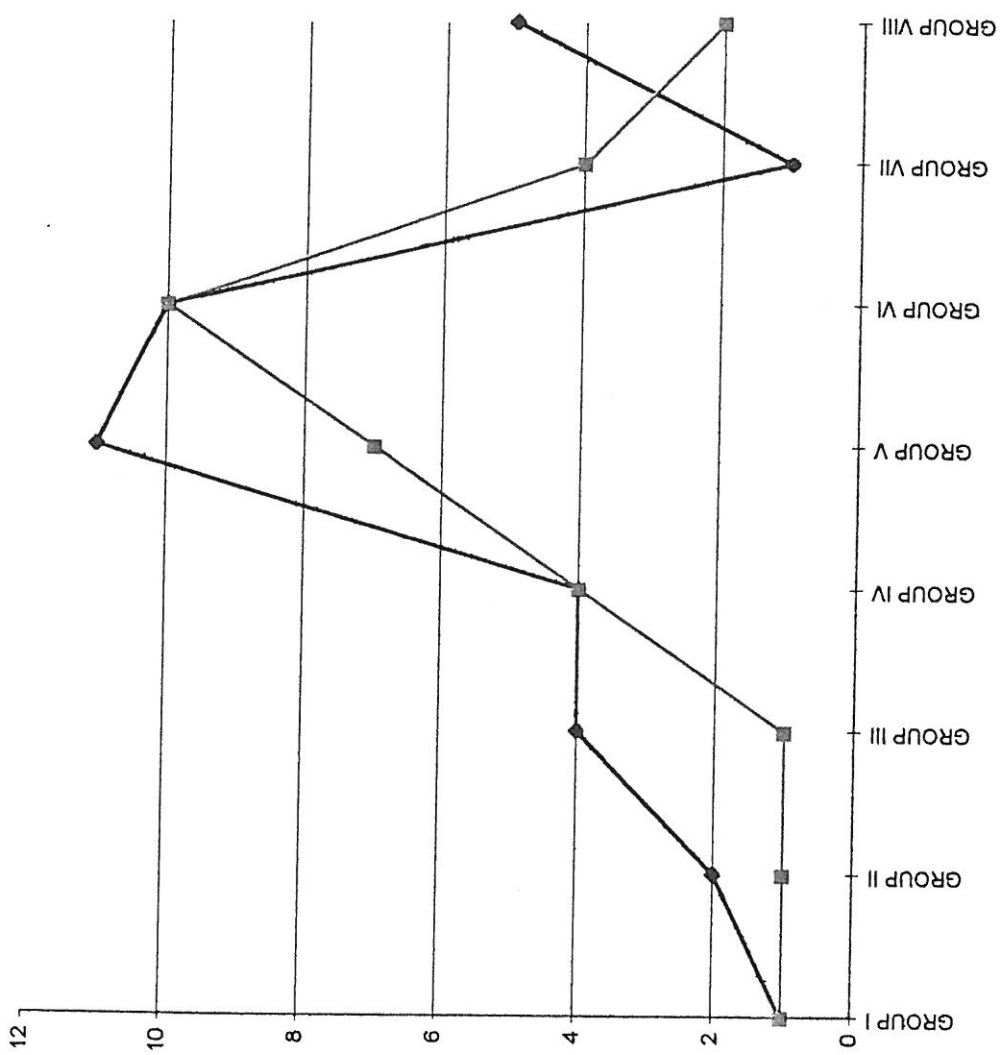
Bell Shaped Curve - Analysis of GPAs

# ANALYSIS OF GPA'S

GROUP	EXTRAVERT	INTROVERT
GROUP I	1	1
GROUP II	2	1
GROUP III	4	1
GROUP IV	4	4
GROUP V	11	7
GROUP VI	10	10
GROUP VII	1	4
GROUP VIII	5	2

**LEGEND**

GROUP I	0 - .499
GROUP II	.500 - .999
GROUP III	1.0 - 1.499
GROUP IV	1.5 - 1.999
GROUP V	2.0 - 2.499
GROUP VI	2.5 - 2.999
GROUP VII	3.0 - 3.499
GROUP VIII	3.5 - 4.0



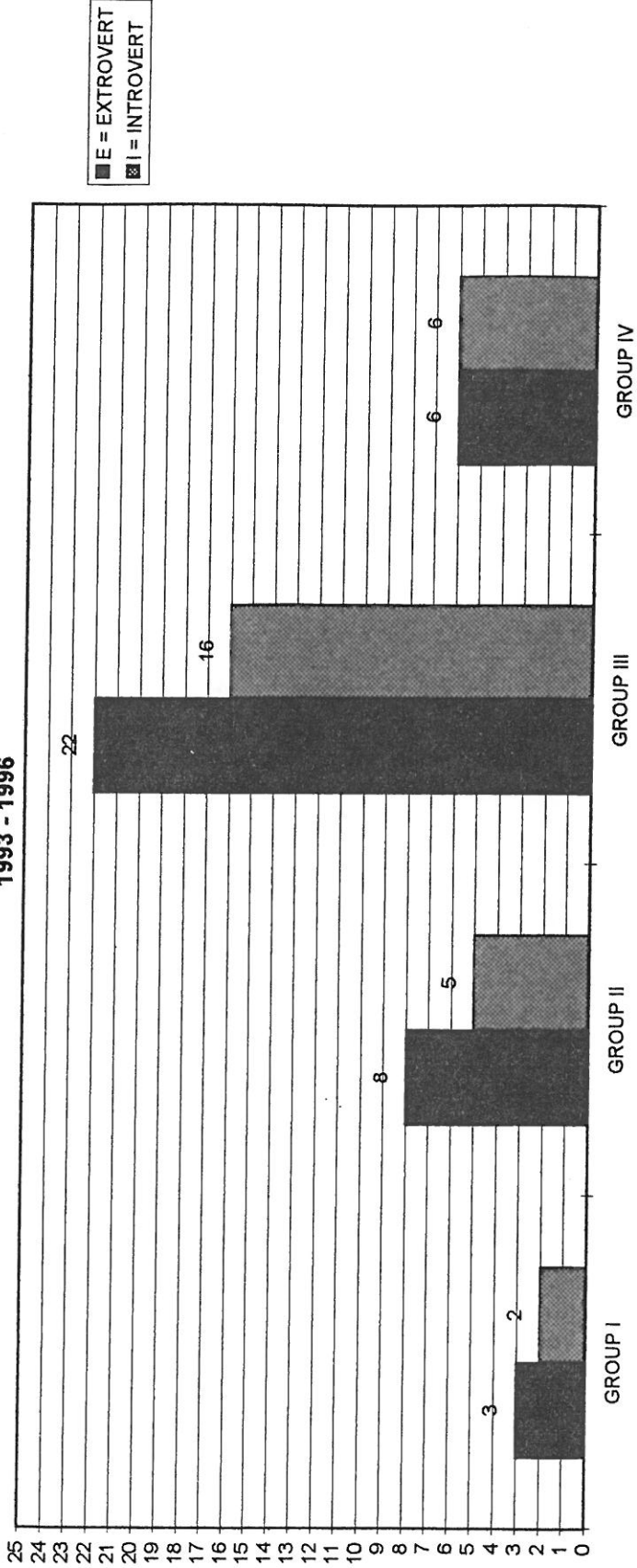
EXTRAVERT —◆— INTROVERT

Appendix D

Four Group Bar Graph



LONGWOOD COLLEGE FRESHMEN WITH L.D.  
 GPA GRAPH  
 1993 - 1996



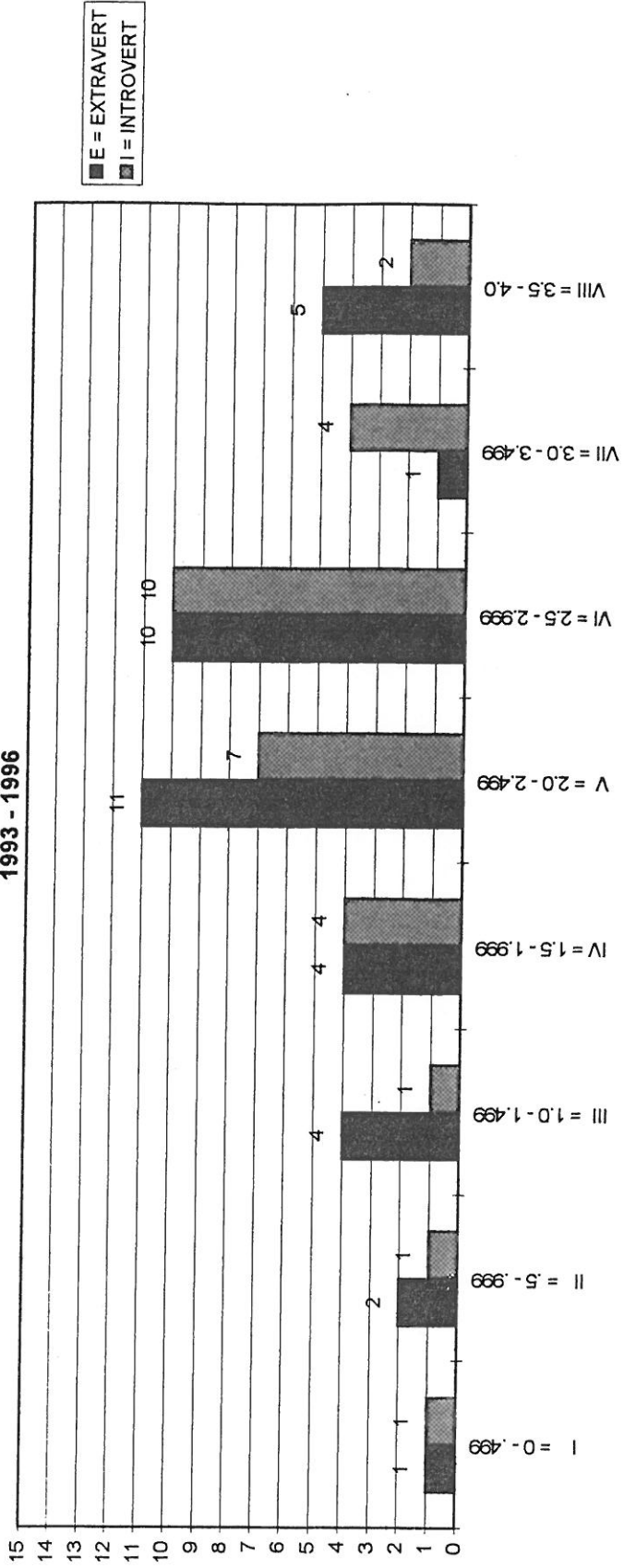
GPA GROUP: I = 0 - .999  
 II = 1.0 - 1.999  
 III = 2.0 - 2.999  
 IV = 3.0 - 4.0

Appendix D

Eight Group Bar Graph

GROUP	E = EXTRAVERT	I = INTROVERT
I = 0 - .499	1	1
II = .5 - .999	2	1
III = 1.0 - 1.499	4	1
IV = 1.5 - 1.999	4	4
V = 2.0 - 2.499	11	7
VI = 2.5 - 2.999	10	10
VII = 3.0 - 3.499	1	4
VIII = 3.5 - 4.0	5	2

LONGWOOD COLLEGE FRESHMEN WITH L.D.  
GPA GRAPH  
1993 - 1996



Appendix F

GPA by Student Type Code

GPA's of Students by Type Code

1993	1994	1995	1996
ISTJ		2.909	3.133
ISFJ			2.588
3.364	1.600		.400
2.357			1.786
INFJ		3.000	3.500
3.667	2.467		
2.857			
INTJ			2.714
			2.077
ISTP		2.625	
ISFP		2.545	2.750
2.463			1.538
2.250			
INFP		1.692	2.533
			2.818
			2.000
			3.200
INTP		.714	1.091
			2.929
			2.000
ESTP			2.083
			2.091
			1.250

ESFP			
2.615		1.400	3.786 2.750
ENFP			
1.600		1.625	.583
2.000		2.364	.636
		4.000	2.818
		2.571	
		2.500	
		2.923	
		3.308	
ENTP			
.214		2.235	2.000
2.429			
ESTJ			
1.214	3.417	1.273	3.429
	2.800	2.500	
	2.100	2.143	
ESFJ			
	3.400		2.545
			1.929
			2.083
			1.667
			2.857
ENFJ			
		2.000	
ENTJ			