

ABSTRACT

Title of Dissertation: NONVERBAL COMMUNICATION IN THE
 ELEMENTARY TEACHER CANDIDATE
 EMPLOYMENT INTERVIEW

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This study examined the relationship between elementary teacher candidates' nonverbal communication, eye contact and smile, and their potential to be offered employment by elementary school principals. The focus of this study was the relationship between the principal's preference for the employment of a teacher candidate and the duration of eye contact, number of eye contacts, and number of smiles exhibited by the candidate throughout the interview. As subsets of number of smiles, three specific types of smiles: Duchenne, false, and listener response smiles were also investigated.

Fifty female elementary teacher candidates between the ages of twenty-one and twenty-four that met established standards for employment consideration and ten male elementary school principals participated in actual employment interviews. Each of the principals interviewed five teacher candidates individually for approximately thirty minutes in a

structured employment interview. Data collection consisted of interview observations, surveys, and post interview questionnaires completed by both principals and candidates.

The principal's preference of a candidate for employment was reflected in the rank assigned to the candidate following the interview. Candidates were assigned a number from one to five with one indicating the highest preference.

Multiple and stepwise regression analyses were used to determine the impact nonverbal cues had on a teacher candidate's rank. When the nonverbal behaviors, eye contact and smile, were analyzed collectively against the rank the candidate received, no significant relationship was found. When the nonverbal behaviors were evaluated separately, duration of eye contact was found to be significant and a predictor of a principal's preference of a candidate for employment. Increased duration of eye contact lead to a higher rank. However, the number of times a teacher candidate established eye contact with the elementary school principal or smiled during the interview had no significance in relation to the candidate's rank. Neither the number of eye contacts alone nor the number of smiles alone could be used to predict the employment recommendation. Additionally, Duchenne, false, and listener response smiles, either separately or in combination, showed no significance with rank.

NONVERBAL COMMUNICATION
in the
ELEMENTARY TEACHER CANDIDATE
EMPLOYMENT INTERVIEW

by

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Dissertation submitted to the Faculty of the Graduate School
of The University of Maryland in partial fulfillment
of the requirements for the degree of
Doctor of Philosophy

1994

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MD

DEPT OF HUMAN DEVELOPMENT

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1994

ACKNOWLEDGEMENT

I gratefully acknowledge those that have helped me along the way. First and foremost, I want to acknowledge and thank my advisor and dissertation chairperson, Dr. Charles Flatter, for his continued kindness and assistance. I deeply appreciate his encouragement, caring, and patience, not only with this project, but throughout my experiences as a graduate student.

I acknowledge and offer my sincere appreciation and thanks to my dissertation committee members: Dr. Albert Gardner, Dr. Harry Green, Dr. Robert Hardy, and Dr. Jean Hebeler. They were gracious in the sharing of their time. I appreciate this precious gift as well as their continued efforts on my behalf. I greatly value their assistance and contributions in the completion of this research project.

I acknowledge and thank both the elementary school principals who, at an extremely demanding time of the school year, conducted interviews for me and the teacher candidates who so willingly participated in this project. Additionally, the assistance of the middle school principals and candidates who participated in the pilot study was invaluable in establishing the investigative procedure.

I especially acknowledge and offer my sincere gratitude to Rachel Eng for her indispensable assistance in the data collection effort.

Finally, I acknowledge the support and understanding of my husband, Leslie Eng, Ph.D. Without his caring attitude and assistance, completion of the requirements for both this project and degree would have been much more difficult.

I have been fortunate to have the assistance of special people as they shared their expertise, patience, and understanding in assisting me in achieving my lifetime goal of completing the requirements for a Doctorate of Philosophy degree.

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CHAPTER ONE

INTRODUCTION

An interest in nonverbal behavior can be traced back as far as the works of Charles Darwin (1872). With his detailed descriptions of both animal and human expressive movements, the foundation for continued examination of nonverbal behavior was established. However, insight into the relevance of specific nonverbal actions emanates primarily from research originating in the 1960's and continues until the present day when clarity and understanding of nonverbal communication is still sought.

It is widely recognized that verbal language is supplemented by nonverbal cues and, therefore, is only a part of a person's total communication. (Druckman, Rozelle, Baxter, 1982; Duncan, 1969; Halpin, 1960; Key, 1982; Sebeok and Umiker-Sebeok, 1981; Wiemann and Harrison, 1983) Nonverbal communication goes far beyond the verbal language. However, nonverbal cues are frequently overlooked or not formally regarded as an integral part of a message.

When studying nonverbal behavior, all aspects of a message other than the actual verbal language are considered. Research in nonverbal communication provides a basis for understanding the essence of messages and information that is often left unsaid. Nonverbal studies have substantiated and continue to validate the fact that nonverbal communication has

made a contribution to the understanding of messages exchanged between individuals.

Numerous nonverbal behaviors contribute to the impact of messages being received. However, in the study of nonverbal communication, the focus of observed body motion must be isolated to specific body parts to enable effective and accurate ratings, to limit the complexity of judgements being made (Duncan and Fiske, 1977), and to facilitate the appropriate evaluation of the nonverbal behaviors being observed. Druckman, et al., (1982) note that researchers generally focus on one area of nonverbal behaviors to limit the time and effort expended in measuring nonverbal activity.

Along with the increase in research in nonverbal communication, there has been a broadening of understanding of the implications of nonverbal cues in many areas. Numerous research projects have been conducted pertaining to interviewing and various aspects of nonverbal behavior associated with the interview process. According to Hatfield and Gatewood (1978), the vast majority of these studies have not been conducted during actual hiring interviews using valid candidates and employers as subjects. Additionally, most current studies have not been education oriented. Few, if any, have involved teacher candidates seeking potential employment in a public school system when the primary interviewer was the principal of the school at which the opening existed.

During a period in which there is an abundance of teacher candidates and principals are able to select and employ a teacher from a somewhat large group of available candidates, the employment interview is a critical factor in subsequently hiring a teacher candidate. Both the verbal and nonverbal communication skills exhibited by the candidates during the employment interview may give the interviewing principal insight into the probable success of a candidate as a teacher. The nonverbal behaviors demonstrated by the teacher candidate may be the same behaviors exhibited by teachers in the classroom. Therefore, the principal needs to have knowledge and understanding of the essence of, and the meaning reflected in, the nonverbal behavior demonstrated by teacher candidates.

Research related to nonverbal behaviors such as that conducted by Mehrabian (1968) help educators understand the impact of nonverbal communication on children. Nonverbal behaviors, according to Mehrabian, communicate feelings. He stated that children can easily distinguish whether they are liked or not liked through facial expressions, touch, and tone of voice. Neill (1989) noted that children judge a teacher's qualities through the teacher's nonverbal signals. Facial expressions, smiling and frowning, according to Neill, have an impact on children. Neill proposed that the behavior of a teacher was different from that of a non-teacher and that children can recognize the characteristic behavior of teachers. If children have higher responsiveness to facial

expressions, posture, and touch, implications related to teacher specific behavior can be made that could possibly impact on elementary education. (Mehrabian, 1968)

Good and Brophy (1978) discuss the sense of identity of a child as being developed, aside from their parents and peers, through modeling and feedback from important adults. Their self-worth is learned through interactions with others, and teachers may be highly influential in this regard. Teachers continually communicate with their students through both verbal and nonverbal channels, and teachers need to respond appropriately to students in order to encourage and nurture positive qualities within their students. A primary device for nonverbal communication between teacher and student, as well as between candidate and interviewer, is facial expression.

Being highly visible and omnipresent, the face always conveys information (Ekman, 1980) and is an important source of nonverbal communication because of the amount and kind of information it can convey in a short period of time. (Harper, et al., 1978) The face is a multimessage system providing information about "emotion, mood, attitude, character, intelligence, attractiveness, age, sex, and race." (Ekman, 1975; p. 11) When focusing on the face, the eyes and smile are predominant. Eye contact and smile, either singularly or in combination, are highly visible nonverbal behaviors that dominate facial activity.

Eyes constantly communicate messages and are a basic channel for interpersonal encounters as they have a continuing impact on interactions. Eye contact is a factor in both initiating and continuing communication. (Harper, et al., 1978) Burgoon, et al., (1986), describing eye contact, stated that eyes had the potential to be a highly 'meaning-laden' nonverbal communicator. Eye contact provided information, performed social functions, expressed commitment, and was influential.

The smile of an individual could also be a positive influence on others when the smile dominated a pleasant facial expression. (Gifford, et al., 1985) Mehrabian (1972) reports on research that linked smiling to warmth and an attempt by individuals to elicit a greater degree of liking. Smiling may be used in social situations that are perceived by the speaker as having some degree of awkwardness. (Mehrabian, 1972) Smiles also may be used as a submissive response or as an attempt to make tense situations somewhat comfortable. (Ekman, 1975) The speaker's frequent smiling appeared to be linked to the perceived and intended persuasiveness of the message. (Mehrabian, 1972)

In an informal limited unpublished survey conducted by this primary researcher using fifty principals in a Mid-Atlantic public school system, it was determined that principals were seeking candidates that were child centered, had energy, enthusiasm, knowledge, and identified well with

their students. Aside from what is learned about a candidate during the verbal component of their interview, elementary principals may have unknowingly been searching for candidates that demonstrate, through their nonverbal behavior, that they have the potential to have a positive impact on students. The successful candidate may be the individual that innately demonstrates desirable nonverbal behaviors that are interpreted by the interviewer as indicative of reflecting a high potential to positively affect the elementary school student. Research is needed to identify the dimensions and effects of nonverbal behaviors in determining which candidates are recommended for employment.

Purpose Of This Study

The purpose of this research was to examine the relationship between elementary teacher candidates' nonverbal communication exhibited during employment interviews and the potential to be offered employment by elementary school principals. The nonverbal behavioral focus for this research project was facial activity exhibited by candidates. In particular, this study examined nonverbal behavior demonstrated by teacher candidates seeking employment to determine what influence, if any, eye contact and smiling had on the principals evaluation and recommendation of the candidate for employment.

The study was undertaken to provide information related to nonverbal factors evident in the interview process that can be used as a basis for insight and understanding of the decision making process related to the employment of teacher candidates. The specific research questions focusing on nonverbal cues in the interview process and investigated throughout this study are outlined in the final section of this chapter.

Need For This Study

The study of nonverbal behavior dates back a century with numerous studies reported, books written, articles published, and courses presented to offer explanations for nonverbal behavior and nonverbal communication skills. Yet, there is still a need to gain insight into how messages are interpreted through the interaction of verbal and nonverbal cues. (Cissna and Carter, 1982; Duncan, 1969) Burgoon (1991) reiterates that nonverbal behaviors have meanings that are recognizable. However, she echoes the earlier calls for continued investigation into the communicative aspects of nonverbal cues, investigation of meanings linked to behaviors, and the relationships and modifications of meanings found in the context of messages.

Business and industry have recognized the importance placed upon the employment interview long before educational systems have attempted to gain insight into factors affecting the choice of candidate. However, the research projects

emanating from business and industry have been devoid of studies relating nonverbal behavior to the employment interview. An example is seen in the work of Cissna and Carter (1982) who stated that employment interviews were communication situations. They noted the need for training job applicants for interviews but no details were provided concerning nonverbal communication and necessary considerations when dealing with nonverbal behaviors.

It is widely believed, but not sufficiently supported through actual research projects, that nonverbal behaviors exhibited by candidates during employment interviews affect the outcome of the interview. Several researchers in nonverbal communication note that the nonverbal aspects of an employment interview may have a great impact, perhaps greater than verbal components, on the outcome of the employment interview. (Amalfitano and Kalt, 1977; Baesler and Burgoon, 1987; Burgoon, 1972; Burgoon, Coker, Coker, 1986; Gifford, Ng, Wilkinson, 1985; Hatfield and Gatewood, 1978; Imada and Hakel, 1977; Riggia and Throckmorton, 1988; Tschirgi, 1972; von Raffler-Engel, 1981; Young and Beier, 1977) Verbal communication is a necessary component of an interview and is unquestionably useful in gaining an understanding of a candidate's knowledge, skills, and potential to be successful.

The majority of previous research projects focusing on nonverbal behavior and employment interviews were artificial. Some studies approached the problem in simulated environments

with candidates and interviewers, or both, in role playing processes. Researchers cite the need for continued study of nonverbal cues in authentic employment interviews in order to determine the actual effect specific nonverbal cues may have on the decision to hire a job applicant. (Amalfitano and Kalt, 1977; Burgoon, et al., 1986)

Unfortunately, the research combining knowledge across the two disciplines of nonverbal communication and employment interviews, especially in the school setting, has been limited. Consequently, a paucity of research involving employment interviews within the public school system exists. Although employment interview techniques have been shared through workshops, training modules, and manuals in an attempt to help teacher candidates develop and refine skills and to help administrative interviewers interpret the qualities demonstrated by these candidates, there continues to be a need for investigation into specific nonverbal behaviors and their affect on the selection decision. (Cann, et al., 1981; Imada and Hakel, 1977)

Nonverbal cues projected by a teacher candidate during an interview may influence the principal's decision regarding which candidate is offered a teaching position. If elementary principals are involved in the decision making process relevant to staffing their respective schools, they must be aware of the impact of nonverbal behaviors on the interview process. Since the goal of the principal in the hiring

process should be to employ only excellent teachers, critical evaluation of the candidates is necessary. If, indeed, a teacher's nonverbal behavior can have a positive impact on students, principals may need to be more aware of the implications of a candidate's nonverbal behavior as demonstrated during the formal interview. Halpin (1960) stated that it was critical and relevant for an administrator to be skilled in understanding nonverbal communication and noted the need for successful administrators to have insight into effectively reading nonverbal cues.

This research project will attempt to add to the body of knowledge linking nonverbal behaviors demonstrated by teacher candidates and school system employment interviews. Application of the results of this research to training programs will enable the establishment of effective programs that will assist school based administrators in making informed decisions based on visual cues exhibited by teacher candidates during employment interviews. Improvements in communication between principals and teacher candidates can facilitate the selection of the best candidate through understanding of the factors that influence employment decisions. (Hatfield and Gatewood, 1978; Hollandsworth, et al., 1979; Riggia and Throckmorton, 1988; Young and Beier, 1977)

Definition of Terms

When developing this study and reporting results related to nonverbal communication and employment interviews, numerous terms characteristic of the two disciplines were used in an attempt to add clarity to specific concepts. The following term definitions were included to facilitate a common understanding of concepts presented throughout the study.

Elementary principal - the administrative and professional leader of a school or unit encompassing pre-kindergarten through grade five. The individuals employed in this capacity must have an Administration and Supervision, Principal, or Administrator II endorsement on their Maryland Teaching Certificate.

Elementary school - a school building housing students from pre-kindergarten through grade five. The teachers and administrative staff of the building must have earned a Maryland Teaching Certificate endorsed either Early Childhood N-3 or Elementary Grades 1-6.

Employment interview - a face-to-face interaction generally between two people where one person is either a hiring official or his/her designee and the other is seeking employment. The interview is used as an information seeking, selection device by the employer when making hiring decisions.

Eye contact - two persons looking directly into each other's eyes. There is an awareness of the mutual look between the persons. (Harper, et al., 1978)

Kinesics - body motion such as gestures, body movements including hand and arms, legs and feet, facial expressions including smile, eye behavior, and body and head posture. (Harper, et al., 1978) Often referred to as 'body language'. (Druckman, et al., 1982)

Nonverbal behavior - face and body movements or positioning. (Ekman and Friesen, 1981) Body movements or behaviors that may or may not convey a meaning. (Harper, et al., 1978)

Nonverbal communication - all avenues of communication, other than words, used in transmitting thoughts or emotions between individuals. (Kendon, 1981) Events not delineated by words that have an informational value. (Harrison and Wiemann, 1983) Generally three limits govern the dimensions of this term.

- a) It refers to communications between two or more people who are in one another's presence.
- b) It mainly refers to communication that can not be transmitted from one person to another in any other form.
- c) Its message usually does not have explicit formulation. Messages are inferred or implied by actions. (Kendon, 1981)

Nonverbal cue - behavior, physical acts, that communicate a meaning. (Harper, et al., 1978)

Smile - a facial expression displaying pleasure and friendliness as denoted by the upward curve of the corners of a person's mouth. (Guralnik, 1980)

Duchenne smile - a felt smile occurring spontaneously.

It is a smile of enjoyment linked to a combination of two facial muscles, "the zygomaticus major, which pulls the lip corners up obliquely, and orbicularis oculi, which orbits the eye, pulling the skin from the cheeks and forehead toward the eyeball." (Ekman, 1992; p. 36)

False smile - used by a person to convince others that a positive emotion is felt when it actually is not. This smile does not involve the orbicularis oculi muscles around the eyes. It is more asymmetrical than a genuine smile. The eyebrows are not lowered when this smile occurs. (Ekman, 1985) Additionally, this smile may occur too early or too late, thus having an impact on the timing of the smile. (Ekman and Friesen, 1982)

Listener response smile - used in a face-to-face interaction by the listener to acknowledge that the speaker is understood. Frequently, the smile is accompanied by a head nod and is used to encourage the speaker to continue. It is a slight smile that does not involve the orbicularis oculi muscle that orbits the eye. (Ekman, 1985)

Student teacher - an individual that has received education and training to be employed in the position of a teacher and

is completing an intensive training program in a school classroom. The training includes preparing for and teaching students. The student teacher's program is directed and monitored by both a currently employed successful Maryland State Department of Education certified teacher and a college or university Department of Education supervisor.

Teacher candidate - an individual that has completed formal education and training at an accredited college in the field of teacher education and either holds or is eligible to receive a teaching certificate issued by the Maryland State Department of Education

Elementary teacher candidate (teacher candidate, candidate) - an individual whose teaching certificate is or will be endorsed either Early Childhood Education Nursery - Grade 3 or Elementary Grades 1-6.

Research Questions

This research project investigated the following questions:

1. Does a relationship exist between the teacher candidate's nonverbal behavior, eye contact and smile, exhibited during an employment interview and the principal's selection rating?
2. Does the number of times a candidate makes eye contact during an employment interview affect the principal's selection rating?

3. Does the duration of the candidate's eye contact demonstrated during the interview affect the principal's selection rating?
4. Does the number of times a candidate smiles at the principal during the employment interview affect the principal's selection rating?

To answer these research questions data collected through direct observation, surveys, and a questionnaire were analyzed. Multiple and stepwise regression analysis were the statistical procedures used to evaluate the data.

Summary

Chapter One introduced the concept of nonverbal communication, eye contact and smile, in relation to the employment interview in a public elementary school setting. The purpose of the research project and the need for this research were outlined in the chapter. The research questions were also presented. Chapter Two will provide a historic view of the literature and present pertinent and current literature related to nonverbal communication, nonverbal communication as demonstrated through eye contact and smile, and nonverbal communication in employment interviews.

CHAPTER TWO

LITERATURE REVIEW

This chapter provides a review of the literature, historic insight, and information leading to a greater understanding of nonverbal communication. It outlines research related specifically to eye contact and smile. The chapter also provides a review of the literature published on employment interviews and the influence an individual's nonverbal behaviors have on the hiring process.

Nonverbal Communication

Historically, an interest in nonverbal communication can be traced in the writings of scholars from the time of Aristotle. Descriptions are found in Aristotle's work of animal behaviors and of the passions of humans. Wiemann and Harrison (1983) make note of a model that emanated from the original works of Aristotle that formulated the basis of rational discourse and is still entrenched in the realm of communication. An interest in nonverbal issues in communication did not emerge, however, until the late 1800's beginning with the works of Darwin. With Darwin's interest and publicized observations regarding animal behavior and his notations on man's expressive movements, the foundation for the examination of nonverbal behavior was provided. (Darwin, 1965)

During the twentieth century, there has been a shift in focus in the exploration of human ecology to an interest in human communication. Events could no longer be viewed solely in the context of words spoken. Thus, a new era emerged in the mid-1950's with the appearance of the phrase 'nonverbal communication.' At that time, many scholars rejected the term 'nonverbal' since it appeared to reflect a residual category. Many researchers preferred the descriptor 'verbal nonverbal communication' citing the phrase as a more accurate description of the integration of words and body movement along with time and space. Regardless of the pressure to use more accurate nomenclature, the term nonverbal communication remains the accepted phrase used for non-word events that provide an informational value. (Wiemann and Harrison, 1983)

The field of study defined by the term "nonverbal communication" has been somewhat tumultuous. Researchers from the disciplines of psychology and anthropology have expressed an interest in nonverbal communication through their works. Both fields being rich in tradition and having differing orientations, nonverbal interactions may be seen in a different conceptualization relative to the researchers orientation. The focus of psychological tradition lies in the individual and variables that are specific nonverbal cues. The anthropological tradition focuses on structure, interaction, and codes used by individuals. The individual

and specific nonverbal cues become less important for the anthropologist. (Wiemann and Harrison, 1983)

Even though today there is more freedom of movement between the boundaries dividing these two approaches, Wiemann and Harrison (1983) note that there is still a tendency to either "start with the individual and moving up to interaction, or starting with social structure and moving down to interaction." (p. 276)

Duncan (1969) reinforced the fact that research focusing on nonverbal behaviors and the relative significance of those behaviors did not become established as formal studies until the 1950's when systematic efforts to transcribe nonverbal behaviors and to identify their significance were reported. Yet, in the late 1960's, it appeared that nonverbal communication research still was lacking a strong foundation. Duncan criticized studies of the time for not systematically analyzing the structures or the relationships between behaviors. However, Duncan acknowledged Birdwhistell's contributions and credited him with developing a comprehensive system that described body motion. He indicated that Birdwhistell broke ground for an aspect of communication, body motion, to be systematically and extensively studied. Druckman (1982) also acknowledged Birdwhistell's contributions to the understanding of nonverbal communication. Birdwhistell proposed that nonverbal behavior did not exist in and of

itself. It had expression and carried meaning in terms of total communication.

As late as the 1960's, the facial expressions of humans had not been extensively studied and descriptive investigations were limited. E. C. Grant's work throughout the late 1960's and early 1970's made it possible to compile an comprehensive list of human movements and facial expressions with each expression having an affective meaning. According to Eibl-Eibesfeldt (1970), investigations showed that facial expressions and movement patterns were consistent across cultures. For example, people everywhere smiled when involved in a friendly encounter. They demonstrated anger under similar conditions and, when in distress, they cried. That visual contact is "at the base of human sociability" is credited to K.S. Robson (1967).

In the 1970's, Eibl-Eibesfeldt cited extensive research reinforcing his concept that human behavior was grounded in mechanisms that had been adapted through the process of evolution. He believed that observation studies of humans could provide an understanding of human behavior. His position was that infants were born with a number of functional behavior patterns that served different purposes. The smile was a primary function which appeared to appease. He noted that a child's smile could cause delight, establish emotional ties, and strengthen bonding between the child and mother.

Eibl-Eibesfeldt stated that humans have natural detectors that react in specific ways to various environmental stimuli. Although some detectors are functional when an individual is born, many appear as a person matures. Eibl-Eibesfeldt saw social behaviors, such as facial expressions, as a device for communication. Using his concept regarding an ethological approach to the study of human behavior, an understanding of the function associated with a person's nonverbal conduct in specific social contexts could be gained.

Mehrabian (1968), writing for a popular magazine in the late 1960's, stated that people communicated feelings more through nonverbal means than through actual words being used. Mehrabian noted that facial expressions could convey the like or dislike felt by the speaker. Feelings were conveyed through many forms of nonverbal behavior. Commonly accepted forms of nonverbal behaviors that provided insight into a person's feelings included: facial expression, smiling, eye contact, touching, spatial orientation, posture, body motions, and gesture. (Mehrabian, 1968; von Raffler-Engel, 1983; Burgoon, 1991)

Halpin (1960) suggested that nonverbal communication was a muted language. He stated that, using nonverbal cues, individuals could "speak to one another more eloquently than with words." (p. 85) Halpin indicated that, to have a complete understanding of messages, it must be recognized that a person communicates using his entire body and all behaviors.

Muted language, as portrayed by Halpin, included eye and hand language, status symbols, and unconscious slips betraying a speaker's words. Muted language reinforced verbal communication and was a valuable source of interpreting the essence of personal interactions.

Communication is exceedingly more complex than many people realize according to Halpin. A problem arises in communication when nonverbal cues are not consistent with verbal language, and a listener must distinguish the truth in the message. Buhler (1991) noted that when verbal and nonverbal communication was inconsistent, confusion and miscommunication occurred.

Theories employed by researchers in the realm of communication have increased in sophistication in the last quarter of a century. Yet, according to Wiemann and Harrison (1983), theory construction in the vein of nonverbal communication has lagged behind data gathering. The conceptual framework proposed by Mehrabian (1972) defining nonverbal behavior in social orientation terms is the theoretical basis on which the nonverbal communication of candidates exhibited during an employment interview is grounded.

Mehrabian organized nonverbal acts into three dimensions listed as social orientations. The three orientations include positiveness or evaluation, which refers to evaluations that directly relate to approach or avoidance tendencies. Eye

contact is one of the indices of this dimension. Potency, the second dimension, denotes social control. Relaxed postural cues index potency. The third dimension, responsiveness, relates to orienting behavior and denotes the importance of one individual to another. This dimension is indexed by nonverbal cues such as facial activity.

Using Mehrabian's concept, dimensions and related cues are tied to specific activities. He found that the positive dimension and its cues included communications that were either truthful or deceitful. The potency dimension with its cues was seen through situations in which the status of an individual was related to a social context. Of primary interest to this research project is the responsive dimension and the associated cues which link nonverbal cues to persuasiveness, both intended and perceived.

Mehrabian developed a framework to identify implicit nonverbal behaviors that had social significance. Since human interaction provides the forum for individuals to influence and persuade others, implicit behaviors can be used to convey the same messages that are expressed verbally. The implicit nonverbal behaviors can thereby influence the impressions of others. Mehrabian notes that, in a speaker's message, a correlation can be seen between the speaker's intended persuasiveness and the persuasiveness that was either judged or perceived. Mehrabian proposed that if implicit messages comprised of positiveness, potency, and responsiveness are the

major referents, individual differences may be categorized according to a message's ability to project these attitudes. (Mehrabian, 1972)

Druckman (1982) further outlines influences on perception. When considering information processing, stimulus evaluation lends direction to decisions. Interpretation and prediction are the basis of this process. Impression Management, which is closely linked to nonverbal behaviors in employment interviews, refers to the use of nonverbal cues with the desired effect of influencing the perceptions or behaviors of another individual. Of importance to the impression manager is how the message he is sending during his interaction with another individual is being interpreted. Druckman indicates that messages may be distorted by receiver biases and particular problems may be attribution bias. When the sender's message is distorted by the receiver, the receiver may be attributing intention to the message. When a person is a skilled impression manager, he/she can control images formed by the receiver during their social interaction. Nonverbal cues, Druckman notes, are a critical factor in the process of interpreting a message. Nonverbal behavior is a source of information regarding attributions related to an individual's characteristics and motives.

Implicit communication, nonverbal cues as outlined by Mehrabian and supported by Druckman, can be used in daily situations such as assessing candidate's attitude as expressed

during the employment interview. Mehrabian states, "a by-product of the less controlled nature of implicit cues is that they help not only to identify feelings or attitudes that a communicator is hesitant to express due to social pressures or conformity, but also to detect deceit." (p. 187)

Nonverbal studies have validated both the actual contributions made by nonverbal communication and the value that nonverbal cues have in the total understanding of a message being communicated. Druckman (1982) proposed that the accurate comprehension of a message was dependent upon nonverbal cues. In the context of communication processes, nonverbal behaviors convey meaning. One must take care in sending similar messages both verbally and nonverbally. Druckman quoted Montague as stating that "It is not merely a hidden dimension or a silent language that has been uncovered by a new wave of scientific explorers; it is more like a neglected universe of discourse and intercourse. We are becoming aware that the verbal domain is only the tip of the iceberg of communicative experience - that there is more, much more, to human dialogue than meets the ear." (p. 11)

Burgoon (1991) cited nonverbal communication as reflecting a social meaning and, as such, had recognizable interpretations. Although behaviors could possibly have multiple meanings, Burgoon indicated that the interpretations were narrow and somewhat limited. Through field experiments, Burgoon found that individual's behaviors may signal messages,

replace or substitute for other behaviors, or may be combined to intensify a message. Interpretations of nonverbal messages, according to Burgoon, may also be affected by the stereotypic notions of the receiver.

Walburga von Raffler-Engel (1983) listed the three levels of communication as language or verbal, paralanguage or vocal-nonverbal, and kinesics or nonverbal. She further described nonverbal behavior using Ekman's (1980) categories of nonverbal communication: referential, regulatory, and affective. Each of these forms of nonverbal communication functioned as a message carrier. As described by von Raffler-Engel, referential nonverbal behavior carried an experiential message such as hands moving to demonstrate the concept being vocalized. Regulatory nonverbal behaviors indicated that the speaker had not completed his or her comments. Affective nonverbal behaviors were noted throughout the total interaction. They related to emotion.

Nonverbal behavior is distinguished from body language which refers to body movement that solely signals ego state and has no other message. (von Raffler-Engel, 1983) Nonverbal behavior serves several functions. These functions portray feelings, provide insight and information for formal processing, add strength to persuasive appeals, create deception, and send subtle messages. (Druckman, 1982)

Burgoon (1986) discussed the significance of consistency in meaning within social situations and the predictable

effects of nonverbal cues. Since various nonverbal behaviors had commonly recognized meanings and usage within specific situations, nonverbal behaviors could be seen as a vocabulary of nonverbal communication. Burgoon also noted that some nonverbal behaviors had ambiguous meanings and mediated interpretations. Burgoon proposed an expectancy violation model of nonverbal behavior in which the assumption was made that all nonverbal behaviors had meaning. These meanings may have been ambiguous or had multiple or conflicting meanings. However, she stated that all of the meanings of each nonverbal behavior was recognized in a specific society context, and the desirability of the meaning was evaluated. Thus, she saw a presumed linkage of behavioral interpretations to evaluations.

According to Baesler and Burgoon (1987), a significant problem in reported nonverbal research findings was that coding methods and measurement procedures for studying nonverbal behavior varied widely in their stringency and reliabilities both in and across studies. Reliability is critical if nonverbal communication is to be completely understood.

Mehrabian (1972) noted the frustration of many researchers in the realm of nonverbal behaviors as he stated, "there are so many behaviors one can observe and study that it becomes difficult to know where to start, what to exclude, or how to order the priorities". (p. 179)

Eye Contact

Facial expressions, perceived by many as being more reliable than words, convey information about a person's emotional state, mood, attitude, interpersonal roles, intelligence, race, age, sex, and attractiveness. (Ekman and Friesen, 1969; Ekman and Friesen, 1975; Harper, Wiens, and Matarazzo, 1978) The face has the highest degree of visibility of any area of the body because it is not easily concealed. (Weitz, 1974) In nonverbal communication it "may be the single most important area of the body". (Harper, Wiens, Matarazzo, 1978; p. 77)

Interpersonal communication has long been facilitated by facial expressions. Faces have extensive communication potential and information about an individual can be transmitted through the understanding of facial expressions. (Leathers, 1976) A great number of messages can be transmitted in a short period of time. (Weitz, 1974)

An individuals eyes and smile often dominate the face creating facial expressions and providing nonverbal information. The eyes and smile are often the source of insight into an individuals feelings, thoughts and behavior. (Weitz, 1974)

Although eye behavior has historically held the interest of observers of human behavior, focused research in the area of eye contact can be found in journals and scholarly writing primarily since the 1960's. In no way exhaustive, extensive

research has focused on eye contact, including defining the term, assessing accurate measurements, and noting significance. (Anderson and Coussoule, 1980; Burgoon, et al., 1986; Burgoon, et al., 1984; Druckman, et al., 1982; Harper, et al., 1978; Webbink, 1985)

Since the term eye contact has been criticized as vague, researchers have attempted to use terms that more accurately describe the actual activity being monitored (Webbink, 1985) such as "mutual or shared glances" (Exline, 1976), "gaze and mutual gaze" (Knapp, 1978), and "eye engagement" (Exline and Fehr, 1980). However, despite efforts to effectively describe eye behavior, the term eye contact continues to be commonly used and understood. (Vargas, 1986)

Additionally there has been a concern that visual behavior can be accurately measured in experimental situations. However, it appears that satisfactory measurements have been accomplished with a relatively high degree of reliability. Harper, et al., (1978) state that, regardless of methodological problems that may exist in evaluating gaze direction, when a person's head and eyes are looking directly at another individual and the two people are stationed at an ordinary social distance, reasonably accurate ratings of gaze direction can be obtained. Druckman, et al., (1982) also noted that reliability may vary with increased distance between individuals engaged in mutual gaze and when

the individual being observed is not directly looking at the observer. However, observer rating reliability remained high.

Individuals look at something, unless their eyes remain closed; therefore, eye contact is an activity that is almost continuous. (Grant, 1969) Even though there may be different facets of encounters between people, simultaneous reciprocal interaction occurs when two people make eye contact. (Heron, 1970) Thus, eye contact is often the basis of establishing relationships. (Exline, 1974) Eye contact, according to Heron (1970), is one of the "most intimate modes of interpersonal encounter." (p. 243) Visual interaction between individuals is a form of nonverbal communication that is both direct and powerful. (Weitz, 1974) As noted by George Simmel, "By the glance which reveals the other, one discloses himself...the eye can not take unless at the same time it gives. What occurs in this direct mutual glance represents the most perfect reciprocity in the entire field of human relationship." (Champness, 1970; p. 309) Eye contact helps "to define who interacts, how they interact, and what they communicate." (Webbink, 1986; p. 13) It functions to regulate communication flow, seek information, conceal information, monitor feedback, express feelings, exhibit emotions, communicate social roles and relationships (Vargas, 1986; Knapp, 1978; Druckman, et al., 1982; Anderson and Coussoule, 1980) and attempts to influence the behavior of others. (Druckman, et al., 1982) Anderson and Coussoule (1980) state,

"research indicates that by engaging in mutual gaze, a person signals a willingness to interact with another person."
(p. 44)

Anderson and Coussoule (1980) indicate that eye contact is seen as important in reducing psychological distance between two individuals. Engaging in eye contact intensifies positive affect while ascribing the qualities of warmth and attractiveness to the individual participating in the interaction. Eye contact avoidance may denote closed reception for interpersonal interactions. However, increased or prolonged eye contact may be viewed as a treat or aggressiveness.

Burgoon, Coker and Coker (1986) grouped the communicative effects of eye contact into four categories. The first category, credibility and power, linked eye contact amount and directness to credibility. Greater eye contact appeared to be a high predictor of the emergence of leadership. Secondly, persuasion and eye contact were shown to be intrarelated. Persons exhibiting high degrees of eye contact appeared to more easily persuade others to help them. The third category, attraction, is characterized by a higher degree of eye contact accompanying greater attraction. Females appeared to feel a greater degree of liking when direct eye contact was increased; however, males were not affected by increases. The final category, relational messages, focused on an individual's interpersonal relationship with other people.

Ross (1992) found that individuals most consciously used eye behaviors to communicate desired impressions. Individuals may consciously attempt to control communication cues in an effort to create a specific impression. Burgoon, et al., (1986) determined that high levels of eye contact communicated attraction, trust, caring, dominance, persuasiveness, and aggression. Eye contact aversion projected the opposite meaning; thus, conveying negative relational connotations leading to the perception of lower credibility and attraction. Gaze aversion "expresses nonimmediacy, nonaffection, nonreceptivity, lack of trust, and possibly dissimilarity and superficiality." (p. 518) Burgoon, et al., (1984) noted that the outcome of an interaction was highly influenced by a communicator's style.

Webbink (1986) notes that eyes are thought to have a language that can convey an individual's attitudes and emotions. It is believed that eyes can express what words fail to say and a person's eyes have the potential to reveal information about the individual's current state of being. Although culturally related, clues about an individual can be provided through eye contact variations and the person's looking behavior. Webbink reported that people developed stable distinctive nonverbal styles. Their looking behavior varied greatly. She stated, "Research findings are thus consonant with widely held beliefs which associate eyes with individual identity and which consider the eyes to mirror the

'soul'. Every person exhibits her/his own unique pattern of eye contact." (p. 107) Eye contact patterns provide insight into the ability of an individual to relate interpersonally with others. Reporting on two studies, one conducted by Libby and Yaklevich, Webbink (1986) notes that people who were considered high nurturers, looked at others more than did low nurturing individuals. The other study, conducted by Marks, found that individuals engaging readily in eye contact demonstrated a higher level of empathy than individuals that avoided eye contact.

Druckman, et al., (1982) indicated that individuals engaging in higher levels of eye contact were seen as having more positive attributes. Whereas, individuals avoiding eye contact were seen to be somewhat suspicious and less credible. Although the assumptions regarding individuals involved in gaze avoidance may be false, understanding possible impressions created by gaze avoidance should assist individuals interested in controlling the impressions they project in eliciting desirable responses to their interactions. A caveat impacting upon the impression created as well as the duration of eye contact may be the sex, culture, or personality of the individuals involved in the interchange. The context of the social relationship may also impact the impression formed. (Druckman, Rozelle, and Baxter, 1982; Vargas, 1986)

Individuals monitor eye contact throughout conversations to determine interest, understanding and acceptance. (Vargas, 1986) However, they tend to avoid direct eye contact more when they are focusing on questions that are thought-provoking and also when they are developing responses. (Vargas, 1986; Knapp, 1978) Referring to eye contact avoidance Vargas (1986) notes, "As their concentration turns inward, they seem to prefer to reduce visual stimulation." (p. 57)

Harper, et al., (1978) reporting on a study completed by Kendon and Cook in 1969 noted that subjects involved in longer, less frequently eye contact were liked better than those involved in interactions that were characterized by brief, frequent eye contact. They note that eye contact has also been studied in its relationship to power and status, finding that individuals projecting a superior role engage in less eye contact with subordinate others. Hearn (1975) proposed that eye contact would be maximized if the individual with which a person was communicating was considered to have a status that was moderately high, while low status individuals were afforded minimal eye contact.

Eye contact has been highly considered in the study of intimacy, romantic relationships, and emotional expressions. (Harper, 1978; Knapp, 1978; Burgoon, Buller, Hale, and deTurck, 1984) Although the face in its entirety is usually the focus of research judging emotions, the eyes can provide insight into emotions. (Knapp, 1978)

Burgoon, et al., (1984) found eye contact in a relational context highly linked to intimacy and liking, as it occurred more among liked individuals and individuals considered friendly and favorable socioemotionally. Lack of eye contact was noted "as a primary message of nonimmediacy and psychological distance." (Burgoon, Buller, Hale, and deTurck, 1984; p. 355)

Knapp (1978) stated that individuals look more at something considered rewarding. Reporting on several studies, Knapp indicated that individuals engaged in more eye contact when they had a friendly relationship, and avoided eye contact where a negative relationship existed. Verbal exchanges were viewed more positively when higher levels of eye contact were evident. Knapp suggested that the positive or negative feelings an individual had regarding another person was related to eye contact.

Mehrabian (1971) indicated that when an individual was deceitful their nonverbal behavior projected negative feelings to a greater degree. Anderson and Coussoule (1980) found eye contact linked to increased perception of honesty and trust.

Ekman (1985) stated that people believed that eyes could betray concealed feelings. Eyes were "thought to be the windows of the soul, the eyes are said to reveal the innermost true feelings." (p. 141) Eyes can provide deception clues. While various emotions may cause gaze aversion, deception may not be linked to an averted gaze. According to Ekman, actual

deception clues were found only in involuntary increased blinking, pupil dilation, and tears. Distress could be noted through tears when other distress signals were hidden. The face may conceal emotions or it may express false or non-existent emotions. (Ekman, 1985) People may project more pleasant facial expressions than they are actually feeling and, thus, may deceitfully cloak their emotions. This situation may occur in awkward social interactions where the uncomfortable individual attempts to create a tension release by placating the other person involved in the exchange. (Mehrabian, 1971) However, Ekman (1985) cautions, "A lie catcher should never rely upon one clue to deceit, there must be many." (p. 147) One facial clue should not be considered in isolation but found in additional facial clues.

In a recent study by Campbell (1991) it was shown that individuals' facial features, eyes and smiles, may have an impact on others. Large eyes were perceived as indicative of a person having a child like personality and individuals with this facial feature were given more help without expectation of reciprocation. Individuals with a large smile were perceived as having more social personalities. (Campbell, 1991)

Burgoon, et al., (1984) saw eye contact and smiling as nonverbal behaviors that were central to relationship communication. They also suggested that nonverbal cues needed to be considered in relation to one another. The results of

their study, including eye contact and smiling, supported the concept that the human face was often relied upon to provide information regarding an individuals affective state.

Smile

Smiles and eye contact have a positive relationship. A smile may be easily observed and evaluated without direct eye contact. However, the accurate judgment of eye contact occurrence may be biased by smiles. (Martin and Rovira, 1982) A smile, lip corners turning up when the individual is in a positive affective state, is an easily recognized and identified facial expression (Ekman and Friesen, 1982; Ekman, 1985; Harrison and Wiemann, 1983), yet its origin remains elusive. (Ekman and Friesen, 1982) People generally find pleasure in seeing smiles (Ekman, 1985), and have a higher degree of comfort in communicating with individuals that frequently smile. (Stephens and Valentine, 1986) It is difficult for people to avoid reciprocating smiles. (Ekman, 1985) A tenuous but important link between individuals is provided through smiles. (Davis, 1973)

When studying smiles, the focus is primarily on nonverbal messages. (O'Sullivan, 1983) Shor (1978) noted that adults have a sophisticated smile concept which includes well developed skills related to the production and interpretation of smiles. Smiles may be interpreted through observing the changes in magnitude of the smile, knowing the context in which the smile occurred, and understanding its meaning.

Through these indicators a "common sense understanding of smiles" (p. 80) is gained. Examples of the common place smiles in the American culture listed by Shor were; winning smiles, smug, insincere, heart-warming, plastic, contemptuous, grins, smirks, friendliness, greeting, unfriendly, and smiles that could be used for social influence and those that created positive feelings. Smiles could be spontaneous nondeliberate expressions of pleasure yet they also can be used deliberately to convey a meaning or produce an effect. Smiles may be spontaneous and actual expressions of felt emotion or readily feigned, controlled, or cloaked. Adult smiles may be combinations of spontaneous reflections of pleasure, monitoring, and control. Smiles hold social information. The task of the observer is to interpret the smile to determine its meaning. (Shor, 1978)

Smiling is "an active display of tranquility and positive attitude." (Van Hooff, 1972; p. 211) A smile may denote "the inner physiological state of joy." (Harrison and Wiemann, 1983; p. 208) Conversely a smile may be artificially produced and modified commensurate with social rules. Smiling is a rather obvious nonverbal communication clue that appears to have several different forms. (Harrison and Wiemann, 1983)

The voluntary and involuntary aspects of a smile were not considered in early works. A distinction was not made between types, and smiles were seen as a single form of behavior. (Ekman, Davidson, and Friesen, 1990) According to Ekman

(1992), researchers that did not distinguished between types and the various meanings of smiles have not obtained accurate results. The complexity of smiles is generally overlooked. Smiles differ in form, appearance, and the message being expressed. (Ekman, 1985) Ekman identified numerous types of smiles emanating from positive emotions, the desire to conceal, and from personal misery. False smiles were also identified. They may be exhibited by a person to conceal negative emotions.

Ekman identified the felt or 'Duchenne smile' as one that could be distinguished from all other smiles. A genuine smile of enjoyment and positive emotions, the 'Duchenne smile' was a felt smile. It gains its name from Duchenne de Boulogne a French anatomist's writings and observations on smiles published in the early 1960's. Ekman, et al., (1990), using Duchenne's original work as a reference, labeled the felt smile a 'Duchenne smile'. The 'Duchenne smile' was characterized by specific facial muscle actions. The zygomatic and orbicularis oculi muscles create an action in combination that occurred when spontaneous enjoyment was felt. "The first obeys the will but the second is only put in play by the sweet emotions of the soul. Finally, fake joy, the deceitful laugh, cannot provoke the contraction of this latter muscle." (Duchenne, 1862; p. 126) The zygomatic major muscle pulls the corners of the lip up and toward the cheekbone. The orbicularis oculi muscle lifts the cheek and pulls the skin

inward from around the eye. (Ekman and Friesen, 1982) Bags become visible below the eyes, the eyes narrow, and crowsfeet wrinkles appear. Only a truly felt smile could cause the muscle around the eye to contract during a smile. (Ekman, 1992) The smile produced, the 'Duchenne smile' (Ekman, 1992; Ekman, Davidson, and Friesen, 1990) may also be distinguished by its bilateral symmetry and its timing. Ekman also demonstrated through his studies, using the 'Duchenne smile', that levels of enjoyment could be determined.

In a recent study it was found that individuals displaying higher levels of enjoyment smiles were viewed as more positive than those displaying nonenjoyment smiles. (Frank, Ekman, and Friesen, 1993) According to Frank, et al. (1993), there were many physical differences apparent in enjoyment smiles not found in nonenjoyment smiles. These physical differences were observable and appeared to influence impressions created. Enjoyment smiles had social meaning and were directly related to increased positive impressions.

Conversely people may be misled by smiles that are not truthful as smiles can be used to conceal true feelings. False smiles lead the observer to inaccurately determine that a person was happy when actually the person was not, incorrect information had been conveyed. When a person was found in an extreme position of discomfort the smile may have been difficult to interpret. Pleasant expressions occurring in awkward social situations may be used in an attempt to

eliminate both tension and to relieve discomfort by placating the receiver of the message. (Mehrabian, 1971) In high-anxiety causing situations Mehrabian (1971) found individuals exhibited more smiling than demonstrated by those in low anxiety situations. Thus Mehrabian proposed, "the greater one's skill in interpersonal relations, the less is the negative affect communicated nonverbally while being deceitful." (p. 72)

Subtle clues may be seen in the face providing accurate information about felt emotions regardless of an individual's attempt to conceal those emotions. Clues to deceit had a higher likelihood of being observed when the deceit involves emotions and the emotion was being felt during communication of the lie. (Ekman, et al., 1988)

Ekman and Friesen (1982) separate false smiles into two types, phony smiles, which attempted to make a person believe a positive feeling was present when actually very little if anything was felt, and masking smiles, which attempted to conceal strong negative emotions as positive feelings. False smiles were distinguished from felt or 'Duchenne smiles' as muscle action around the eyes was usually not present. The eye-brows will not be lowered. Lips will smile, but the eyes will not reflect the smile. Additionally there was a high probability that a false smile would be slightly asymmetrical. (Ekman and Friesen, 1982; Ekman, 1985)

As early as the works of Duchenne (1862) it was noted that a false smile could be recognized by an attentive observer. The muscle producing a depression around the bottom of the eyes was only displayed when genuine feelings were present. "It's inertia in smiling unmasks a false friend." (p. 128) Ekman (1990) supported Duchenne's concept of recognizable feigned smiles sighting his own studies which showed that only Duchenne smiles were exhibited when subjects reported happiness.

The works of Fox and Davidson with infants also supported Duchenne's observations regarding felt smiles. Fox and Davidson (1988), in their work with 10-month-old infants, differentiated between felt smiles and unfelt smiles by observing orbicularis oculi muscle activity and noting differences in brain electrical activity. When infants exhibited felt smiles, left frontal brain activation was displayed; whereas, right frontal activity was noted during false smiles. "The difference between these expression periods was a function of differences in left frontal activity, with smiles involving only zygomatic activity associated with less left frontal activation compared with smiles associated with movement in both cheek and eye regions. There was little difference between smile types in right frontal activity." (p. 234)

Fox and Davidson's work also supported Ekman's concept that felt smiles have a longer duration than false smiles.

Within the social context of mother/child and stranger/child interactions, felt smiles were more frequently exhibited with the approach of mothers to their child. False smiles were more highly visible when a stranger approached the infant. Fox and Davidson attribute the change in smile possibly to an avoidance response being elicited at the approach of a stranger. The fact that 10-month-old infants could display either felt or false smiles indicated that at this early age children "are capable of regulating certain emotion expressions and of using subtle facial behaviors in different social contexts." (p. 234)

In an earlier work, Fox and Davidson (1987) noted, "left-frontal activation is observed during the experience and expression of positive affect and right-frontal activation is observed during the experience and expression of negative affect." (p. 234) Infants responded positively with sighs of joy when their mothers approached them. However, the initial emotion of joy changed to sadness and anger with the continued approach of a stranger. Interestingly the infants did not demonstrate signs of fear when the stranger approached. (Fox and Davidson, 1987)

The form of smile described by Ekman (1985) as listener response is used as one that enabled the person speaking to know that the listener understood what was being said. It was a conversational facial signal equivalent to the words, "mm-hum" (Ekman, Friesen, and O'Sullivan, 1988; p. 415), "yes I

understand, please go on." (Ekman, 1885, p. 157) It may be accompanied by a nod of the head.

Seventeen additional smiles were distinguished by Ekman (1985). The various types of smiles included the fear smile where the risorius muscle pulled the lips toward the ears, the action occurring primarily with fear; contempt smiles where the lip corners angled up; the dampened smile where positive emotions were felt but suppressed; and the miserable smile acknowledged but did not conceal negative emotions. Blending emotions with enjoyment created the enjoyable-anger, enjoyable-contempt, enjoyable-sadness, enjoyable-fear, enjoyable-excitement and enjoyable-surprise smiles. Two smiles involving eye contact were the flirtatious and embarrassment smiles. Deliberately made smiles serving social functions were the qualifier smile softening an unpleasant message; the compliance smile showing acceptance; and the coordination smile showing agreement.

Brannigan and Humphries (1972), in discussing children's smiles, noted that the type of smile projected was situationally related. A broad smile was characterized by exposure of both the upper and lower set of teeth. The corners of the mouth move upward and outward. However, if eye contact occurred during the smile, the lower lip moved to cover the lower teeth. Exposure of the lower teeth appeared to be an aggressive threatening act. The signal perceived as

aggression was eliminated once the lower set of teeth was covered.

Deutsch, et al., (1987) examined sex differences in relation to smiling. They focused on the way men and women were perceived. Generally all smiling individuals were perceived "as happier, warmer, more carefree, more successful, more relaxed, and more polite." (p. 342) Women appeared to smile more frequently than men. Brennan-Parks, et al., (1991) indicated that smiling may be affected by gender. They found that women wanted to smile more than men in specific situations. Smiling may be linked to women's perception of role expectations in particular situations rather than personality. Deutsch, et al., (1987) noted traits most frequently associated with a smile generally were not associated with women more intensely than men. Accordingly, Deutsch, et al., proposed that women's smiles may convey less information than men's, since the smile of a woman is relatively common. The nonsmiling woman's face was regarded as providing more information than a man's nonsmiling countenance.

Knapp (1978) stated that some individuals have a higher degree of sensitivity to receiving nonverbal cues than others. Additionally, some individuals proficiency level is much higher than others in projecting nonverbal feelings and attitudes. A well developed social competency, according to

Knapp, depends upon the ability of an individual to accurately send and receive nonverbal cues.

Various aspects of smile behavior have been studied in an attempt to gain more information regarding the essence of smiling. Smile magnitude, (Shor, 1978), types of smiles (Ekman, 1992; Ekman and Friesen, 1982) emotional expression (Ekman, Davidson, and Friesen, 1990) and regional brain activity linked to smiling (Ekman, Davidson and Friesen, 1990; Davidson, Ekman, Saron, Senulis, Friesen, 1990; Fox and Davidson, 1988) have all been the focus of research in an attempt to gain more incite into the essence of smiles.

Duchenne (1862) in the mid 1800's writes, "As man has the gift of revealing his passions by this transfiguration of the soul, should he not equally be able to understand the very varied expressions successfully appearing on the face of his fellow men? What use is a language one cannot understand? To express and to monitor the signs of facial expression seem to me to be inseparable abilities that man must possess at birth. Education and civilization only develop or modify this." (p. 29)

Employment Interviews

Employment interviews are used by school system employers as a vehicle for selecting teachers from among viable teacher candidates. They are the most frequently used method of discriminating among applicants to assist in determining potentially successful employees. It is an integral part of

the hiring process. In an attempt to determine factors which distinguish between successful and unsuccessful candidates research projects have focused on employment interviews. (Anderson, 1991; Tullar, 1989; Riggia and Throckmorton, 1988; Gifford, Ng, and Wilkinson, 1985; Hatfield and Gatewood, 1978; Young and Beier, 1977)

Wagner in 1949 and Ulrich and Trumbo (1965) in 1965 reviewed the interview process research literature. Information regarding nonverbal behaviors and the interview process was sorely lacking. However, of interest in both reviews was the call for greater standardization and a narrowing of the scope for interview research. Ulrich and Trumbo indicate that with a better understanding of the interview process, better interviews could be conducted and interviewers could be more effectively trained. Wright (1969) continued the literature review indicating that unfortunately much of the work published to that point was opinion based rather than informative and of little value in adding to the selection interview knowledge base. He does, however, address nonverbal cues in the hiring process indicating that nonverbal behavior along with verbal cues has an impact on interview decisions. More currently, the impact of nonverbal behavior as it influences candidate selection in the employment interview has received increased attention.

When considering the employment interview and factors identified in the successful candidate, Tschirgi (1972) noted

the importance of grade point average, appearance, and work experience. However, he stated that the highest consideration was given to the candidate's ability to communicate. He proposed that individuals recruiting candidates for possible job openings were more highly impressed with a candidate's communication skills than with their achievement potential noted in their resume. Tschirgi stated the factors a recruiter found most significant were readily visible; the candidates appearance, attitudes, and ability to communicate. However, he noted that communication skills may become secondary if the resume contains unusually impressive achievement information.

Tschirgi's thoughts were echoed by Young and Beier (1977) as they reported on Imada's findings that more favorable hiring evaluations were given to candidates that had a nonverbal behavior style that was active rather than less-active. Young and Beier attempted to assess the effects of the nonverbal behaviors of eye contact, positive facial effect (smiling), and head movement on hiring evaluations. These behaviors were presented as important factors in "subtle persuasion." Candidates exhibiting nonverbal behaviors perceived by the interviewer as positive were more likely to receive favorable consideration than candidates with limited positive cues. Young and Beier's research findings showed a positive correlation when verbal communication was held constant between applicants displaying a high degree of eye

contact, head movement, and smiling, and the applicants receiving favorable evaluations because the interviewer felt they deserved the position. Young and Beier suggested that nonverbal behavior was a powerful social reinforcer.

Amalfitano and Kalt (1977) also studied nonverbal behavior in the employment interview, specifically eye contact and its impact on the interviewer's evaluation and decision to hire candidates. Through their study, they were able to ascertain that eye contact was a determinant in the hiring decision. While their work was a beginning, it was conducted through the use of photographs and would have had an increased value if real people had been used.

In a study done by Burgoon, et al., (1986) focusing on eye contact, a high degree of meaning was found to be projected in nonverbal behavior. Burgoon, et al., indicated that employment interviewers evaluate prospective job candidates using continuous eye contact as "more composed, competent, attractive, and of higher character" (p. 503) as opposed to candidates that demonstrated averting eye contact. Candidates with eye contact aversion were given lowered employment recommendations.

The study by Gifford, et al., (1985) of candidates for an actual employment interview was undertaken in an attempt to gain an understanding of the total role of nonverbal behaviors during the interview process. They considered facial regard, smiling, gesturing, trunk recline, self-manipulation, and

object-manipulation using a modified Brunswik lens model to examine ecological validity, nonverbal behavior, and achievement of attributions relative to job applicants and their job related qualities. Gifford, et al., stated that there was value in using the lens model in determining the role nonverbal behaviors had in the employment interview. Thus, the use of the lens model was offered to provide accurate assessments of candidates. Gifford, et al., believed that nonverbal behavior could provide accurate insight into the candidate's social skills and assist the interviewer in determining if the candidate was desirable for a specific position. They suggested that it was appropriate for interviewers to focus on nonverbal behaviors and, thereby, obtain true indications of the applicants' qualities. Attention should be focused on the complete role of nonverbal behavior in employment interviews.

Anderson (1991) stated that the candidate's facial area seemed to be important in forming the interviewers impression. He indicated that interviewers needed to be aware that candidates could possibly control highly visible nonverbal communication signals thereby purposefully biasing behaviors to obtain favorable interview results. In an earlier study Anderson, et al. (1990) found that interviewers' impressions of candidates were based on facial behaviors. They questioned the predictive quality of the decisions made by interviewers

when the decisions were based upon processing information emanating from interviewers' perceptions.

Hollandsworth, et al., (1979) described the importance of the employment interview and discussed the increased debate pertaining to communicative dimensions as related to the interview. Believing the word dimension was more expansive than behavior, since dimension indicated observable, personal attributes, Hollandsworth, et al., used the term nonverbal dimension when considering a candidate's appearance, dress, and grooming. Examining the nonverbal dimensions of eye contact, body posture, personal appearance and composure, they determined that the vocal aspects presented in the interview were of primary consideration outweighing nonverbal dimensions. They found that although eye contact, body posture, and appearance had an impact on the decision to employ a candidate, these dimensions were given far less consideration than the candidate's ability to communicate at the vocal level. What the candidates did and the fluency of their speech were both important factors in the employment decision. Therefore, Hollandsworth, et al., proposed that communication dimensions whether verbal, articulative, or nonverbal were all important factors in obtaining a position through the interview process.

Ugvah and Evuleocha (1992) indicated that several studies reinforce the concept that both verbal and nonverbal behavior demonstrated by a job candidate had an impact on the decision

of a recruiter to recommend the candidate for employment. Through their own study, they determined that the employment decision was a multi-dimensional construct including, but not limited to, resourcefulness, written credentials, support for arguments, social attributes, comportment, and style. Ugva and Evuleocha found that a candidate's written credentials were considerably less important than the oral component of an interview. Thus, it was conceivable that a high quality candidate may not have been successful in an interview if he or she demonstrated ill-developed social skills; whereas, poor candidates may be taught to appear much better than their credentials project when they have developed refined nonverbal behavior. The implication of Ugva and Evuleocha's study was that interviewers must strive to maintain the validity of their employment decision making process.

Interviewers also need to be aware, according to Hatfield and Gatewood (1978), that they are continuously making conscious and unconscious decisions about a candidate based upon the candidate's nonverbal behavior. Nonverbal cues can provide reliable information about the candidate. Hatfield and Gatewood believed that interviewers have distinctive, unique ways of interpreting each candidate's behavior.

Imada and Hakel (1977), focused their study of nonverbal behavior on eye contact, smiling, posture, interpersonal distance, and body orientation as reflected in proximity. They found that those candidates who were in closer proximity

to the individual conducting the interview were ranked more highly desirable as possible employees. Additionally, they determined that nonverbal cues had an impact on the interviewer's impressions and decisions. As a result of nonverbal behaviors exhibited during the actual interview useful or interference factors could impact the selection decisions.

Riggia and Throckmorton (1988) stated that a negative factor in early nonverbal behavior research was found where actors were used to demonstrate nonverbal behavior at the extremes. They suggested that typical nonverbal behavior should be studied in an effort to determine the normal distribution of nonverbal behavior.

Cissna and Carter (1982), when discussing the quality of communication in the employment interview, noted its importance in determining interview success. They listed six factors as important components of nonverbal behavior. The factors evaluated during the employment interviews were facial expression, posture and movement, gestures, appearance, eye contact, and the handshake. These nonverbal cues form basic communication skills that should be addressed by candidates striving to be successful in projecting their qualifications and uniqueness.

It must be noted that various other nonverbal factors could possibly constitute contaminants of accurate observation of a candidate's behavior and the selection process conducted

by an interviewer. It is a common belief that the 'halo effect,' as described by Lathan, et al., (1975), where an interviewer was impressed with a candidate solely because the candidate appeared to have similar qualities and, perhaps, general appearance as the interviewer, could create a bias in the evaluation of the candidate. Additional possible contaminants, as noted by Lathan, et al., where the impact on the interviewer of the immediately proceeding candidate, the sex and attractiveness of the candidate, and the age of the interviewer. These factors may influence the candidate's evaluation and the potential for a job offer.

Cann, et al., (1981) discussed the fact that females may not be rated as highly as males and that physical attractiveness may influence the employment decision. A more attractive person often received a higher rating than a less attractive candidate. They proposed that interviewers should be made aware of the possible influence of physical attractiveness related to hiring decisions. Young and Beier (1977) also noted physical attractiveness as significant in influencing hiring decisions. However, they considered appearance as less important than nonverbal communication style.

von Raffler-Engel (1981) stated that age of the interviewer had an impact on the severity of his or her judgment during the interview. Older interviewers tended to evaluate candidates more critically. Years of interviewing

experience did not appear to affect the interviewer's recommendations. Additionally, von Raffler-Engel found, as a result of her research, that professional women knowingly attribute more importance to nonverbal cues than professional men. von Raffler-Engel noted that women were somewhat more comfortable interviewing males than are men interviewers when confronted with a female candidate.

Johnson (1990) investigating gender differences in interviewing techniques during the interview process for available managerial positions found that women and men performed equally. During interviews women, according to Johnson, included more head nodding and smiling while men used more gestures. These nonverbal cues were linked to higher interview evaluations. It was also noted that women changed their behavior more than men in an effort to respond to an interviewer's friendliness. Johnson determined that assertive women were given a higher evaluation ranking than those that were less assertive. The assertive women were treated well and judged on a level equal to assertive males. Additionally more eye contact and smiling was evident among more positively judged candidates.

McClintock and Hunt (1975) found that during interviews when candidates were in an uncomfortable unpleasant tension causing position, distinctive nonverbal cues became apparent. Eye contact, in particular averted eyes, and smiling displayed by candidates in uncomfortable, tense, or embarrassing

interview situations could be used to identify the candidates feelings.

Understanding the role of nonverbal behaviors in the interview process assist the interviewer in gaining insight into qualities of the interviewee. If the individual seeking employment recognizes the value of communication, especially nonverbal communication in the interview process, competencies could be improved. (Cissna and Carter, 1982) Cissna and Carter (1982) stated, "...often the most highly qualified individual for a position is not the successful applicant simply because he or she does not know how to communicate his or her qualifications and uniqueness to the perspective employer in a productive and successful manner." (p. 63)

Tullar (1989) commented that if the interview process is to be thoroughly understood, the sequence of behaviors encountered during the interview will need to be carefully studied. This includes verbal messages, interactions, and all nonverbal behaviors.

Summary

Chapter Two presented a review of the literature related to nonverbal communication, the nonverbal behavior of eye contact and smile, and nonverbal communication in employment interviews. Chapter Three will present the methodology including the sample, instruments, procedure and method of data analysis used in this research project.

CHAPTER THREE

METHODOLOGY

Chapter Three describes the methods and procedures used in this study. The chapter has been divided into sections including the sample, instruments, procedures, data analyses, questions, statistical procedure, and assumptions.

The Sample

The subjects selected for this research project were elementary teacher candidates seeking employment in elementary schools. Fifty teacher candidates were randomly selected from individuals that had submitted an application and were currently seeking employment with a Mid-Atlantic state public school system. To be considered for participation in this subject pool, a teacher candidate must have completed her student teaching in one of the elementary schools in the school system and could not be employed in a permanent teaching position. Teacher candidates must have met the current standards established for employment consideration which include eligibility for state teacher certification, high academic achievement with a grade point average of 3.0 or higher, excellent references consisting of outstanding and above average ratings, a 90 percent or higher rating on the structured screening interview, and an above average application rating.

Student teaching is usually a component of an individual's education that is accomplished in the last year of one's undergraduate education. Since the majority of undergraduate students complete their education within four or five years of graduation from high school, the teaching aspect of their education and final eligibility for certification is usually granted when an individual is approximately 21 to 24 years of age. The teacher candidates considered for participation in this study were caucasian females between the ages of 21 and 24.

The fifty teacher candidates were recruited through a letter inviting them to participate in the study. (Appendix A) Letters were sent to sixty student teacher candidates with the anticipation of an 85% response rate. (Appendix B) Eighty three percent of the candidates solicited agreed to participate in the study. Three additional teacher candidates were needed as substitutes in the event a candidate included in the study was unable to attend the scheduled interview. Therefore, telephone solicitation was used to make personal contact with teacher applicants to request participation in the research project. The primary reason offered by candidates that declined to participate in the study was a prior commitment to substitute teach during the time interviews were scheduled. Candidates that were unable to participate in the study were later offered employment interviews, and several were employed.

The participants were comprised of a random selection of ten male principals from a group of thirty elementary principals employed by the school system where the study was conducted. The principals were approximately twice the age of the teacher candidates. All individuals included in this group were employed in the position of principal for three years or more and had experience interviewing teacher candidates. They have all hired teachers for available positions in their respective elementary schools. Their willingness to participate in the study was acknowledged by a letter briefly describing the project and thanking them for their participation. (Appendix C)

The school system selected for this research project encompassed a suburban to moderately rural population which was fairly uniform in complexion. Therefore, differentiation was not made regarding ethnic composition, size, or social economic climate of the schools from which the principals were be chosen.

Instruments

A demographic survey including professional and personal information was completed by each principal included in the research project. (Appendix D) A questionnaire comprised of both questions requiring forced choice responses and open ended questions developed by the primary researcher were used to determine the principals' perceptions of the teacher candidates' nonverbal communication as demonstrated through

eye contact and smile. (Appendix E) The questionnaire was also used to assess the principal's evaluation of the teacher candidate's acceptability for permanent employment.

The final survey, including an open ended question and forced choice response items designed by the primary researcher, captured the principal's ranking of each candidate interviewed and was used to probe the extent of influence eye contact and smile had on the principal's judgment of candidates rating. (Appendix F)

A post interview teacher candidate questionnaire was completed by each candidate once the formal interview was terminated. The questionnaire was used to determine the candidates' perception of the interview. (Appendix G)

A check sheet was used in conjunction with direct observation by the experimenter to tally the frequency and duration of eye contact initiated by teacher candidates and to determine the occurrence of smiles and type of smile displayed throughout the interview process. The total duration of the interview between the principal and teacher candidate was also noted. (Appendix H) A second observer used the check sheet throughout the interview process intermittently collecting data to provide intercoder reliability.

Data was collected through two avenues: a) the perception of the teacher candidate's nonverbal communication as determined through surveys and a questionnaire completed by the principal (Appendix D and E), and b) the candidates'

actual behavior as recorded live by the observers through direct observation.

Procedure

The employment interview was a face-to-face interaction between an elementary school principal and a teacher candidate seeking employment. The general procedure used in this project including the structured interview, surveys, questionnaire, and first hand observation was piloted with the assistance of two middle school principals. The purpose of this pilot study was to standardize the procedure, to determine time sequences throughout the session, to evaluate the accuracy of the questions in relation to information sought on the surveys and questionnaire, and to provide a formal training session for the observers.

To demonstrate intercoder reliability throughout the data collection process two observers were present during each teacher candidate's interview. One observer noted each nonverbal action, eye contact, duration of eye contact, and type of smile, demonstrated during each interview. The second observer noted a sampling throughout the interview of each nonverbal action included in this study. During the first five minutes of the interview the second observer noted duration of eye contact. Number of eye contacts were tallied by the second observer during minutes 5-10 and 15-20. Smiles and types of smiles were noted during minutes 10-15 and 20-25 if the interview lasted over 20 minutes. A reliability check

was therefore recorded for the spontaneous occurrence of each type of facial nonverbal behavior being observed throughout the interview.

After initial consent was obtained from subjects, the teacher candidate, and participants, elementary principals, site-based interviews were scheduled. Five teacher candidates were randomly selected for each group of candidates to be interviewed by a principal. The candidates did not complete their student teaching assignment in the school where their interview was held; therefore, they were unknown to the principal. For each principal, five consecutive thirty minute interviews were prescheduled on the same morning between the hours of 8:00 a.m. and 12:00 p.m. The interviews were conducted by principals with teacher candidates in the presence of two additional individuals, the experimenter and a second observer. Each candidate's interview time was established and confirmed with both the candidate and the principal prior to the day of the interview. Although each teacher candidate was assigned thirty minutes for interviewing with the principal, the actual length of the interview depended on the candidate's response time relative to questions posed by the principal. The interview may have been less than, but no longer than, thirty minutes. Three candidates were held in reserve in the event that one of the five teacher candidates scheduled for an interview was unable to keep the interview appointment.

To provide as natural a setting as possible, the interview was conducted in the principal's office at the actual school site where the principal was employed. The primary goal of the structure of this project was to create the minimal intrusions possible upon the naturalness of the interview interaction. The principal's cooperation was sought in preparing the office as the interview site. An effort was made to maintain a natural setting reflecting a typical principal's office while removing items that may have been distracting to the teacher candidate. Personal items used to adorn the office that may have impacted upon the candidate's responses were removed prior to initiating interaction between the subjects. Interruptions during the interview were controlled by the principal's secretary so that telephones did not ring nor did school personnel enter the room unexpectedly.

Prior to the arrival of the first candidate, the principal completed a permission form (Appendix I) and the demographic survey. The following statement was made by the primary researcher to each principal. "I am here to observe teacher candidate response to a structured interview. Please don't change your interviewing technique in any way because of my presence. I am in no way evaluating you as an interviewer. My purpose is solely to observe the teacher candidates." Any questions the principal had regarding the interviews were answered at that time.

The primary researcher greeted and welcomed each teacher candidate upon the candidates's arrival at the school office. Both the teacher candidate and the primary researcher then proceeded to a quiet area in the main office where seating was available. Once seated, the primary researcher described the interview process to the candidate. The presence of primary researcher as an observer at the interview was explained through the use of the following statement, "I'm observing the interview to gain an understanding of and an insight into the interview process. I would like to know how to conduct interviews so that they can be better for both principals and teacher candidates. I will have no impact on the principal's evaluation of the interview or influence the principal's ranking of candidates." The second observer was explained in the following manner, "A second observer will also be present at the interview. This person is included in the interview to assist in validating my data collection. She will have no impact on the principal's decisions." The statement was then made, "You are interviewing solely with the principal. The observers are not a part of the interview process."

The primary researcher then answered any questions the candidate may have had regarding the project or the interview process. Once the candidate's questions were addressed a permission form was signed by the candidate giving approval to be included in the study. (Appendix J) The candidate and the primary researcher then proceeded to the principal's office

where the candidate was introduced to the principal, and the interview began. Other than a possible handshake, there was no body contact between the principal and the teacher candidate throughout the interview period.

During the interview, the principal and candidate were seated in comfortable chairs directly facing each other. They remained seated throughout the interview, and their chairs were not moved during the interview process. The teacher candidate and principal were separated by the principal's desk or a table in the principal's office; thus, the distance between the interviewer and interviewee was approximately five to six feet. They were within clear view of each other. The observers were seated throughout the interview approximately two to three feet away from the principal. One observer was behind and slightly to the right of the principal, the second observer was behind and slightly to the left of the principal.

Principals conducted each of the five interviews using the same structured format. (Appendix K) Once the structured interview was initiated by the principal, an observer began timing the interview, and data collection was undertaken.

Two stop watches were used by one observer throughout the course of the interview. One stop watch was used to determine the total amount of time the teacher candidate's eyes were in contact with the eyes of the principal. The function of the second stop watch was to record the total duration of the formal interview. The second observer also using two stop

watches, similarly recorded duration of eye contact and timed segments of the interview to add reliability to the data collection.

During the interviews both observers used a clipboard to support the tally sheet. Resting on the observer's lap, the clipboard was held in such a way as to block the stop watches and data recording from view of the candidate. The stop watch used for duration was permanently attached to the top front of the clipboard while the second stop watch, held in the observer's left hand, rested at the lower edge of the clipboard. Silent stop watches were used to lessen the possibility of distraction. The use of stop watches was made as subtle as possible by obscuring them from view and quietly removing them from and slipping them into a jacket pocket when the interview process began and ended. Since the pencil used in event recording was held in the right hand of the observer and remained shielded from view by the clipboard, the tallying of events was not intrusive.

Throughout the interview, the observers used the tally sheet to record the facial actions of eye contact and smile. When recording eye contact, the frequency of eye fixation (the number of times the candidate looked at the principal) as well as the duration of eye contact was noted. The total number of times a candidate smiled at the principal while being interviewed along with the type of smile exhibited, Duchenne, false, or listener response, was also recorded. Hash marks

were entered on the tally sheet each time an action took place. Type of smile was noted using a crescent.

The principal terminated the interview when the formal interview questions were answered by the candidate. Timing the interview and recording nonverbal behaviors ended upon completion of the formal questions. The total time a teacher candidate was engaged in eye contact with the principal and the total duration of the structured interview was noted on the tally sheet. The principal and experimenter thanked the candidate for coming to the school and participating in the interview. The principal expressed pleasure in meeting the teacher candidate. When the candidate exited the office, the second observer accompanied her and obtained a Post Interview Teacher Candidate Questionnaire completed by the candidate.

Once the teacher candidate exited the principal's office, the principal immediately completed the questionnaire regarding the individual candidate's conduct and employment potential. Fifteen minute intervals were scheduled between each interview to allow the principal to complete the candidate rating and to afford the experimenter the opportunity to meet the next candidate, obtain the signed permission form, and answer the teacher candidates questions prior to their interview.

At the conclusion of all five candidate interviews, a general survey was completed by the principal, thereby,

assessing the principal's impressions of the candidate's relative ranking and potential for employment.

Data Analysis

The data analysis examined and compared the information gathered through the surveys, questionnaire, and direct observation. The independent variables of candidate's eye contact and smile were contrasted with the dependent variable of candidate rank, the principal's preference for a candidate for employment, to determine singular or interactive influences. The teacher candidates' characteristics held constant were gender, age, race, educational background, and viability as a teacher candidate for permanent employment. For this study, teacher candidate viability means that the candidate had an academic record showing a grade point average of 3.0 or higher, had scored a 90% or higher on a screening measure, had outstanding references, and had submitted an application that was evaluated as above average.

Research Questions

The research questions investigated in this study and of primary focus during data collection were:

1. Does a relationship exist between the teacher candidate's nonverbal behavior, eye contact and smile, exhibited during an employment interview and the principal's selection rating?

2. Does the number of times a candidate makes eye contact during an employment interview affect the principal's selection rating?
3. Does the duration of the candidate's eye contact demonstrated during the interview affect the principal's selection rating?
4. Does the number of times a candidate smiles at the principal during the employment interview affect the principal's selection rating?

Statistical Procedure

Multiple regression analyses were used to determine the impact that nonverbal cues had on a principal's preference for a candidate's for employment. Since "multiple regression is a technique used to predict scores on a single outcome variable on the basis of scores on several predictor variables.." (Harris, 1985; p. 44), this procedure was used to measure the degree of relationship that existed between the predictor variables and the outcome.

Multiple regression was well-suited to interpret the data collected in this study. By applying multiple regression and correlation analyses to the demonstrated nonverbal communication cues (eye contact and smiling) of a candidate, it would be possible to determine if a significant relationship existed between the nonverbal cues and rank ascribed a candidate for employment. The variable that

contributed most to differentiating the degree of potential for employment was identified.

Assumptions

An artificial situation can not be evaluated as characteristic of an actual employment interview. It is difficult to make accurate generalizations regarding employment interviews involving educators from information gathered through research projects conducted in laboratory settings rather than at actual school sites. Additionally the use of confederates during interviews in place of elementary school principals may create a loss of seriousness on the part of teacher candidates. In several current studies, videotaped recordings of interactions between individuals were used to obtain data and measurements.

Both a laboratory setting and videotaping observable forms of nonverbal communication were considered for this research project; however, the relative obtrusiveness and the potential to alter the visual behavior of the teacher candidate were seen as nonconducive to the focus of this investigation. Although laboratory situations appear to present desirable conditions for the observation of facial expressions, the loss of a natural environment for actual employment interviews is seen as having a negative, less spontaneous, and inhibiting effect on the interview outcome and the individual candidate's performance and ratings. The methodological benefits obtained in laboratory settings or

when using videotaped recordings were not considered to outweigh the benefits derived from the procedural format used in this research project. As a result of the aforementioned considerations, this study was conducted in a naturalistic field setting using credible subjects in both the role of principal and teacher candidate.

Summary

Chapter Three has outlined the methodology used in this research project. The subject groups, the instruments used, the process in conducting the research project, the method of data analysis, the questions, the statistical analysis and assumptions were presented. Chapter Four will present and examine the data collected during this study and will provide results of data evaluation.

CHAPTER FOUR

RESULTS

The purpose of this study was to examine the relationship between elementary teacher candidates' nonverbal communication and their potential to be offered employment by elementary school principals. The nonverbal behaviors investigated in this research project were eye contact and smile exhibited by candidates during employment interviews. The data were examined for significant relationships using the statistical procedures of multiple regression and stepwise regression analyses.

The Sample

As stated in Chapter Three, the subjects used in this research project were elementary teacher candidates that were matched for gender, age, and educational background. They were females between the ages of 21 and 24 and had completed the requirements to earn a Bachelor's degree in education. Each subject had submitted an application for employment as a certified teacher with the same public school system and was considered a viable candidate. All subjects had a strong academic background, outstanding references, and had achieved a high rating in a formal screening interview. The majority, ninety-four percent, were graduates of the same four year institution of higher education. Six percent were graduates of three other colleges or universities. All colleges

represented by teacher candidates were located in the same geographic region, a large metropolitan area in a Mid-Atlantic state. There was no minority candidate representation included in this sample.

Thirty-four percent of the subjects expressed that they had received previous interview training. The reported training ranged from a school system's formal screening interview to a two hour session on interviewing techniques presented through the college or university from which they graduated. Excluding the formal interview, only twenty percent actually had employment interview training. Sixty-six percent of the subjects indicated they had no interview training.

When asked if this was their first formal interview, fifty percent of the subjects responded 'yes.' The fifty percent responding 'no' reported that they had participated in one to seven interviews for an average of 2.66 formal interviews.

The elementary school principals included in this study were employed by the public school system receiving the subjects' applications. All of the principals were male and ranged in age from 46 to 50 years. The average age of the principals was 48.2 years.

There was a high degree of variance in the principals' years of experience, ranging from those serving as a principal for 3 years to others with as many as 24 years of service.

Principals served in their role an average of 11.4 years. Similarly, a wide range in number of previously conducted interviews was found. One principal conducted 15-20 interviews whereas others interviewed between 20-30 and 100-150. Four principals interviewed more than 150 candidates. The average number of interviews conducted by principals was 88.3.

Research Questions

The dependent variable (RANK) in this project was preference for employment of a candidate as noted in the rank each was assigned by a principal following the employment interview. Once principals completed all scheduled interviews, they ranked candidates in order of their choice for employment in their school. This rank order was used to determine which candidates would be offered employment. The candidate ranked "number 1" was the teacher candidate recommended for employment.

The independent variables included the candidates' nonverbal behaviors of eye contact and smiles. Eye contact was considered both for duration of eye contact (DEC) and number of eye contacts (NEC) exhibited during the employment interview. The total number of smiles (NS) exhibited during the employment interview was also investigated. These independent variables were given primary consideration throughout the study.

Additional independent variables considered in relation to candidates' ranking were the principals' years of

experience (YE) and the number of interviews (NOI) previously conducted by each principal.

Based on the candidate's employment interview, principals evaluated perceived attributes of each teacher candidate by responding to a questionnaire. The perceived attributes that were included as independent variables in the analysis of the study results were: candidate's perceived degree of child centeredness (CC); energy level (EL); impact of appearance (IA); apparent knowledge (AK); and degree to which the candidate appeared to 'fit in well' with the school's staff or faculty fit (FF).

To evaluate the research project questions, variables were examined within the framework of a hierarchical ordered regression model with variance partitioning. (see Appendix L) Variance partitioning used in data evaluation was "...for the purpose of determining the relative importance of independent variables." (Pedhazur, 1982; p. 176) When using partitioning of variance, the order in which variables are entered in the analysis is critical and is used to determine "the effect of an independent variable(s) on the dependent variable after having controlled for another variable(s)". (Pedhazur, 1982; p. 178) The progression steps of this regression model are described below as the research questions posed in Chapter 1 are discussed. The research questions along with the study results have been included in this section to maintain clarity.

Question 1

Does a relationship exist between the teacher candidate's nonverbal behavior, eye contact and smile, exhibited during an employment interview and the principal's selection rating.

In the initial analysis the dependent variable, rank, and the three independent variables, duration of eye contact, number of eye contacts, and number of smiles, were entered into a multiple regression analysis. No significance overall was found when all three variables were evaluated in combination in this analysis. These results are shown in Table 1.

Table 1

Collective Nonverbal Behaviors Impact on Interview Rank

<u>Independent variables</u>	<u>Overall F</u>	<u>Probability level</u>
DEC, NEC, NS	2.21	0.10

DEC=Duration of eye contact; NEC=Number of eye contacts; NS=Number of Smiles

The collective nonverbal behaviors of duration of eye contact, number of eye contacts, and number of smiles exhibited during an employment interview did not predict a candidate's selection rating.

Questions 2, 3, and 4

Does the number of times a candidate makes eye contact during an employment interview affect the principal's selection rating?

Does the duration of the candidate's eye contact demonstrated during the interview affect the principal's selection rating?

Does the number of times a candidate smiles at the principal during the employment interview affect the principal's selection rating?

These analyses were accomplished when all related data were entered into a single multiple regression analysis. An analysis of results used in examining these data and evaluating the independent variables' contribution to the predictability of candidate hiring rank is presented in Table 2.

Table 2

Teacher Candidate Nonverbal Behavior Impact on Interview Rank

Independent variables	Standardized regression coefficient	Unstandardized regression coefficient	Standard error	t-value	Probability level
DEC	-0.33	-0.113	0.052	-2.19	0.03
NEC	-0.11	-0.003	0.004	-0.75	0.45
NS	0.06	0.009	0.023	0.40	0.69

DEC=Duration of eye contact; NEC=Number of eye contacts; NS=Number of Smiles

When the dependent variable of rank and the three independent variables of duration of eye contact, number of eye contacts, and number of smiles were analyzed in this format, results of the data analysis indicated that the number of times a candidate made eye contact or smiled during an employment interview did not have an effect on the principal's

selection rating. Therefore, the independent variables of number of eye contacts and number of smiles were not significant. However, duration of eye contact was found to be significant and consequently a predictor of hiring rank. (See Table 2)

For the next analysis, the number of smiles was replaced by its component variables: number of Duchenne smiles (DS), number of false smiles (FS), and number of listener response smiles (LRS). These three variables were analyzed along with duration of eye contact in a stepwise analysis. Number of eye contacts was dropped from this third analysis because it was not significant in the second table. No significance was found when considering only the various types of smile and the teacher candidate's hiring rank. Thus, the type of smile, Duchenne, false, or listener response, exhibited by a teacher candidate had no impact on the principal's assessment of candidate's rank. (See Table 3)

Table 3

Impact of Various Smiles on Elementary Teacher Candidate Rank

Independent variable	Standardized regression coefficient	Unstandardized regression coefficient	Standard error	t-value	Probability level
DEC	-0.32	-0.11	0.052	-2.75	0.037
DS	-0.16	-0.07	0.062	-1.18	0.245
FS	0.24	0.07	0.043	1.67	0.102
LRS	-0.11	-0.03	0.040	-0.7	0.487

DEC=Duration of eye contact; DS=Duchenne smiles; FS=False smiles; LRS=Listener response smiles

Additionally, in the overall multiple regression analysis which includes types of smiles, duration of eye contact and number of eye contacts, no overall significance was evident ($F=3.24$, $p=0.03$). (See Table 4, Analysis #1) Duration of eye contact, however, did retain significance while Duchenne smiles and false smiles were selected in the stepwise algorithm. Although these types of smiles were not significant, they may be of some value in the predictability of candidate rank since they appeared in the formula.

Table 4

Summary Table of Overall Results for the Study Tables of All Analysis Sets of Variables

	Variables	F	Probability
#1	DEC, NEC, DS, FS, LRS	3.24	0.03
#2	DEC, YE, NOI	2.23	0.10
#3	DEC	6.20	0.02
#4	EL, FF, AK	21.92	0.00
#5	N, A	0.12	0.08

DEC=Duration of eye contact; NEC=Number of eye contacts; DS=Duchenne smiles; FS=False smiles; LRS=Listener response smiles; YE=years of experience; NOI=Number of interviews; EL=Energy level; FF=Faculty fit; AK=Apparent knowledge; N=Nervousness; A=Anxiety

Presented in this table are the data for various analysis units included in this study. For clarity and ease in reading, all similar analyses have been reported in this table, and results described throughout the following text will refer to this table.

Additional Analysis

Duration of eye contact, number of eye contacts, and number of smiles were reexamined controlling for the principals' years of experience and number of interviews conducted by the principal. The principals' age was not

The regression coefficient showed near significance under all conditions when using duration of eye contact. Significance across all variables was found only when duration of eye contact was used alone.

The third analysis looked at the principals' perceptions of the candidates child centeredness, energy level, faculty fit, apparent knowledge, and impact of appearance and found that no variable stood alone as significant or had an impact on the candidates' rank as determined by the principal. (See Table 6) However, when a stepwise algorithm was applied to these five variables, energy level, faculty fit, and apparent knowledge in combination showed themselves to have a significant relationship with rank. They were significant and the overall best predictors of rank when used together ($F=21.92$, $p=0.00$). (See Table 4, Analysis 4)

Table 6
Elementary Teacher Candidate Perceived Characteristics
Impact Upon Rank

Independent variables	Standardized regression coefficient	Unstandardized regression coefficient	Standard error	t-Value	Probability level
EL	-0.25	-0.32	0.20	-1.6	0.11
FF	-0.32	-0.40	0.34	-1.7	0.10
AK	-0.28	-0.35	0.19	-1.9	0.07

EL=Energy level; FF=Faculty fit; AK=Apparent knowledge

Data obtained through a questionnaire completed by each candidate immediately following the interview were used in a separate multiple regression analysis to evaluate the

relationship between the candidate's self reported anxiety (A) and nervousness (N) during the interview and their resultant rank. However, no relationship between anxiety, nervousness, and rank was found. (See Table 7) Additionally, in a multiple regression analysis no relationship was found between anxiety and nervousness ($F=0.12$, $p<0.88$). (See Table 4, Analysis 5)

Table 7

Candidate's Anxiety and Nervousness Impact on Rank

Independent variables	Standardized regression coefficient	Unstandardized regression coefficient	Standard error	t-Value	Probability level
Anxiety	0.01	0.03	0.42	0.06	0.95
Nervousness	0.06	0.11	0.31	0.36	0.72

Intercoder Reliability

Intercoder reliability was evaluated and obtained following Ekman and Friesen (1980) "...by using a ratio in which the number of action units on which the two persons agree was multiplied by two and was then divided by the total number of action units scored by the two persons. This agreement ratio was calculated for each event observed..." (p. 1127)

As a reference for evaluating intercoder reliability, all 50 employment interviews included in this study were used in their entirety. Data collected by both observers throughout each interview were used to evaluate the reliability of the coders in observing duration and number of eye contacts and

the number and types of smiles. The mean ratio for duration of eye contact was 0.972; for number of eye contacts, 0.938; and for number of smiles, 0.916. The mean ratios for duration of eye contact, number of eye contacts, and number of smiles were well within acceptable limits. (Ekman, Friesen, and Ancoli, 1980; Exline and Fehr, 1980)

When smiles were considered individually, the mean ratio for Duchenne smiles was 0.60; for false smiles, 0.734; and for listener response smiles, 0.661. These results indicate that, even though it was easy for both raters to determine if a teacher candidate was smiling (mean ratio for number of smiles = 0.916), it was somewhat difficult to determine the exact type of smile being displayed. Reliability results are reported in Table 8.

Table 8

Reliability Levels Established During Elementary Teacher Candidate Interviews

<u>Observed behavior</u>	<u>Mean ratio</u>	<u>Standard deviation</u>
Duration of eye contact	0.972	0.025
Number of eye contacts	0.938	0.055
Number of smiles	0.916	0.138
Duchenne smiles	0.600	0.444
False smiles	0.734	0.296
Listener response smiles	0.661	0.366

Summary

When considered collectively, the three nonverbal behaviors of duration of eye contact, number of eye contacts,

and number of smiles displayed by elementary teacher candidates during job interviews were not significant as predictors of the hiring rank assigned by the interviewing elementary principal. However when considered alone duration of eye contact showed significance in predicting candidate hiring rank. The nonverbal behaviors, number of eye contact and number of smiles, were not significant in predicting rank and, when evaluated along with duration of eye contact, weakened the significance found in the analysis.

Similarly, when number of smiles was considered through the analysis of types of smiles along with duration of eye contact and number of eye contacts, no significance was found. When duration of eye contact was used with Duchenne and false smiles, there was overall significance. Duration of eye contact remained the only independent variable that was significant as a predictor of elementary teacher candidate's rank.

The principals' characteristics, years of experience and number of interviews, did not have an impact on the candidate's rank. However, there was a correlation between these two independent variables. (See Appendix M) When considered in relation to impact on the candidate's possible employment ranking, the principals' years of experience and the number of interviews should be reviewed in the context of all correlations not in isolation.

The candidate's perceived characteristics (energy level, fit with school faculty, and apparent knowledge) in combination were significant in predicting rank. Child centeredness and impact of appearance had no significance and were not relative to predicting rank.

Finally, the independent variable, duration of eye contact, approaches significant throughout all analyses. Across all variables, the only time significance was evident was when duration of eye contact was used in the equation. Thus, duration of eye contact was significant and showed the greatest amount of predictability of rank.

Chapter Four presented and examined the data collected during elementary teacher candidate job interviews with elementary school principals. The results of the data evaluation were provided. Chapter Five will present conclusions, interpretations, limitations, and implications.

CHAPTER FIVE

DISCUSSION

Chapter One through Four presented questions relative to the nonverbal behaviors of eye contact and smile demonstrated by elementary teacher candidates during employment interviews with elementary school principals; background information related to nonverbal behavior, eye contact, smiles, and employment interviews; the rationale and methodology for completing an investigation of the impact of eye contact and smiling by candidates during interviews; and the analysis of data collected throughout the study. Chapter Five provides a summary of the research, a discussion of the findings, limitations of the study, and implications for both practical applications and future research.

Summary

The purpose of this study was to investigate the relationship between nonverbal behaviors demonstrated by elementary teacher candidates during employment interviews and the potential to be offered employment. This investigation was designed to explore the possible relationship between the nonverbal behaviors of eye contact and smile demonstrated during employment interviews and the recommendation of a candidate for employment. This study adds support to Mehrabian's (1972) theory which evaluates nonverbal behavior in social orientations. Of interest to this project was

Mehrabian's responsive dimension of social orientation linking nonverbal cues to persuasiveness. Following Mehrabian's theory, it would appear that a correlation between nonverbal behavior and employment preference could be predicted. In line with the theory and investigated throughout this research project was the concept of increased levels of nonverbal behavior demonstrated by an elementary teacher candidate during an interview persuading the elementary school principal to recommend employment of the candidate.

To develop this concept, actual employment interviews were conducted using fifty elementary teacher candidates as interviewees and ten public elementary school principals as potential employers. Each principal interviewed five candidates. Throughout formal structured interviews, an observer collected data related to the nonverbal behaviors of eye contact and smiles as demonstrated by the elementary teacher candidates. Both the duration and number of eye contacts were tallied. The total number of smiles were noted as the sum of the three types of smiles: Duchenne, false, and listener response. Both the teacher candidates and the principals completed questionnaires following the interviews. Principals ranked each candidate they interviewed in order of preference for employment.

Data collected from the fifty employment interviews and the questionnaires were analyzed and evaluated through the statistical procedures of multiple and stepwise regression.

Conclusion and Discussion

When the nonverbal behaviors, eye contact and smile, exhibited by an elementary teacher candidate were evaluated together, no significant overall relationship was found between these behaviors and the employment rank the candidate received. This result was somewhat unexpected since previous research in both nonverbal behavior and employment interviews would have led to the conclusion that a candidate exhibiting a high level of constant eye contact and smiling throughout the interview process would have a higher probability of being recommended for employment. For example, Young and Beier (1977) stated that applicants displaying higher amounts of positively received nonverbal cues (i.e. eye contact, smiles, and head movement) were more favorably evaluated during job interviews than individuals displaying fewer nonverbal behaviors.

A possible explanation for this inconsistency was that the majority of the research on nonverbal behaviors and employment interviews was conducted using one of three techniques: a) viewing photographs; b) using at least one counterfeit in the diad; or c) reviewing post interview questionnaires. Photographs are static and leave little room for variance. The face had or did not have a smile. A person's potential for hire is extremely difficult to evaluate when only one facet of the countenance is seen. If the person interviewed is a counterfeit and has no real investment in the

interview, a more relaxed casual atmosphere may surround the interview and may afford the candidate the opportunity to display smiles more easily. When the judgment regarding interview decisions is made by response to a questionnaire frequently completed long after the interview has concluded, the accuracy of events occurring during the interview may be questionable. Thus, some inconsistency between previously reported results and the findings in this study may be attributed, in some degree, to the method of data collection.

Another possible explanation for the inconsistency is that nonverbal behaviors are often evaluated in isolation with the researcher investigating only one type of behavior. The combination of eye contact and smile in employment interviews may provide vastly different results when considered together than when considered separately.

Within the framework of this study, when nonverbal behaviors were evaluated separately, duration of eye contact was significant and a predictor of a candidate's recommendation for employment. An increase in the duration of eye contact lead to a higher rank. This fact remained consistent throughout all analyses. These findings related to duration of eye contact were supported by the work of Burgoon, et al., (1986) which presented the relationship between persuasion and eye contact. They found that a higher level of persuasion was linked to individuals demonstrating higher degrees of eye contact. Also relevant was the work of

Druckman, et al., (1982) which showed that individuals displaying increased levels of eye contact were thought to possess more positive attributes. Harper, et al., (1978) note that individuals appear to be better liked when they engage in higher levels of eye contact. Additionally, the perceived qualities of trust, caring, and honesty attributed to increased eye contact (Burgoon, et al., 1986; Anderson and Coussoule, 1980) may be a relevant factor in the decision making process a principal consciously or unconsciously uses when selecting a teacher for his staff.

Principals may innately be searching for teacher candidates that display characteristics they perceive as demonstrative of individuals that have a high probability of being successful with students. These individuals are teachers that are able to establish a solid relationship with their students. Perhaps principals unknowingly look for well defined nonverbal behaviors, such as duration of eye contact, to assist them in determining candidates that have the greatest potential to develop student trust and to establish the type of class room environment that fosters learning.

The number of times a teacher candidate established eye contact with the elementary school principal during the interview had no significance in relation to the candidate's rank for employment. During the formal employment interview, the lowest number of eye contacts was 50, and the highest number was 324.

In contrast to the general trend the candidates with the two highest number of eye contacts were ranked number one by their respective principals. The candidate having the highest number of eye contacts, 324, for a total duration of 16 minutes in a 27 minute interview was perceived as having a high degree of energy. The principal commented that energy was determined through "facial expressions, hand gestures, and voice inflection." The general impression of this candidate was that "she responded enthusiastically to all questions." The candidate with the next highest number of eye contacts, 266, with a total duration of eye contact of 16 minutes in a 26 minute interview, also demonstrated a high level of energy as noted through the principal's rating on the questionnaire and added comment of "appearance and enthusiasm." The general impression of this candidate was "Outstanding. I would like to hire her."

While no pattern of number of eye contacts related to a candidate's potential for employment was evident in this study the lack of eye contact altogether would have a negative impact as duration of eye contact remained significant throughout this study. Additionally, when principals were asked if they considered a candidate's eye contact during the interview, nine of the ten stated "Yes." One principal stated "No." Referring to the candidates, the reason he said "No" was "because they all appeared to maintain eye contact."

No significance was noted when the nonverbal behavior, number of smiles, was investigated and evaluated in this study. The number of smiles demonstrated by candidates ranged from one to forty-three. When principals were asked if they considered the fact that a candidate smiled or did not smile during the interview when evaluating them for employment, all principals answered, "Yes". However, although the candidate that exhibited one smile received a low ranking, the candidate with the greatest number of smiles, 43, also had a low rank. On the other hand, the teacher candidate demonstrating the second highest number of smiles, 37, was ranked number one for employment.

Although this study did not focus on the question of a candidate's nervousness and degree of anxiety as it relates to their performance in an employment interview, the candidate with the least number of smiles indicated that she was mildly anxious during the interview but felt she had an average interview. The candidate with the greatest number of smiles similarly noted that she was mildly anxious and had an average interview. In contrast, the candidate with the second highest number of smiles and recommended for employment stated that she was somewhat relaxed during the interview and felt she had an above average to superior interview. She stated, "I felt the interview went very well."

A high percent of candidates, 62 percent, indicated that they were mildly anxious during the interview. Six percent

were highly anxious. Additionally, 40 percent were somewhat nervous with 18 percent reporting that they were highly nervous. Although no significance was found between nervousness, anxiety, and rank, some relationship may exist between the physical states of nervousness and anxiety and an individual's ability to demonstrate nonverbal behaviors, especially smiling, in perceived stressful situations such as job interviews.

Commenting on the candidate that exhibited only one smile, the principal stated that he would not hire this candidate, nor would he recommend the candidate for employment. He observed that the candidate appeared to be "very cautious and unassertive!...Did not have that excitement that is expected for elementary school teachers."

When the principal commented on the candidate that exhibited the greatest number of smiles, he stated that he would not hire this candidate, nor would he recommend the candidate for employment. Although the principal perceived this candidate as "attractive" and "projected a positive image," the principal stated "...however this could not overcome lack of depth in verbal response. Responses indicated limited background." Regardless of the high number of nonverbal behaviors and quality of the nonverbal communication projected by a candidate, it appears that if the behaviors are not supported by a firm knowledge base, the candidate is unlikely to be recommended for employment.

It is evident from the study results that the number of smiles alone can not be used to predict the recommendation for employment. Although principals considered smiling an important factor, other factors, such as knowledge base, perceived by the interviewer apparently have an overriding effect on the impact of the number of smiles.

The smiles of candidates: Duchenne, false, and listener response smiles; were tallied and evaluated for potential to influence the principal's ranking of individuals interviewed. No significance was found when all three types of smiles were considered together. This was expected since number of smiles, which was equivalent to the aggregate of the types of smiles, had no significance.

Duchenne and false smiles appeared in the multiple regression formula along with duration of eye contact. Duchenne and false smiles did not add to the predictability of a candidate's interview rank. However, since they appeared in the algorithm they may have exerted some influence during the interview that would be worthy of further investigation. A more indepth study may shed light on the contribution Duchenne and false smiles lend to teacher candidate recommendations for employment.

The results related to smiling were unexpected. It was anticipated that, as candidates exhibited more smiles during interviews, their employment rank would be higher. A possible explanation for the lack of significance found in both number

of smiles and specific types of smiles is the fact that a limited number of smiles were demonstrated throughout the interviews: an average of 22 smiles overall with an average of three Duchenne smiles, nine false smiles, and ten listener response smiles. The seriousness of an interview for actual employment at a time when jobs are limited and competition is high may have had an impact on the number and types of smiles candidates projected. Additionally, smiling could be linked to self confidence. Only those candidates with a high level of self confidence augmented by a low level of nervousness and anxiety may have been able to smile freely during the interviews.

The focus of this study was on specific nonverbal behaviors. However, during the data evaluation, the elementary principals' years of experience and the approximate number of interviews conducted by the principals were combined with eye contact and smiles for consideration of their impact upon candidate ranking. No significance was found between the principals' years of experience, number of interviews, the nonverbal behaviors demonstrated by candidates during interviews, and a candidate's employment rank. This was not totally unexpected. Although a wide range existed in the various principal's years of experience and in the number of interviews conducted, it was expected that, with interview training and similar goals for teachers as employees, a

candidate's nonverbal behaviors would have a similar impact on all hiring agents.

The final analysis conducted in this project involved the perceived teacher candidate characteristics as evaluated by principals and reported on the principal's concluding questionnaire. Child centeredness, energy level, faculty fit, apparent knowledge, and impact of appearance were the characteristics evaluated. Although the principals considered these characteristics to be important in their evaluation of a candidate's rank, they were generally unaware of the impact these characteristics had upon their eventual evaluation of a candidate's potential for employment. For example, prior to conducting the interviews, principals indicated they considered child centeredness to be of great importance when evaluating and employing teacher candidates; however, as noted in these findings, other characteristics outweighed child centeredness in predicting the possible employment of a candidate. Child centeredness did not show significance alone or in combination with other characteristics in predicting rank. In isolation, none of the characteristics were significant in predicting a candidates's potential for hire; however, energy level, faculty fit, and apparent knowledge were significant when considered together. The reason why these three characteristics in combination showed significance to the exclusion of the other characteristics is not known.

These results provided support for duration of eye contact as being the only nonverbal behavior studied having influence in determination of employment of teacher candidates, and laid the groundwork for future studies of nonverbal behaviors within the framework of actual employment interviews. Much remains to be learned concerning how an individual's nonverbal behaviors influence ranking for employment and interact to create impressions upon potential employers.

Limitations of the Study

The findings of this study are limited to female caucasian elementary teacher candidates trained in a university setting in a mid-Atlantic urban area and male elementary school principals employed in a suburban to moderately rural area of the United States. The data in this study indicate that the duration of eye contact demonstrated by a candidate for employment in a teaching position would have an impact on their ranking for employment. Any generalizations of this conclusion beyond the sample group must be tempered with the realization of differences from the sample.

The intercoder reliability is high for the nonverbal behaviors included in this study. However, when evaluating the three types of smiles: Duchenne, false, and listener response; reliability between the two coders is considerably reduced. Both coders studied types of smiles and spent

extensive time in distinguishing between the types of smiles included in this study. Thus, if extensive time and training is needed to distinguish between types of smiles, principals, when observing candidates' smiles, would also have difficulty determining the type and quality of a smile. It would seem more likely that a principal forms a perception of the candidate, either smiling or nonsmiling, without understanding the origin of the candidates' behavior. Perhaps with a more indepth understanding of smiling and the impact smiles may have on the interview process, principals could be trained to recognize various forms of smiles and gain insight into the candidate's potential for success. With an easier method of distinguishing between types of smiles, a candidate's smile and its meaning could become more significant to a principal during an interview.

Implications for Practical Applications

The practical application implications are varied since principals and teacher candidates should both have a conscious awareness of the impact nonverbal behaviors may have on the interview process. Principals must be able to recognize when and if the decisions they make regarding hiring are based on nonverbal behaviors as well as structured surveys or questions with scored responses. The increased understanding of the possible impact of nonverbal behaviors exhibited during the interview process upon the hiring decision aids the employer

in evaluating candidates when making recommendations for employment.

As noted by Halpin (1960), successful administrators must be highly skilled in interpreting nonverbal behaviors. Training during inservice sessions on the topic of interviewing techniques for school administrators should include a component addressing nonverbal behaviors. Training in understanding the impact and relevancy of nonverbal behaviors demonstrated during the employment interview will assist the employer in making the most appropriate decision regarding a candidate.

The findings of this study also have implications for teacher candidates related to interviewing techniques. As part of the understanding of the impact of duration of eye contact, candidates should be trained to more effectively communicate with others during employment interviews. The ethics of training a candidate to display behaviors that would earn the recommendation for employment regardless of their actual potential is questionable. However, candidates should be trained in interview techniques and skill development, both verbal and nonverbal, that are important in enabling them to receive full consideration for employment.

Effective preparation of a teacher's communication skills should be included in their training long before the employment interview is a consideration. The potential teacher, while still a student, needs opportunities within the

education forum to develop strong communication skills and attitudes necessary to enable them to communicate well, and to project a positive image, and strength as a role model. Simmons (1993) found that eye contact was of greater importance to teachers than to teacher candidates which suggests that teacher candidates did not yet appreciate the positive aspects of this form of nonverbal behavior.

Additionally, the findings of this study have implications for teacher candidates related to student behavior management. Eye contact plays an important role in student behavior management. In teachers' daily activities, a safe trusting environment must be developed between the teachers and their students. As noted by Webbink (1986), teachers' eyes are a part of their classroom presence. Teachers must "keep their eyes on their students." (p. 45) Reporting on a study done by Caproni and associates using college students, Webbink notes that students participated in class more when they were involved in higher levels of eye contact with teachers. With a greater understanding of the impact of duration of eye contact upon others, a teacher may be able to use this technique to facilitate the transfer of knowledge and to create an open receptive level of communication with their students.

The development of nonverbal techniques would be an appropriate aspect of a teacher's preparation in knowledge and skill development. Developing the necessary techniques to

convey knowledge to students more effectively will assist teacher candidates in becoming proficient and competent teachers. This preparation could be effectively presented through workshops and training modules at the college or university attended by the teacher candidate. A component of each training program would be the recognition of nonverbal behaviors, especially duration of eye contact, and the presentation of information that forms the basis for understanding the impact of duration of eye contact between participants in employment interviews and between teachers and students.

Since the purpose of the employment interview is to facilitate the selection of the 'best' candidate for a designated position, a clear understanding of all factors impacting upon the employment decision is basic to the interview process. Hiring good teachers will result in a higher degree of success with students, less problems between faculty members, faculty and administration, and faculty and parents, less turn over in faculty, and less time spent by personnel officers attending to problems and hiring new people. A strong, high caliber, certified staff will be created for all schools. When hiring the 'best' teacher is the goal of the interview, any information that can aid in developing improved communication between the individuals involved in the interview process will ultimately be beneficial to students.

Implications for Future Research

This research leads to further questions regarding the impact of nonverbal behaviors on the potential for employment of teacher candidates. Additional research projects designed to include field based observations of actual employment interviews are needed to gain a complete understanding of the relationship between nonverbal behaviors and the recommendation for employment. Questions remain regarding the influence individual nonverbal behaviors have on the teacher hiring process along with the interactive factors influencing a principal's recommendation to employ a particular teacher candidate.

Specific smiles, either isolated or in combination, may have an influence on the principal's recommendation for a teacher candidate's employment. Since the Duchenne and false smiles together appeared to have some influence within the interview process, this area warrants further investigation. Additionally, although no significance was shown with number of smiles in this study, the duration of smiles was not considered. Duration of eye contact was shown to be significant although the number of eye contacts was not. If the number of smiles and duration of smiles followed the same trend, duration of smiles could possibly have an impact on the recommendation for employment and should be evaluated in future studies.

Another area of possible impact upon a candidate's performance during the employment interview is the anxiety and nervousness felt by the candidate. The exact impact these factors have on the candidate's nonverbal behaviors and, thus, influence upon recommendation for employment needs further investigation.

Finally, the individual characteristics demonstrated by candidates, as perceived by the principal, appear to influence the hiring process. Further investigation in this area may reveal exact characteristics sought in candidates and those that influence a principal's recommendation of a candidate for employment.

With an increased understanding of nonverbal behaviors, either positive or negative, and the relationship that may exist between these behaviors, candidates may be trained from the onset of their teacher education program to develop characteristics and skills found in successful teachers.

Much remains to be learned about nonverbal aspects of communication and the interpretation and meaning of messages. Each discovery related to the impact of nonverbal cues on communications, relationships, and interactions assists in extending the understanding of the importance of nonverbal behaviors.

Appendix A

Letter to Teacher Candidates/Student Teachers

Dear

I am a doctoral student at the University of Maryland. I am currently involved in research related to employment interviews and am collecting data for my doctoral dissertation. Consequently, I am looking for teacher candidates who are interested in participating in my research. Teacher candidates for my project must have completed their student teaching in Harford County and be eligible to obtain a Maryland teaching certificate. Participation involves a thirty minute inschool employment interview with one of the Harford County Public School elementary principals. There will be two observer present during the interview.

The interview may be beneficial to you as you will gain more experience interviewing with principals for teaching positions. This interview, however, may not lead directly to employment and additional interviews related to available positions may be necessary for consideration for employment as a teacher for the 1993-1994 school year.

If you are interested in participating in this research project please return the enclosed post card to me within one week. If you have any questions related to the project prior to committing yourself to participate, please contact me at (410) 838-7300 extension 238.

Thank you for your efforts in my behalf and for your consideration in participating in this research project.

Sincerely,

Kathleen F. Eng

Appendix B

Post Card Response to Invitation For Student Teacher Participation in Survey

Dear Kathleen Eng:

- ☐ I will be happy to participate in your research project by making myself available for a thirty minute interview.
- ☐ I am sorry but I am unable to participate in your project.

Comments:

Name

Date

Appendix C

Letter to Elementary Principals

Dear

Thank you for your willingness to participate in my research. I realize that, as a principal of an elementary school, your time is valuable and that your school obligations and duties must take priority. Therefore, I am especially pleased and appreciative of your cooperation in this project in my behalf.

As I originally stated, the project will necessitate your participation in five, thirty minute interviews. You will interviewing teacher candidates seeking employment in the HCPS. The candidates will have student taught in Harford County but should be unknown to you. The interviews will be conducted in the same morning and will be approximately fifteen minutes apart. It will be necessary for you to complete two short surveys, one prior to and one after all interviews. Additionally, a questionnaire must be completed after each candidate has been interviewed by you. I will be present along with another observer during the interview; however, our sole purpose in observing the interaction between you and the candidate will be to observe the candidate and in no way critique or interfere with your interview.

Once I have enlisted all candidates, I will contact you to establish a day and time for each interview. Again, thank you for agreeing to participate in my project.

Sincerely,

Kathleen F. Eng

Appendix D

SURVEY 1

Name:

School:

Age:

Years of experience as an elementary principal:

Approximate number of teacher candidates you have interviewed while serving as an elementary principal. (circle)

2-5	15-20	50 - 100
6-10	20-30	100 - 150
10-15	30-50	more than 150

When candidates are interviewed for employment, interviewers generally look for certain qualities in a candidate, i.e. commitment, knowledge, ability to communicate, nonverbal behavior, attitude, organizational skills, etc. What factors do you consider when determining which candidate to employ in an available teaching position?

APPENDIX E

QUESTIONNAIRE

1. Would you hire this teacher candidate?
(circle) YES NO

What level of consideration would you give this candidate for employment?

- a) recommended enthusiastically
- b) recommended without reservation
- c) recommended with reservation
- d) would not recommend for employment

2. Did your first impression of the candidate remain the same following the interview or did it change?
(circle) SAME CHANGED

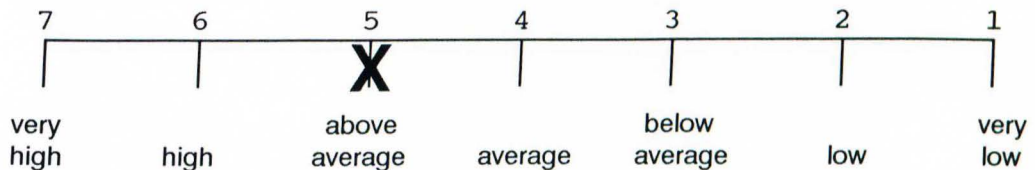
If your impression changed, was it

- a) more positive
- b) more negative

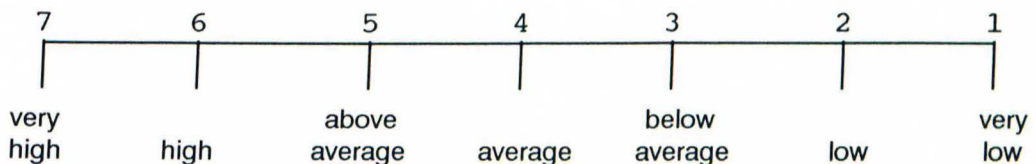
3. Did the candidate shake your hand upon arriving?
(circle) YES NO

What, if any, impact did the handshake or lack of handshake have upon you?

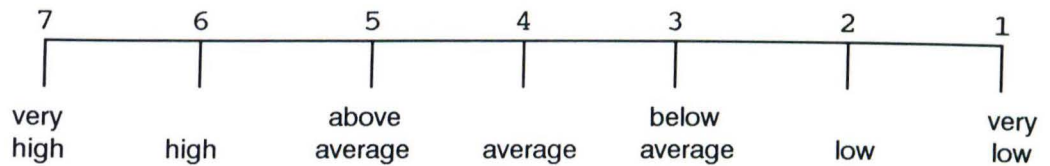
FOR THE FOLLOWING QUESTIONS: Please mark an "X" on the scale provided to indicate your impressions of this candidate. Seven is highest; one is lowest. For example, to mark "above average" -



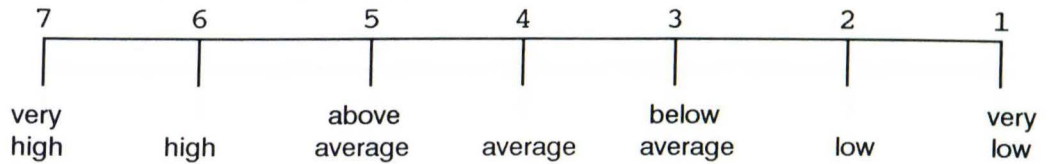
4. What level of rapport do you feel was developed with the candidate:



5. To what degree did this candidate appear to be child centered?

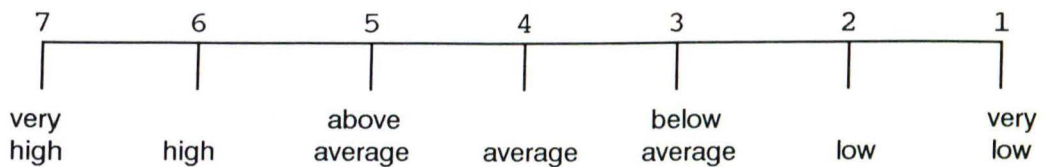


6. To what degree did the candidate demonstrate energy?

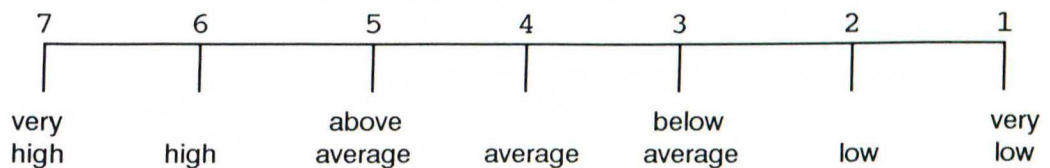


If energy was noted, what factors did you use to determine energy level of this candidate?

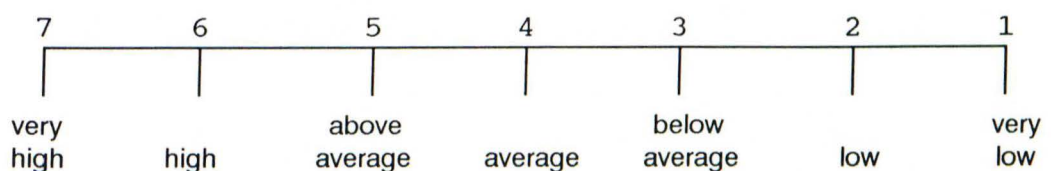
7. Was this candidate enthusiastic?



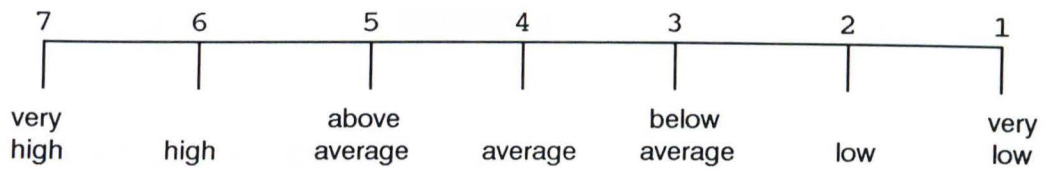
8. To what degree do you believe that this candidate will 'fit in well' with your staff?



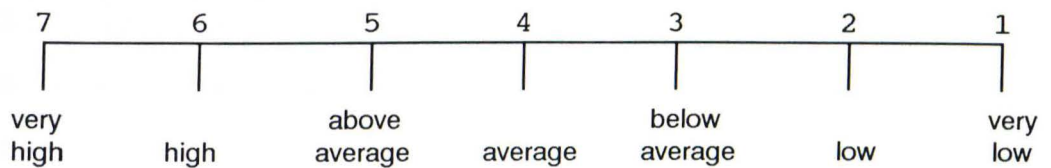
9. To what degree do you believe that this candidate relates well to students?



10. To what degree does this candidate appear to be knowledgeable:



11. What level of impact did the appearance of this candidate have on your evaluation?



If the candidate's appearance had an impact on your evaluation, what aspect(s) of the candidate's appearance influenced you and was the influence positive or negative?

12. Generally, what was your impression of this candidate and the candidate interview? Please explain.

Appendix F

SURVEY 2

Please rank order your choice of candidate interviewed for employment as a teacher in your school.

1

2

3

4

5

What factors, including qualities shared in Survey 1, did you consider when determining which candidate to recommend for employment?

Did you place any emphasis on the candidate's personal mannerisms compared to their verbal expression?
(circle) YES NO

Did you consider the candidates' eye contact when evaluating the candidates?
(circle) YES NO

Did you consider the fact that a candidate smiled, or did not smile, during the interview when evaluating the candidate?
(circle) YES NO

APPENDIX G

POST INTERVIEW TEACHER CANDIDATE QUESTIONNAIRE

1. From which college or university did you earn your degree in education?
2. Have you had any interview training?
(circle) YES NO

If yes, please briefly describe.
3. Other than your initial screening interview, is this your first formal interview?
(circle) YES NO

If no, how many times have you participated in a formal interview? _____
4. Would you say during the interview you were:
(circle) HIGHLY ANXIOUS MILDLY ANXIOUS RELAXED VERY RELAXED
5. Please judge your level of nervousness during the interview.
(circle) HIGHLY SOMEWHAT LITTLE VERY LITTLE
6. Overall, how well do you think you did during the interview?
(circle) SUPERIOR ABOVE AVERAGE AVERAGE MARGINAL
7. Briefly describe how you felt about the interview.

APPENDIX H

TALLY SHEET

SMILES	EYE CONTACT

APPENDIX H - cont.

TALLY SHEET
SUMMARY INFORMATION

Name - Teacher Candidate:

Name - Principal:

Date:

Total duration of the interview:

Total duration of eye contact:

Total number of eye contacts initiated by the candidate during interview:

Average number of eye contacts per minute:

Average duration of eye contact:

Total number of smiles during the interview:

Total number of smiles:

- a. Duchenne
- b. False
- c. Listener response

Average number of smiles per minute:

Average number of specific smiles per minute:

- a. Duchenne
- b. False
- c. Listener response

Appendix I

PERMISSION FORM - PRINCIPALS

I am conducting research on employment interviews, and am attempting to gain an understanding of factors considered when evaluating and rating candidates for employment. Your participation in this project will be to conduct five teacher candidate interviews, to complete two survey forms and one questionnaire, and to rank candidates in order of preference for employment. The entire process will be completed in your office. The purpose of collecting information is to obtain data for a doctoral dissertation.

The information obtained will be kept confidential. Your name or reference to you will not be mentioned in any description of findings or publications of data and research results. You may withdraw consent and discontinue participation in this research project at any time prior to the interview.

There should be no risk or discomfort to you either now or in the future.

Kathleen F. Eng

I, _____, affirm that I have read the above statement and understand the conditions of the research project. My questions have been answered.

Signature

Date

Witness

Appendix J

PERMISSION FORM - TEACHER CANDIDATES

I am conducting research on employment interviews. I am attempting to gain an understanding of the interview process. Your role in this project will be to participate in a thirty minute interview as a teacher candidate with a Harford County Public School elementary principal at the school to which the principal is assigned. The entire interview will be observed by two persons collecting information regarding the process. The purpose of collecting information is to obtain data for a doctoral dissertation.

The information obtained will be kept confidential. The observers will have no influence on the principal's evaluation of candidates. Your name, or reference to you, will not be mentioned in any description of findings or publications of data and research results. You may withdraw consent and discontinue participation in this research project at any time prior to the interview.

There should be no risk or discomfort to you either now or in the future.

Kathleen F. Eng

I, _____, affirm that I have read the above statement and understand the conditions of the research project. My questions have been answered.

Signature

Date

Witness

Appendix K

ELEMENTARY SCHOOL PRINCIPAL INTERVIEW REPORT

CANDIDATE'S NAME:

DATE:

QUESTIONS:

1. Why did you select teaching as a career?
2. Identify your personal qualities which will assist you in building a positive relationship with students.
3. Share with me the methods you have found to be effective in maintaining classroom control (good discipline).
4. How can you motivate students to want to learn?
5. In a class of students with varying abilities, how would you provide opportunities for each student to experience success?
6. A parent of one of your students comes to your room to complain about the content of your lessons stating that the lessons you are teaching are not meeting the needs of her child. How would you respond?
7. What steps would you take in dealing with a student who is experiencing difficulty in learning?
8. Describe the instructional techniques that work best for you in your teaching.
9. What responsibilities do you believe the teacher has beyond the instruction of students?
10. How can you tell when you have had a good day teaching?

Evaluation of this candidate:

☐ outstanding ☐ above average ☐ average ☐ marginal ☐ unacceptable

Rating for this Candidate: # _____ of _____ Interviewed

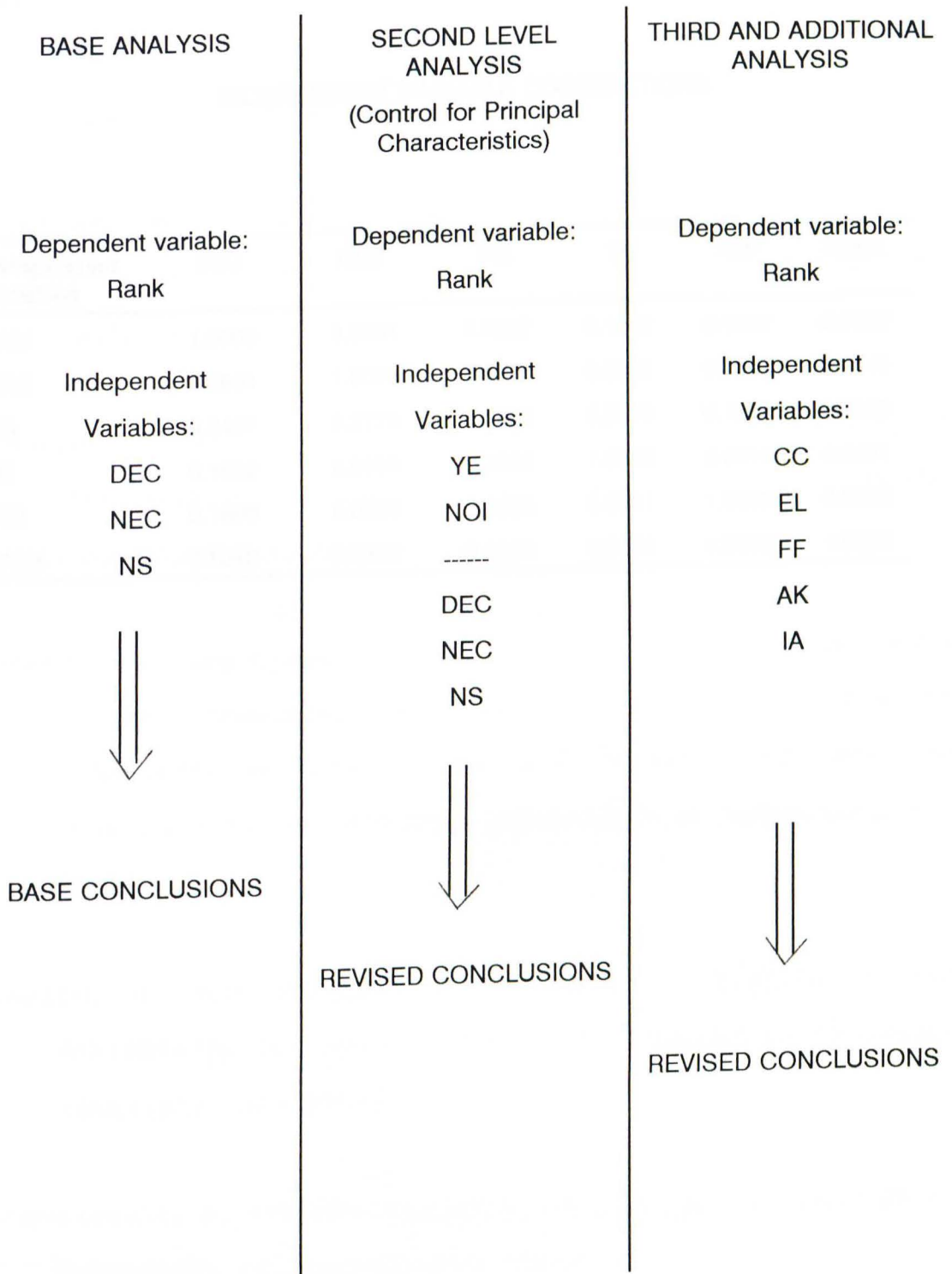
Recommendation:

Recommended for employment ☐ Not recommended for employment ☐

Comments:

APPENDIX L

HIERARCHICAL ORDERED REGRESSION MODEL



APPENDIX M

INDEPENDENT VARIABLE CORRELATIONS

Independent Variables	DEC	NEC	NS	YE	NOI	RANK
DEC	1.0000	0.2861	0.3407	0.1532	0.1693	-0.3382
NEC	0.2861	1.0000	0.3770	0.0835	0.0800	-0.1845
NS	0.3407	0.3770	1.0000	0.3579	0.1996	-0.0928
YE	0.1532	0.0835	0.3579	1.0000	0.6011	0.0491
NOI	0.1693	0.0800	0.1996	0.6011	1.0000	0.0382
RANK	-0.3382	-0.1845	-0.0928	0.0491	0.0382	1.0000

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