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A Study of the Effect of a Child's Physical Attractiveness upon Verbal Scoring of the Wechsler Intelligence Scale for Children (Revised) and upon Personality Attributions

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A STUDY OF THE EFFECT OF A CHILD'S PHYSICAL ATTRACTIVENESS UPON VERBAL SCORING OF THE WECHSLER INTELLIGENCE SCALE FOR CHILDREN (REVISED) AND UPON PERSONALITY ATTRIBUTIONS

by

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ABSTRACT

A Study of the Effect of a Child's Physical Attractiveness upon Verbal Scoring of the Wechsler Intelligence Scale for Children (Revised) and upon Personality Attributions

by

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The purpose of this research was to investigate possible examiner bias in scoring the Verbal subtests of the Wechsler Intelligence Scale for Children (Revised) due to the level of facial attractiveness of the child. Sex of the child and sex of the research subject were also included as independent variables. No main effect for attractiveness or sex x attractiveness interactions were found. Thus, little evidence emerged to suggest attractiveness stereoptyping effects in an intelligence testing context. However, female children received

significantly higher Comprehension and total Verbal scores than did male children. In addition, while male subjects did not provide differential Verbal scores for male and female children, female subjects tended to be biased toward female children, regardless of attractiveness level. A secondary goal of this study was to determine if the research subjects differentially attributed positive characteristics to attractive versus unattractive children. Indeed, it was empirically established that, in this testing environment, adults attributed more positive personality and social characteristics to attractive than unattractive children. Implications for clinicians/ diagnosticians are discussed. It is suggested that future research attempt to delineate a continuum of diagnostic measures wherein one pole represents objective measures with little risk of bias and the other pole is the extreme of subjective instruments with high risk of examiner bias.

(112 pages)

CHAPTER I

DEVELOPMENT OF THE PROBLEM

Introduction

Within our society a host of factors can impact upon our evaluation of others. Although most of us would like to believe that we are or can be objective in our evaluations, considerable evidence exists to support the notion that distorted information processing commonly results in rigid, oversimplified beliefs and biased stereotypes. Jones (1982) has noted several factors in his view of our "imperfect" way of processing information. We attend more closely to the unusual than the usual. We "categorize," and then tend to exaggerate similarities and differences. Once such categorization has taken place, we often infer additional characteristics for which we have no evidence; we introduce systematic distortion into what we remember about another's behavior. We commit the fundamental attribution error by underestimating the power of situational constraints on another's behavior and overestimating the role of dispositional factors. In fact, our beliefs and expectations may constrain our future behavior.

The factors which contribute to such stereotyping must certainly be innumerable. Miller (1982) has edited a book which addresses current conceptualizations of stereotyping and reviews studies about the impact of stereotypes which are based on such factors as race, religion, sex, mental disorder, aging, social class, and physical attractiveness.

Although one may not readily think of physical attractiveness or unattractiveness as being associated with stereotyping effects, this can be a very real possibility. Indeed, Adams (1982) has pointed out that the ease with which one can identify extremes in body or facial attractiveness lends itself to stereotyping. In addition, our cultural emphasis on beauty as "good" contributes to the formation of an attractiveness or body stereotype. In a classic review, Berscheid and Walster (1974) have provided an in-depth review of the literature which, in summary, supports the notion that physically attractive persons are assumed to possess more socially desirable personalities, acquire more material wealth, and are perceived as being happier than less attractive people.

In addition, evidence exists to verify that the physical attractiveness stereotype results in differential behaviors directed toward the attractive or unattractive person. Adams (1982) reviewed numerous studies which indicate that physically attractive and unattractive children and adults receive differential treatment across a

variety of settings: home, school, in peer relations, at work, in the judicial system, and in counseling settings.

However, evidence is minimal in the areas of counseling, therapy, and, in particular, diagnosis. If counselors, therapists, and diagnosticians feel and behave differently toward children and adults who are physically unattractive, the professional and practical implications are tremendous. If such a stereotype is operating for mental health providers, the first step would be to document its occurrence with a goal toward eventually understanding it. The ultimate goal is to provide more professional and objective services to the clients involved.

Problem Statement

There is a particular paucity of research concerning the impact of a client's physical attractiveness on a diagnostician's scoring on intelligence tests. Whether or not such a scoring bias exists, a second question arises: Will the diagnostician attribute different personality characteristics to the client based on the diagnostician's perception of the client as physically attractive or unattractive? Will the subjective summary report, or case evaluation, which commonly accompany testing results, show differential content due to the attractiveness or unattractiveness of the client?

More specifically, the current study addresses the following questions:

1. Will trained college students score the verbal portion of the Wechsler Intelligence Scale for Children--Revised (WISC-R) more favorably for physically attractive versus unattractive children?

2. Will trained college students make differential personality attributions for physically attractive and physically unattractive children for whom they score the verbal portion of the WISC-R?

Definition of Terms

Trained college students. Male and female students at Utah State University who have been provided training to specific criteria on how to score all verbal items on the WISC-R.

Children. Males and females, described as having a birth date of August 22, 1975 (about age 9 1/2 years).

Physically attractive/unattractive. Pre-experiment ratings by blind raters determined initial classification into the physically attractive or physically unattractive condition. Photographs of the children were rated using a scale of one to nine, with one being "very unattractive" and nine being "very attractive." Individuals whose mean ratings were significantly different (statistically) were considered attractive and unattractive in the present

investigation. The eight photographs which were used in the current research are contained in Appendix A. Post-experiment ratings were also accomplished by the research subjects as a manipulation check.

Score the verbal portion of the WISC-R. Research subjects derived a score for each verbal item as they listened to an audiotape of a child taking the verbal portion of the WISC-R.

Personality attributions. Attributions were measured by completion of specific Adjective Ratings (See Appendix B) and by a General Impressions Summary (See Appendix C) which each subject was asked to write for the child he/she scored on the WISC-R items.

Objectives

1. To determine if research subjects differentially score the verbal items on the WISC-R for physically attractive versus unattractive children.

2. To determine if research subjects differentially attribute positive and negative personality characteristics to physically attractive versus unattractive children.

3. To determine if sex of the child and/or sex of the research subject mediate the potential bias associated with assessments of intelligence and personality characteristics for attractive versus unattractive children.

CHAPTER II

PRIOR RESEARCH AND CURRENT HYPOTHESES

Review of Related Literature

In the early 1970s, K. Dion and her colleagues (Dion, Berscheid, & Walster, 1972) conducted a study suggesting a physical attractiveness stereotype; it has since precipitated numerous studies testing the "what-is-beautiful-is-good" hypothesis. Dion et al.´s study supported such a hypothesis by demonstrating that on all tested measures except parental competence, attractive college students as stimulus persons were judged to be more socially desirable, to obtain more prestige or competence, and to live better lives than their less attractive counterparts. It is significant to note that these data supported the notion that a physical attractiveness stereotype exists with respect to normal, nonhandicapped populations.

In contrast, Felson and Bohrnstedt (1979) found support for a "what-is-good-is-beautiful" hypothesis. They applied structural equation techniques to sociometric ratings of peer academic abilities, athletic abilities, and physical attractiveness and concluded that while perceptions of physical attractiveness do not significantly

affect perceptions of either type of ability, perceptions of abilities for both boys and girls did have strong effects on perceptions of physical attractiveness.

Both of the above positions probably have some validity. It would seem absurd to advocate either position as singly conclusive. Certainly, an interactive social world would suggest a possible interaction effect between perceptions of physical attractiveness and perceptions of ability and other personality traits. Efforts to conclusively "prove" that "what-is-beautiful-is good" or vice versa seem to result in circular arguments. A more viable position is to accept the importance of both physical attractiveness and other traits/behaviors in social interaction--each capable of affecting the other. However, for the purposes of this investigation, attention is focused on only one aspect of the interaction process--the beauty-is-good hypothesis.

There is considerable evidence to show that even as early as infancy, a person's physical attractiveness or unattractiveness begins to be an elicitor of particular stereotyped behavior from others. For example, Hildebrandt and Fitzgerald have conducted a systematic series of studies concerning adults' social interactions with infants as a function of the child's facial attractiveness. Among other things, they concluded that adults look longer at cute infants (Hildebrandt & Fitzgerald, 1978, 1981; Power,

Hildebrandt, & Fitzgerald, 1982) and that cute infants are more likely to be labeled as female (Hildebrandt & Fitzgerald, 1977, 1979). These investigations imply that "cute" infants may be given more individual attention and may receive a more nurturing child-rearing environment. In fact, Hildebrandt and Fitzgerald (1983) hypothesized that when an infant's perceived attractiveness is different from anticipated attractiveness, organization of "bonding" and "attachment" may be severely constrained. Thus, parental perceptions of an infant's physical attractiveness may contribute to suboptimal caregiving.

More recently, Stephan and Langlois (1984) found that adults had strong and consistent behavior expectations for attractive and unattractive Black, Caucasian, and Mexican-American babies soon after the infant's birth. "Beauty was good" on three dimensions: "smart-likable baby", "good baby", and "causes parents problems." Further, the babies' attractiveness accounted for more variance than did race.

Other research supports the notion that adults continue to engage in stereotyped behavior as physically attractive or unattractive infants become physically attractive and unattractive children. Evidence can be found in the context of parenting and childrearing settings. Dion (1972) found that college students tended to report that an attractive child who broke a well-established rule had an "off day" while they tended to

conclude that an unattractive child, breaking the same rule, had deep-seated anti-social characteristics. Along these same lines, a survey by Adams and LaVoie (1975) found that attractive boys were more likely than unattractive boys to receive inductive reasoning by adults during disciplinary action.

Dion (1974) also investigated children's attractiveness as a determinant of adult punitiveness. Adult men and women observed a videotaped interaction between the experimenter and a physically attractive or unattractive boy or girl. Each subject was asked to administer penalties for the child's incorrect responses on a picture-matching task. Women were more lenient toward an attractive than unattractive boy; they were also more lenient toward an attractive boy than girls of either attractiveness level. A child's level of attractiveness did not affect the punitive behavior of men. Dion suggested further study of cross-sex leniency effects and the possibility that the type of task (achievement versus social) may influence adults' perceptions and resulting behavior toward the child.

Berkowitz and Frodi (1979) used an experimental design parallel to Dion's (1974) and found that unattractive children were inclined to receive more intense punishment than attractive children. This implies that unattractive children tend to be reared in relatively aggressive social

conditions associated with harsh physical and verbal punishment that may lead to subsequent difficulties in the child´s social adjustment.

Some of the most pertinent research on physically attractive and unattractive children has been done in a school setting. Here, too, teachers´ and other school personnel´s stereotyped behaviors toward attractive and unattractive students have also been demonstrated.

Elovitz and Salvia (1982) found that school psychologists, in evaluating a child who was described as having specific behavioral and learning difficulties, more often classified the child as mentally retarded when the child was perceived as unattractive; classifications carrying less stigma (learning disordered or socially/ emotionally disturbed) were usually applied to a child who was perceived as physically attractive yet described as having the same behavioral and learning problems as the child in the unattractive condition. However, earlier, Barocas and Black (1974) found that physically attractive third grade children received significantly more referrals for psychological assessment, speech, reading, and learning disability services than their less attractive classmates. Together, these two studies suggest that there is a tendency to provide the more attractive child with referral services but if an unattractive child is referred, he/she may more readily acquire a negative label than

his/her attractive counterpart.

Not only are school psychologists influenced by a pupil´s attractiveness, but so, too, are school teachers. Numerous studies using facial photographs of attractive and unattractive children and assessing teachers´ ratings of specific characteristics have shown some bias against the unattractive child.

Tompkins and Boor (1980) found that student teachers rated physically attractive students more positively than physically unattractive students on five social attributes, but found no difference in their ratings on academic attributes. Lerner and Lerner (1977) found that physical attractiveness was positively related to teachers´ appraisals of academic ability and adjustment. Adams (1978) concluded that boys, unattractive children, and black youth were given less favorable ratings of academic potential, athletic skills, social behavior and classroom conduct by preschool teachers. Ross and Salvia (1975) determined that, for unattractive children, teachers were more willing to recommend special-class placement and held lower expectations for future academic and social development. Using cumulative folder information, Adams and Cohen (1976) found that teachers viewed attractive children as being more creative, intelligent, and educationally advanced than their unattractive counterparts. Along these same lines, Clifford and Walster

(1973) concluded that a child's attractiveness was significantly associated with teacher expectations about how intelligent a child was, how interested in education his parents were, how far he was likely to progress in school, and how popular he would be with peers. Finally, Rich (1975) found that attractive children generally received more desirable personality ratings than unattractive children; however, unattractive girls were blamed less frequently for an alleged offense and received more lenient recommendations for punishment than did unattractive boys.

Most of the above-cited research involved ratings of children within a hypothetical setting. However, two particular studies were accomplished in a real-life setting wherein teachers' rated <u>their own</u> physically attractive and unattractive students. Salvia, Algozzine, and Sheare (1977) found that attractive children received significantly higher report card grades, even when effects of achievement were controlled. These data were collected during the last grading period of the year and therefore suggest that if an attractiveness bias was indeed operating, it was of long duration. Martinek (1981) examined the expectation ratings of two physical education teachers for their second, fourth, and sixth grade students. In general, highly attractive students were expected to do better in physical performance and to be

more socially integrative with peers than "low attractive" children.

Several studies within the school setting reveal some unique results. In 1980, Felson investigated teacher ratings of ability and grades for boys and girls and found only a small amount of discrimination against unattractive children. Interestingly, for boys, a strong teacher x attractiveness interaction occurred, suggesting that some particular teachers discriminated against unattractive boys more than others. But, in 1981, in yet another study, Felson found no evidence that teachers or peers discriminated against unattractive children concerning perceptions of social behavior deviance; he suggests that this effect is probably due to familiarity with the stimulus person and that other studies exaggerate the importance of appearance by studying "strangers." Finally, Adams and Cohen (1974) have concluded, from a naturalistic observation study in a classroom setting, that the physical attractiveness of the child has a more potent influence on teacher-student interactions during the first week of school; this seems to offer further support for Felson´s hypothesis that the stereotype diminishes as the teacher becomes more familiar with the student.

It would be refreshing to be able to report that stereotyped attitudes and behavior against physical unattractiveness dissipates for individuals in adulthood.

However, the literature abounds with studies that demonstrate continued stereotyping and/or discriminatory behavior against physically unattractive adults in employment, dating situations, judge and jury decisions, and counseling/ clinical settings (e.g., see Adams, 1982).

Some studies in the evaluation/employment arena have demonstrated mixed results. Interestingly enough, when over 1000 men of an elite university were evaluated at the time of their 25 year reunion, attractive men were no more likely to have subsequently earned a graduate degree or to have held higher status jobs than those judged as unattractive (Sparacino, 1980). Perhaps physical appearance plays a greater role for adult women than men, as suggested by Boor, Wartman, and Reuben´s (1983) finding that faculty members´ ratings of neatness and grooming were significantly related to their ratings of social skills and the final rankings of 21 female applicants to medical residency training; no such selection bias appeared for men. However, Jackson (1983c) has concluded that being attractive and perceived as androgynous may result in more favorable attributions: better-adjusted, more likable, and more advanced in the occupational domain.

Two studies revealed no particular attractiveness bias on the part of professional evaluators. Morrow and McElroy (1984) determined that past performance accounted for the greatest percent of variance in ratings by sixty male

college faculty for 8 students; they noted that the role of attractiveness seemed to be "on the margin" and may have been hidden by extremes of past performance attributed to the students being evaluated. Jackson (1983a) found that gender trait information was more of an influencing factor when professional consultants evaluated employees for promotion and special training than was either gender or attractiveness.

However, numerous studies have demonstrated the impact of a combined sex-attractiveness stereotype in employment evaluations. When 37 female and 96 male self-employed professionals were asked to "pick a partner for an export/ import business" (Kushnir, 1982), the majority chose men. The unattractive female was chosen least often. But, the attractive female was chosen as often as the unattractive male, suggesting that perhaps being attractive compensates for being female. A sex-role stereotype (bias toward males) and an attractiveness stereotype (bias toward the attractive) is not uncommon in research within an employment context (Cash, Gillen, & Burns, 1977; Dipboye, Arvey, & Terpstra, 1977). However, Heilman and Saruwatari (1979) found that for managerial positions, an unattractive female was preferred over an attractive female (attractive males were preferred over all); this certainly suggests a potentially damaging interaction between attractiveness and sex involving job type.

How might we diminish these biases in an employment context? Jackson (1983b) has proposed that when more information about a person is available, these stereotypes might be eliminated. However, Cann, Siegfried, and Pearce (1981) forced research subjects to focus on specific qualifications of prospective employees and, disappointingly, discovered that the actual hiring decision still showed the effects of discrimination based on sex and attractiveness.

Further, an extensive body of literature exists concerning the role of physical attractiveness in a dating relationship. Although the level of attractiveness of a partner certainly plays some role in the attraction process (Stretch & Figley, 1980), many other factors seem to impinge just as strongly in dating choices: Social status (Stretch & Figley, 1980); self-attractiveness and a need to perceive the partner as similar in attractiveness (Bailey & Kelly, 1984; Critelli & Waid, 1980; Folkes, 1982; and, White, 1980); a need to find "other reasons" to affiliate (Bernstein, Stephenson, Snyder, & Wicklund, 1983); and, the probability of demonstrated acceptance by a prospective dating partner (Shanteau & Nagy, 1979). It thus seems that when people are involved in "evaluation" of others for personal involvement, the attractiveness stereotype plays a significant role (e.g., Mathes, 1975; Shanteau & Nagy, 1979; and, Stretch & Figley, 1980); however, its

interaction with other variables is quite complex.

Extensive investigation has occurred concerning the effect of physical attractiveness of a defendant on verdicts and sentencing in simulated jury settings. In general, the most common conclusion is that the more attractive the defendant, the less likely he/she is to be convicted (Efran, 1974) and the less severe is his/her sentence (Stewart, 1980). One study, however, determined that there was no influence of the attractiveness level of the defendant provided the various offenders did not differ in other qualities (Schwibbe & Schwibbe, 1981).

Although the bulk of past studies suggest leniency towards an attractive defendant, numerous other variables have been found to mediate this effect: juror´s sex, attractiveness of the victim, and age of the victim (Villemur & Hyde, 1983); attractiveness of the victim combined with degree of "blamelessness" (Kerr, 1978); victim´s prior history of victimization (Storck & Sigall, 1979); perceptions of the seriousness of the crime (Kulka & Kessler, 1978; Piehl, 1977); whether or not the crime is related to attractiveness, e.g., burglary versus swindling (Sigall & Ostrove, 1975; Smith & Hed, 1979); and, the perceived degree of external justification for commission of the crime (Izzett & Fishman, 1976).

At least two studies seem to address ways to reduce the impact of attractiveness stereotypes in a jury setting.

Baumeister and Darley (1982) found that increasing the quantity and precision of relevant facts seemed to transfer the emphasis from judging the perpetrator to judging the crime itself, thus reducing bias towards attractive defendants. However, Friend and Vinson (1974), in an earlier investigation, found that by introducing a "commitment to be impartial" on the part of the jurors resulted in an overcompensation, i.e., unattractive defendants received less severe sentences than their attractive counterparts. This certainly emphasizes the difficulties associated with overcoming biases.

Finally, Wilson and Donnerstein (1977) concluded that mock jurors submit more guilty verdicts for attractive defendants when they are told they are making a "real" decision than when the jurors believe the situation is hypothetical, i.e., there seems to be less of an attractiveness bias in a real setting than in a make-believe setting. Thus, the authors suggest that the volume of research on hypothetical juries may be very misleading.

It is true that there is a paucity of research in real-life judge and jury settings. However, it does not seem appropriate to discount the mock jury literature, particularly in view of some evidence that an attractiveness bias does operate in "real life." To make this point clear, we need only to examine two highly pertinent studies. Fifty-two presiding juvenile judges

made recommendations for punishment from fictitious case descriptions (Garnett, 1978). Results showed that the judges recommended less severe punishment for attractive than unattractive youth, whether the offense was shoplifting or burglary. Finally, Dess (1976) provided descriptive data which suggest that attractiveness biases in the court system should not be taken lightly. Probation office records for 122 juvenile male offenders were examined. It was found that six juvenile probation intake officers demonstrated an attractiveness bias in that the more attractive juveniles were recommended for more lenient dispositions, were designated as having a better prognosis, and were rated higher in intelligence and likability.

Of particular interest for the current research are findings in the counseling/clinical area. In a correlation study of female psychiatric in-patients (Farina, Fischer, Sherman, Smith, Groh, & Mermin, 1977; Napoleon, Chassin, & Young, 1980), it was concluded that the patients were relatively unattractive compared to controls, that the least attractive patients were most poorly adjusted (same held true for controls), that the most unattractive patients were visited less often, remained hospitalized longer, were least involved with others, and had the most severe diagnoses. One begins to wonder if there is "evidence" of a sociological theory of mental illness in action.

Once again, there are studies which conclude that a physical attractiveness bias operates in our culture, even in the area of attributions of mental health/illness. In this case, the stereotype seems to add an extra burden for those less attractive persons who are already struggling to maintain some psychological balance in their lives. For example, Jones, Hansson, and Phillips (1978) found that naive judges are more likely to attribute psychological disturbance to unattractive than attractive persons, even when subjects were warned that "attractiveness" was not an important variable to consider. Martin, Friedmeyer, and Moore (1977) found that adult judges, who were members of a hospital staff, considered attractive hospitalized schizophrenic patients better adjusted than unattractive patients.

More specifically, it seems that the physical attractiveness stereotype can affect decisions made by mental health professionals. Evidence suggests that counselors/health professionals use physical attractiveness of the client as one factor in making pre-judgments about clients. Intake counselors are more attracted to and "like" attractive people more (Brown, 1970; Sharf & Bishop, 1979). Further, physically attractive clients are sometimes rated as having better self-concepts (Hobfoll & Penner, 1978) and are more likely to be given positive prognoses for quick recovery by counselors (Barocas &

Vance, 1974). Finally, along more general lines, Nordholm (1980) found that 289 health professionals rated attractive stimulus persons more favorably than unattractive persons on 12 of 15 personality characteristics.

Several studies offer some particularly interesting results concerning how student clinicians utilize attractiveness information about clients. In a 1983 investigation by Mercer, Andrews, and Mercer, levels of attractiveness and disability were varied to assess the effect on ratings of female clients. Attractive females were rated more positively than unattractive females on 22 bipolar adjective items, regardless of disability. Interestingly, a female client was rated as more attractive in the disabled condition, suggesting that there was a bias toward treating a disabled female kindly. Jarett and Everhart (1983) examined mental status reports and found that attractiveness of female patients was mentioned more than for male patients. In addition, female clinicians mentioned patient attractiveness and interpersonal style significantly more than male clinicians and females used more descriptive adjectives overall. These results suggest that sex of the client and sex of the clinician should be considered when examining attractiveness stereotypes in the clinical setting. Finally, Schwartz and Abramowitz (1978) investigated male psychotherapy trainees' clinical judgments of a female client's physical attractiveness. It

was concluded that unattractive clients were perceived as more likely to terminate therapy prematurely. In addition, the unattractive client received fewer relationship-building responses than her identically portrayed but physically attractive counterpart. This latter finding has implications for the therapeutic interaction, suggesting that males may unconsciously facilitate rapport with attractive female clients but be more reticent to do so with an unattractive female client.

Prejudgments may be "put into action" in other ways. Bringmann and Abston (1981) found that mental health professionals enacted their physical attractiveness stereotypes by differentially selecting attractive people for intensive individual psychotherapy while more often selecting unattractive persons for group psychotherapy, if treatment was provided at all.

Thus it becomes apparent that some evidence exists to confirm that a physical attractiveness stereotype is operating during treatment provided by mental health professionals. Treatment is typically preceded by psychological assessment. This, then, raises a question as to whether or not such a bias emerges during the initial assessment phase. The current study deals more specifically with examiner bias in scoring psychological measures (i.e., individual intelligence tests) due to the

physical attractiveness or unattractiveness of the examinee. After an extensive literature review, it must be concluded that there is an extreme paucity of research with this particular focus.

Some research on individual intelligence testing has found that rapport development, familiarity with the examiner, and/or verbal approval given to the examinee can contribute to increases in intelligence quotients (IQs) (Exner, 1966; Kinnie & Sternlof, 1971; Sacks, 1952; Saigh & Payne, 1976; Sattler & Theye, 1967; Feldman & Sullivan, 1971; Witmer, Bornstein, & Dunham, 1971). This could have indirect implications for physical attractiveness research. If a physical attractiveness bias is operating on the part of the examiner, this could impact positively or negatively on rapport development, verbal approval given, etc.

One dissertation was located which parallels the current study. Mason (1976) studied "the effects of appearance and behavior on WISC scores as a result of examiner bias." Twenty-one graduate students each administered three WISCs to boys of average ability (as determined by the California Test of Mental Maturity--CTMM). There were three experimental groups, formed by having each boy's teacher score him on a behavior and appearance rating scale. The groups were: socially nondesirable, socially desirable, and neutral. Post hoc measures revealed that the examiners had not been able to discriminate these three

groups nor were there any significant differences between CTMM and WISC means for the three groups. Most importantly, there were no significant WISC IQ score differences for the three experimental groups.

These nonsignificant results could possibly be attributed to the confounding of "behavior" and "physical attractiveness." In addition, there would be so many variables operating during the testing situation that no control for any one variable was established. Thus, the Mason study is limited by methodological flaws and problems.

Summary of the Literature Review

In general, there is evidence that a physical attractiveness stereotype operates for various age levels (infants, children, and adults) and across a variety of settings (school, employment, dating, and counseling/clinical). Attractive infants seem to be assessed more favorably than unattractive ones, and this has implications for bonding and socialization of the child. Teachers expect more positive personality characteristics and behavior from attractive children than from unattractive children. The type of task being performed may mediate the attractiveness stereotype; however, just how this operates is not clear (Dion, 1974; Tompkins & Boor, 1980). Although sex of the perceiver and sex of the perceived seem to

interact with attractiveness of the target person, results are mixed as to just how this phenomenon operates. For example, Dion (1974) suggests that women show leniency towards attractive boys, while Rich (1975) found that women were more lenient towards unattractive girls.

In the employment setting, attractiveness appears to be a real asset, while being female can be a detriment; various interaction effects have been found between sex of the prospective employee and his/her attractiveness level. In both the dating situation and for defendants in mock jury trials, the attractiveness stereotype definitely plays a role, but it seems to be mediated by numerous other factors. Finally, in the counseling/clinical setting, prejudgments by clinicians appear to be biased towards attractive clients and, although this effect is implied for both diagnostic and therapeutic situations, evidence is minimal to validate such a conclusion.

Methodological Considerations

Although research in the area of physical attractiveness has been extensive and both internal and external validity have been "good," there has been a tremendous lack of robust examination of the physical attractiveness construct (Patzer, 1985). No consistent way of identifying physical attractiveness levels for experimental treatment manipulation has been established.

Although construct validity and reliability have not been sufficiently examined, Patzer believes that the physical attractiveness variable has not contaminated research. He notes that perceptions of attractiveness by research subjects have been in agreement to a great degree and this "truth-of-consensus" has been powerful. Thus, a manipulation check to determine subjects´ perceptions of attractiveness becomes extremely important in establishing construct validity. The current study included this technique.

Patzer (1985) also points out that experimental design has proven powerful in physical attractiveness research, as it allows for the deception needed for successful control of variables. One of the weaknesses, however, has been that it has used only extremes of physical attractiveness and, thus, infers a linear relationship for average ranges of attractiveness. This is not necessarily true. Solomon and Schopler (1978) found that ascending levels of attractiveness were found to be curvilinearly related to the punitiveness of mock jury decisions. The current study utilized only extremes of attractiveness and it is, therefore, important to recognize this limitation when drawing conclusions.

It should also be noted that the current study used absolute viewing of a single child rather than instituting contrast effects through successive or simultaneous viewing

of a group of children. Sugarman (1980) found slightly greater (but nonsignificant) differences in perceived attractiveness when "simultaneous" methods were used. If further research shows that contrast effects are important, significant physical attractiveness effects using an "absolute" procedure may be only a conservative estimate of this factor´s potential influence.

Other important considerations can be gleaned from the literature review.

It seems obvious that personality and behavioral characteristics of the person perceived would strongly affect the perceiver, so that it is important to control this aspect if one´s focus is to study the effect of physical attractiveness alone. In other words, photographs or other static views of the child without seeing him/her talk or behave in other ways would be important. For this reason, photographs were varied for the subjects in each condition, but the same audiotape of the child was used with all subjects in the study.

Controversy remains in the literature as to whether physical attractiveness effects operate only with strangers on initial encounters or whether these effects continue after one becomes more familiar with another. The current study did not address this issue directly. It should be noted that photos were of children previously unknown to the research subjects.

Consideration of the sex of the examiner and the sex of the examinee cannot be ignored. The literature demonstrated interaction effects between sex of the perceiver and sex of the perceived to such an extent that it would seem mandatory to consider sex as an independent variable in all future studies. Accordingly, both male and female children and male and female research subjects were used in the current investigation.

Research Hypotheses

Only one study (Mason, 1976) was reviewed which attempts to determine the relationship between a child's physical attractiveness and scores received on the WISC-R. A confounding was noted in this study which may well have contributed to the nonsignificant results. Until more solid research is accomplished, it appeared most appropriate to state this hypothesis in the "null" form:

1. There will be no significant difference between the mean WISC-R verbal IQ score for physically attractive and physically unattractive children.

On the other hand, the aforecited literature review provides considerable evidence to show that people usually attribute more positive personality characteristics to physically attractive others and more negative characteristics to unattractive others. Thus, a "directional" hypothesis was proposed:

2. Physically attractive children will receive higher positive scores than physically unattractive children on the Adjective Ratings and the General Impressions Summary.

Although no firm conclusions can be drawn from the literature, sex of the adult and sex of the child seem to influence assessment of a child's performance. As a result of Dion's (1974) "cross-sex leniency" conclusions for an achievement task, it was hypothesized that:

3. Female research subjects will provide higher mean WISC-R scores for attractive boys than for girls of either attractiveness level; male research subjects will not derive different mean scores due to level of attractiveness or sex of the child.

CHAPTER III

PROCEDURES

Population and Sample

The sample consisted of 42 male and 42 female students at Utah State University, the majority of whom were upper division undergraduate students in sociology, psychology or related fields. Specifically, there were 53 sociology/psychology majors, 13 engineering/math/science majors, 9 education majors, 7 business majors, and 2 with no declared major. Classification according to grade level was as follows: 9 freshmen, 7 sophomores, 34 juniors, 29 seniors, and 5 who had begun graduate work.

Students were volunteers. Since most students were from social and human services fields, there is a high probability that these particular students had strong interest in learning about WISC-R scoring. The assistance of 68 of the subjects was elicited by providing a verbal description of the study to various classes in the above-cited departments. Specific class points were earned for participation, as deemed appropriate by the professor for each class. The remaining 16 subjects were recruited from two organizations on campus; they participated with the understanding that $2.00 would be donated to their

organization for each member participating.

The following information was collected from each subject post-experimentally (See Appendix D for Additional Information form): Age, college major, year in college, cumulative grade point average, marital status, self-rating of attractiveness, degree of concern about physical attractiveness during three time periods in their lives, and perceived existence of unusual physical features or handicaps (self). This was done to facilitate exploratory analyses as deemed appropriate upon completion of the study.

Because of the inexperience and volunteer status of the subjects as well as the very controlled laboratory training environment, no attempt will be made to generalize results to a population of professional diagnosticians. However, if significant differences are found in this controlled laboratory study, implications for the whole mental health field are profound and further research would be indicated to determine exactly where and when a physical attractiveness stereotype is operating among mental health professionals.

Design

A 2 X 2 X 2 factorial design (See Table 1) was used in this study. The independent variables were sex of the subject, sex of the child, and physical attractiveness of the child. The dependent variables were verbal scores from the WISC-R, a score received on the Adjective Ratings, and total positive, negative and neutral adjective scores on the General Impressions Summary.

Table 1

Factorial Design

	CHILDREN			
	ATTRACTIVE		UNATTRACTIVE	
	MALE	FEMALE	MALE	FEMALE
ADULT MALES	11	10	10	11
ADULT FEMALES	10	11	10	11

All subjects initially participated in group training to learn how to score the verbal items on the WISC-R (See Appendix E for specific procedures). Training sessions were held separately for four to eight subjects at a time.

All subjects received four hours of training. Sixty-four of the subjects received training during two separate sessions of two hours each, both held during the same week. The remaining 20 subjects were trained during one session of four hours duration. Subjects signed up for training session times which were convenient for them. Assignment to the various experimental conditions occurred after the training phase was completed.

During training, two completed WISC-R protocols were used for practice scoring (See Appendix F).

The next step was to assure that the major goal of group training was accomplished: That is, each subject was trained to established criteria for scoring accuracy. Each subject was required to score each verbal section within one standard error of measurement (SE_M) of the "true" scaled score for each section. The true scaled scores were established prior to the training by deriving the average of the scores provided by three trained professionals. The SE_Ms used were the average SE_M for each subscale as reported in the WISC-R manual (Wechsler, 1974, Table 10, p. 30). It was decided in advance that those who did not meet established criteria would be terminated from further involvement in the study; this occurred in only two cases.

The subjects had three opportunities to meet criteria. The three completed WISC-R protocols used for this purpose are contained in Appendix G.

Upon meeting criteria, each subject was then told that, in order to test some further ideas for training, the last session (test condition) would be held individually (See Appendix H for specific procedures). No later than the week immediately following the group training, each subject was scheduled for the test condition.

A maximum of four subjects were scheduled at a time. As they arrived, each was assigned an identification code number. He/she was then randomly assigned (via numbers previously drawn "from a hat") to one of the four experimental conditions (physically attractive male child; physically unattractive male child; physically attractive female child; physically unattractive female child).

The subject was then seated alone in a room and received a photocopied file (See Appendix I for a sample school file) which was allegedly a school file of the child for whom they were about to score verbal items of the WISC-R. For all files across conditions, information was exactly the same (background data, grades for an "average" child, etc.) except for the photo contained on the left hand side--this photo depicted a physically attractive male, a physically attractive female, a physically unattractive male, or a physically unattractive female, depending on the condition under study (See Appendix A for photographs used).

Each subject was then asked to record all verbal

responses (and score each at his/her own pace) as he/she listened to an audiotaped WISC-R testing session (See Appendix J for Test Condition protocol). The same audiotape was used for each condition; therefore, it was necessary to establish that the voice of the child on the tape could easily be considered as either a boy's or a girl's voice. The selected tape had been pre-rated by six blind judges and received ratings of "female voice" as frequently as "male voice."

The WISC-R recording sheet was inserted on the right hand side of the school file, so that the subjects were forced to keep their files open with the photo of the child in full view as they recorded the verbal responses and scores.

Upon completion of scoring, each subject was asked to first complete the General Impressions Summary sheet (See Appendix C), followed by the Adjective Ratings (See Appendix B).

The final phase was a debriefing session (See Appendix H for details) which included collection of additional information about each subject (See Appendix D for Additional Information sheet).

Instrumentation

Assessment of physical attractiveness. Pre-experimentally, photos of 12 female and 12 male children

(7 to 10 years old), who were initially judged by the experimenter as somewhat attractive or unattractive, were randomly presented to 10 different raters. Ratings were accomplished using a Likert-type scale containing nine points, with one being the least attractive rating, five as average, and nine being the most attractive rating. Photos selected for the attractive and unattractive conditions have mean ratings which are significantly different from each other (using T-tests, $p < .001$ in all cases). In order to enhance generalizability of "attractiveness" or "unattractiveness," two photos were used to represent each condition.

In addition, a post-experimental manipulation check was conducted to verify the subjects' perceptions of the child as physically attractive or unattractive (See Results section for details). This was accomplished by embedding an "unattractive-attractive" item on the Adjective Ratings (See Appendix B, Item 9).

Measurement of dependent variables. In addition to the individual subscale scores, a total verbal score on the WISC-R was computed for each subject in each condition (i.e., the scores given by the subject for the attractive or unattractive male or female).

A Likert-type Adjective Ratings form (See Appendix B) was used to measure specific personality characteristics attributed to the child by each subject. These trait

descriptors were derived from past research (Anderson, 1968; Dion, 1972; Dion, 1974; Dion et al., 1972; and, Rich, 1975). Anderson (1968) has formulated a list of 555 positive and negative adjectives (See Appendix K). Using Anderson´s classifications, each polarity continuum on the Adjective Ratings form in this study was designed with an extremely negative adjective at one end and an extremely positive adjective at the other end. Each child received an individual score on each item as well as a total score derived by summing the scores on each of the 17 items.

Finally, several scores were derived for each General Impressions Summary (See Appendix C). All adjectives and descriptive phrases were underlined in each subject´s summary paragraph. A frequency score for positive, negative, and neutral adjectives was derived using the previously-cited bipolar descriptions identified by Anderson (1968). The overall mean likability for Anderson´s ratings was 2.93, with a standard deviation of 1.46. For the purpose of this study, an adjective was classified as positive if it was at least one standard deviation above the mean in Anderson´s research (at least 4.39) and as negative if it was at least one standard deviation below the mean (at least 1.47). Adjectives which fell in the middle area (between 1.47 and 4.39) were classified as neutral. If adjectives appeared in the

General Impressions Summary which did not appear on Anderson's list, synonyms were searched out in The New American Roget's College Thesaurus (1978) in an effort to classify the adjective as positive or negative, rather than to arbitrarily discard it. In addition, the number of words written by each subject was totaled to provide a measure of total verbal description.

CHAPTER IV

RESULTS

The basic premise of this investigation is that the physical attractiveness stereotype is a potentially pervasive factor in social behavior. In particular, the current study has been designed to explore the potential implications of the stereotype within clinical assessment settings. The analyses were designed to determine: (a) the validity of the experimental design and treatment, (b) the reliability of measurement, and (c) the significant differences associated with the treatment effects.

As Adams and Schvaneveldt (1985) argue, the basic foundation of any social science research begins with evidence that one's social facts are based on sound measurement and experimental research methodology. Therefore, this chapter begins with a summary of evidence suggesting acceptable reliability in measurement and internal validity in the experimental condition.

Validity and Reliability

Internal validity. The basic experimental treatment in this investigation is founded on differences in perceived attractiveness associated with facial appearance.

In order to test for a physical attractiveness stereotype effect in a clinical assessment context, it must be established that significant differences between the levels of attractiveness are perceived by the subjects. That is, the researcher must demonstrate that any differences in assessments associated with physical appearance are due to the actual experimental stimuli (or, in this case, the low and high levels of facial attractiveness for the male and female children).

To test for internal validity using the manipulation check described in the Procedures chapter, mean comparisons were computed for the two basic levels of facial attractiveness for the male and female photographs using the attractiveness impression item from the Adjective Ratings (using a 9-point Likert scale item). The target stimuli consisted of two photographs for each level of attractiveness for each sex (or eight total photographs). In Appendix A, photographs designated A, B, E, and F were associated with the unattractive condition for the male (A, B) and the female (E, F) target stimuli. Photographs designated C, D, G, and H were associated with the attractive condition (C, D for male and G, H for female).

Mean comparisons for research subjects' evaluations of facial attractiveness from the manipulation check are summarized in Table 2. A series of either t-tests or one-way analyses of variance were computed on the various

combinations of levels of attractiveness. Initially, the four photographs reflecting unattractiveness (A, B, E, F) were contrasted with those reflecting attractiveness in facial appearance (C, D, G, H). As Table 2 demonstrates, a significant difference was observed between the two basic target stimuli conditions ($p < .001$). Thus, evidence of strong internal validity of the experimental treatment conditions was established for the two general levels of attractiveness.

Given more than one photograph was used for each level of attractiveness and that photographs were included to test for male and female differences, a series of additional analyses were needed to demonstrate that no significant perceived differences existed: (a) between the two photographs representing the same level of facial attractiveness for each sex, or (b) between the sexes for the same level of attractiveness. The remaining t-tests in Table 2 reveal that: (a) the ratings for the two photographs within each of the levels of attractiveness for each sex did not differ significantly, and (b) the perceived level of attractiveness for photographs of male children versus photographs of female children designated as either unattractive or attractive did not differ beyond chance.

Table 2

Manipulation Check--Mean Comparisons of Research Subjects' Attractiveness Ratings for the Target Photographs

T-Tests

Variables Compared	Photo Labels	M	SD	T	df	p
U	ABEF	4.74	1.25			
A	CDGH	7.05	1.29	-8.34	82	.0001
AM	CD	6.95	1.28			
AF	GH	7.14	1.32	-0.48	40	.64
UM	AB	4.65	.22			
UF	EF	4.82	.31	-0.43	40	.67
UM	A	4.50	.85			
UM	B	4.80	1.14	-0.67	18	.51
UF	E	4.42	1.51			
UF	F	5.30	1.34	-1.44	20	.17
AM	C	6.82	1.25			
AM	D	7.10	1.37	-0.49	19	.63
AF	G	6.91	1.45			
AF	H	7.40	1.17	-0.85	19	.41

One-way Analysis of Variance

		SS	MS	F	df	p
UM	AB					
UF	EF					
AM	CD					
AF	GH	112.68	37.56	22.88	3, 80	.01

Note. Variables: U = unattractive; A = attractive; M = male child; F = female child; The actual photographs (represented by photo labels A thru H) are contained in Appendix A.

Finally, (from Table 2) a one-way analysis of variance demonstrates that the unattractive male and female target stimuli were judged to be significantly lower in perceived attractiveness by the research subjects than were the male and female target stimuli designated for the higher attractiveness level.

Validity of measurement. The basic dependent variables in the present study included the scoring of the verbal subscales of the WISC-R, the completion of the Adjective Ratings, and scores derived from the General Impressions Summary. Validity for the verbal intelligence measure was originally established by a "criterion to measurement" strategy. That is, subjects were trained to a criterion of one standard error of measurement for each subscale on the WISC-R before being given the actual experimental measure on assessment of verbal intelligence. All subjects included in the final analyses met this criterion; two subjects were dropped from the study after failing to meet criterion. Further, when correlations were computed between standard scores derived for each of the five verbal subscales of the WISC-R and the total standard score for the verbal section, positive correlations were observed. These correlations ranged from .22 to 1.00. Once again, these correlational findings provide further evidence that the subscale scores were measuring subdomains of verbal IQ with this research sample and that research

subjects were scoring the IQ measure appropriately.

The two remaining evaluations involved the Adjective Ratings measure and the General Impressions assessment. The General Impressions Summary was scored for total words, total positive adjectives, total negative adjectives, and total neutral adjectives. Assuming that the two remaining evaluations are measuring similar constructs, one would expect a positive correlation between at least the total score on the Adjective Ratings and the total positive adjective score on the General Impressions Summary. Indeed, the correlation is .47, $p < .0001$. Further, a significant negative correlation was observed between the Adjective Ratings score and the total negative adjective score from the General Impressions Summary ($r = -.19$, $p < .04$). No significant correlations were observed between the Adjective Ratings and the remaining subscores derived from the General Impressions Summary. Thus, the two rating scales appear to have relatively concurrent and convergent validity, wherein both appear to be most clearly measuring variability in perceived positive characteristics associated with personality and social behavior attributes.

Reliability of measurement. Reliability using an estimate of internal consistency was established for the multiple item Adjective Ratings measure. A Cronbach alpha was generated for the 17-item scale. The alpha was .94, demonstrating strong internal consistency. Reliability

estimates were not generated for the General Impressions measure due to the nature of the assessment.

Further, reliability of measurement for the verbal intelligence subscales was established by having three experienced psychometricians rate the basic protocols used in the experimental training sessions and in the test condition. Reaching criterion during training sessions was based on inter-rater reliability estimates provided by the experienced raters. It is important to note that the true standard score (established by the average of the scores derived by the three experienced raters) for the protocol used in the test condition was not significantly different from the average score derived by the research subjects. That is, there was only a difference of two IQ points between the IQ equivalents derived by the psychometricians and the research subjects; the average SE_M for verbal IQ on the WISC-R is 3.60 (See Wechsler, 1974, p. 30). This provides further confirmation for the reliability established by training the subjects to a specific scoring criterion.

Significant Differences

To test the three basic hypotheses of this study, a series of analyses of variance (ANOVAs) and covariance were computed. A sex of child x sex of research subject x level of child's facial attractiveness factorial was used. The

initial analyses were computed with a standard ANOVA factorial, followed by analyses of variance using three covariates. Covariations due to age of research subject, grade point average, and self-attractiveness rating by the research subject were included in the secondary analyses. Age of the research subject might affect how a child is perceived. Grade point average provided some measure of scholastic ability or general intelligence which could impact on acquisition of learning to score the WISC-R as well as on stereotypic effects. Finally, the rating of self-attractiveness was included to control for the possible influence of positive or negative self-evaluations in perceptions of others. Thus, these three factors were accounted for in order to eliminate possible confounding influences in the present analyses.

Hypothesis 1. It was hypothesized, using a null hypothesis, that there would be no differences between attractive and unattractive target children on the five verbal subscale scores of the WISC-R. Analyses of variance and covariance on the standard scores for each verbal subtest revealed only one significant finding. That is, on the Similarities subscale, a significant ($F(1,76) = 3.79$, $p < .055$) interaction was observed between level of attractiveness of the child and sex of the research subject. Male subjects reported higher mean standard scores for attractive ($M = 15.14$) versus unattractive

(M =15.00) children, while female subjects reported higher mean scores for unattractive (M = 15.10) rather than attractive (M = 14.81) children. While statistical differences were observed on the Similarities subscale, these differences have little practical meaning in the measurement of IQ differences when one considers that the average SE_M for the Similarities subscale is 1.34 (See Wechsler, 1974, p. 30). Further, when covariance analyses were computed, little change was observed on this dependent measure. Thus, it is concluded that little evidence can be found to suggest attractiveness stereotyping effects in an intelligence testing context.

Hypothesis 2. The second hypothesis predicted that physically attractive children would receive more positive personality and social attributions than less attractive children. Analyses were computed on the Adjective Ratings and General Impressions Summary scores. Two significant main effects, but no significant interaction effects, were found. On the Adjective Ratings, attractive children (M = 113.33) were rated as having more positive personality and social characteristics than less attractive (M = 102.24) children ($F(1, 76) = 11.07$, $p < .001$). Further, the positive adjective totals for the General Impressions Summary revealed that attractive children (M = 1.69) were evaluated more positively than less attractive children (M = 0.98) when research subjects were asked to spontaneously

write a general impressionistic paragraph describing the target child ($F(1, 76) = 8.31$, $p < .005$). No significant differences were observed for total words written in the General Impressions Summary, or for total negative or neutral adjectives provided in these impressions. Thus, it is concluded that attractive children were evaluated by research subjects as having more positive personality and social characteristics than unattractive children, even though attractive children were not judged to have a higher intelligence level. However, the attractiveness bias was observed to be exclusively associated with positive descriptors and not with negative, neutral, or total verbage about a child's personality or social characteristics.

Hypothesis 3. The third hypothesis, based on Karen Dion's earlier research, proposed that female subjects would evaluate attractive male targets more favorably than unattractive males or females of either attractiveness level, while male subjects would be unaffected by sex of the child. This hypothesis is ideally tested by examining the sex of child x sex of subject x level of target child's attractiveness interaction. In the present study, however, for all the dependent measures, no significant three-way interactions were observed. However, several main effects and two-way interactions were found to be associated with sex of the child or sex of the research subject.

Significant sex of child main effects were observed for the following dependent variables: (a) Comprehension subscale score, $F(1, 76) = 8.62$, $p < .004$; (b) Total verbal standard score, $F(1, 76) = 9.26$, $p < .003$; and, (c) Total positive adjectives from the General Impressions Summary, $F(1, 76) = 5.13$, $p < .026$. For each of these significant main effects, female children received higher scores/ratings. That is, females were judged to have better comprehension abilities, to have a higher verbal intelligence, and to possess more positive personality and social characteristics than males. However, the mean differences, as summarized in Table 2, are rather small and probably inconsequential in a real-life setting. For example, the derived male and female verbal IQs are within one SE_M (3.60) of each other.

Table 3

Comparison of Means for Significant Sex of Child Main Effects

Dependent Variable	Female Children M	Male Children M
Comprehension score	17.05	16.29
Total verbal score	73.40 (IQ = 128)	72.27 (IQ = 127)
Total positive adjectives	1.60	1.05

One significant main effect was observed for sex of the research subject. On the negative adjective total for the General Impressions Summary ($F (1, 76) = 5.43$, $p < .022$), female subjects ($M = 1.12$) reported more negative attributes than male subjects ($M = 0.64$). However, the general lack of significance between male and female subjects on the various measures suggests that sex of the subject assumed a minimal role in the present study.

There were two significant sex of child x sex of research subject interactions, both on measures of verbal WISC-R scores. That is, a significant interaction was observed for the Comprehension ($F (1, 76) = 9.25$, $p < .003$) and the total Verbal standard scores ($F (1, 76) = 5.54$, $p < .021$). In both cases, male subjects tended to score male and female children approximately the same way, while female subjects scored females significantly higher than males. These findings are congruent with the third hypothesis in that it was proposed that male subjects would not differ in their evaluations of male and female children. In the present findings, attractiveness did not play a significant role. However, somewhat contrary to the third hypothesis, female subjects were observed to be biased toward female children, regardless of their degree of attractiveness. It is important to note that the actual verbal IQ differences derived by female subjects probably have no practical significance, as the mean IQs

for male (127) and female (130) children are within one SE_M (3.60) of each other. However, the mean scores on the Comprehension subscale (15.65 for male children; 17.23 for female children) are not within one SE_M (1.39) of each other, implying a "true" difference in how female subjects scored male and female children on this subtest.

Summary of Significant Findings

The analyses of this investigation lead to the following basic empirically-derived conclusions: (a) Research subjects did not demonstrate a physical attractiveness bias in scoring verbal items of the WISC-R; (b) Research subjects attributed more positive personality and social characteristics to attractive than to unattractive children, even though such a bias was not demonstrated for WISC-R scoring; (c) A bias against unattractive children was not demonstrated, i.e., unattractive children did not receive more negative or neutral attributions than did attractive children; (d) Female children received higher Comprehension, total Verbal, and total positive adjective scores (statistically significant) than did male children; and, (e) Male subjects did not provide differential verbal WISC-R scores for male and female children, while female subjects tended to be biased toward female children, regardless of attractiveness level.

CHAPTER V

DISCUSSION

Overview

A large volume of past research (See Chapter II, Review of Related Literature) suggests that physical attractiveness stereotyping occurs in our culture and has a positive impact for those persons who are perceived as attractive. This stereotypic effect seems to occur across all ages and in a variety of settings. In fact, it appears that biases toward persons who are attractive can have a negative effect for those who are unattractive. Thus, it seems we are faced with a significant social issue; the implication is that physical attractiveness biases result in extensive positive reinforcement for attractive persons, which, in turn, contributes to disregard for positive traits and behaviors of those perceived as less attractive. Indeed, this suggests that such a stereotype may contribute to channeling unattractive people away from realization of their capabilities and talents.

Of particular significance for the current investigation are findings in the clinical/counseling area. Research has begun to suggest that mental health professionals may be affected by physical attractiveness

biases in their initial judgments of clients (Barocas & Vance, 1974; Brown, 1970; Hobfoll & Penner, 1978; and, Sharf & Bishop, 1979) as well as in their direct interaction with them (Bringmann & Abston, 1981; and, Schwartz & Abramowitz, 1978). This, then, has direct implications for psychological assessment and therapeutic interactions. If assessment (e.g., testing, interviewing) and therapy are influenced by clinicians' physical attractiveness biases, it would seem mandatory to identify when and where this occurs, so that rectification can be introduced on behalf of all clients.

The current study focused on assessment, with a goal of establishing the existence or non-existence of examiner bias due to facial attractiveness of the child being tested. It was found that when careful controls are used, including specific technical training, there was no evidence of a physical attractiveness bias in scoring the WISC-R. This is congruent with at least one past research effort (Mason, 1976).

However, when these same subjects were asked to give a more general evaluation of the child for whom they had just scored WISC-R verbal items, more positive personality and social characteristics were attributed to attractive than to unattractive children. Certainly this supports past research findings which strongly suggest that attractive children are judged as more positive on a variety of traits

and behaviors (Adams, 1978; Adams & Cohen, 1976; Clifford & Walster, 1973; Dion, 1972, 1974; Lerner & Lerner, 1977; Martinek, 1981; Rich, 1975; Salvia et al., 1977; and, Tompkins & Boor, 1980). These findings seem to have implications for training of diagnosticians and other human services personnel. If professionals receive adequate technical training on objective assessment measures (such as the WISC-R), chances of contamination by biases like the physical attractiveness stereotype appear to be minimal. However, when these same professionals use more subjective instruments like rating scales, general impressions assessments, and perhaps even some projective tests, cultural biases may be introduced without awareness on the part of the clinician. This kind of awareness could be integrated into training programs.

It is important to note that the current results did not reveal a bias <u>against</u> unattractive children. That is, the bias demonstrated was directed favorably toward attractive children. This in itself implies a negative impact upon less attractive children; however, the impact would be even more devastating if specific negative labels and behaviors were, in addition, directed toward unattractive children. Previous research has not seemed to make this differentiation.

Past findings concerning sex of adult and sex of child main and interaction effects seem to be mixed. Dion (1974)

found that women provided the most leniency to attractive boys on a picture-matching task; males showed no bias towards attractive or unattractive boys or girls. Rich (1975) concluded that female teachers blamed unattractive girls less and punished them less severely for a misbehavior. Tompkins and Boor (1980) found that an attractiveness bias was operating with social attributions but not academic ones. The current study concluded that attractiveness of the child did not interact with sex of the child or adult. Congruent with Dion's findings, males did not differentially score the WISC-R. Female subjects, however, tended to score female children higher than male children on the WISC-R Comprehension subscale and the overall Verbal standard score. The reasons for these current sex differences are not clear, but they do suggest that sex of the clinician and sex of the child are variables that should be considered in future investigations.

Methodological Issues and Limitations

The strength of the current study seems to be its internal validity; conversely, its greatest weakness appears to be lack of external validity. Using a sample of nonprofessionals (the majority of which were undergraduate students) within an artificial laboratory setting certainly makes generalization to the larger population of real-life

clinicians questionable. Thus, it is important to recognize this research as "laying the groundwork" for further research in a field setting.

It must also be recognized that the current study deals with clients unfamiliar to the research subjects. Different results might occur with persons already familiar to a diagnostician. However, it would be expected from past research that the physical attractiveness stereotype would impact less with increased familiarity.

In future studies, it would be suggested that each subject be provided the opportunity to put in writing his/her feelings about the research and factors he/she believed were impinging upon reactions to the attractiveness level of the target child. Since the science of personality and social attributions is so difficult to operationalize, further insights into the psychological processes of the subjects certainly would be helpful.

Theoretical and Clinical Implications

From a theoretical perspective, the most significant finding seems to be that a physical attractiveness stereotype (when making personality attributions) was operating in favor of those children who appeared to be more facially attractive, but not against those who were designated as unattractive. Clinically, this implies that

psychologists should be trained to be aware of tendencies to function more positively toward attractive people, even though this may not imply a detriment to those who are less attractive. It still implies, however, that differential impressions may be recorded in initial intake reports for attractive versus unattractive clients and may well establish a bias which could be continued throughout diagnosis and treatment.

In addition, this study would encourage an increased awareness on the part of clinicians in terms of possible biases toward one sex during the assessment process and throughout interaction with a client.

Finally, the current study's strongest implication seems to be directed to clinicians/diagnosticians: If one uses a measure as objective as the WISC-R, the chances of a physical attractiveness stereotype impacting on the assessment are minimal. On the other hand, the clear evidence of such a stereotype operating within a personality attribution/general impressions context, suggests that caution is in order for clinicians using such subjective measures.

Future Research

Current research seems to have established that there is a continuum of diagnostic tools ranging from the "least objective" instrument to the "most objective" measure, with

physical attractiveness biases operating along some parts of the continuum. These "parts" are not established and it is therefore suggested that future research be directed at delineating the range of objective instruments which have little chance of being affected by such a bias, and the range of subjective instruments which require more caution due to higher chance of stereotypic influences. Such a delineation would not be meant to eliminate "subjective" assessments but to provide some empirical grounds for using them more effectively and fairly on behalf of clients.

It is also recommended that research be continued to determine sex of child x sex of adult x attractiveness of child interactions, so that these variables can be more realistically considered during diagnostic and treatment endeavors. Instruments have already been developed to measure sex-role bias towards children (Chasen & Weinberg, 1975); perhaps future instruments might be developed to measure physical attractiveness biases as well.

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APPENDIXES

Appendix A
Photographs

Photo A
Unattractive Male

Photo B
Unattractive male

Photo C
Attractive Male

Photo D
Attractive Male

Photo E
Unattractive female

Photo F
Unattractive female

Photo G
Attractive Female

Photo H
Attractive Female

Appendix B
Adjective Ratings

Circle the number which seems to be most appropriate for describing the child you just scored on the WISC-R.

1. Dishonest	1	2	3	4	5	6	7	8	9	Honest
2. Unintelligent	1	2	3	4	5	6	7	8	9	Intelligent
3. Unhappy	1	2	3	4	5	6	7	8	9	Happy
4. Immature	1	2	3	4	5	6	7	8	9	Mature
5. Unpleasant	1	2	3	4	5	6	7	8	9	Pleasant
6. Cruel	1	2	3	4	5	6	7	8	9	Kind
7. Incompetent	1	2	3	4	5	6	7	8	9	Competent
8. Lazy	1	2	3	4	5	6	7	8	9	Hard-working
9. Unattractive	1	2	3	4	5	6	7	8	9	Attractive
10. Unfriendly	1	2	3	4	5	6	7	8	9	Friendly
11. Uncooperative	1	2	3	4	5	6	7	8	9	Cooperative
12. Unenthusiastic	1	2	3	4	5	6	7	8	9	Enthusiastic
13. Untrustworthy	1	2	3	4	5	6	7	8	9	Trustworthy
14. Unsociable	1	2	3	4	5	6	7	8	9	Sociable
15. Cold	1	2	3	4	5	6	7	8	9	Warm
16. Insincere	1	2	3	4	5	6	7	8	9	Sincere
17. Voice quality Unpleasant	1	2	3	4	5	6	7	8	9	Voice quality Pleasant

Appendix C
General Impressions Summary

From your testing experience, please give a general description of this child. Refer to such things as motivation (academic or otherwise), emotional make-up, interaction with others, general behavior, and/or specific personality characteristics.

Appendix D
Additional Information

1. AGE: _____

2. COLLEGE MAJOR: _____ YEAR: _____

3. CURRENT CUMULATIVE GRADE POINT AVERAGE (1.0-4.0):_____

4. MARITAL STATUS: Married___ Single___ Divorced___

5. NUMBER OF CHILDREN: _____

SEX AND AGES: _____

6. SELF-RATING OF ATTRACTIVENESS:

Unattractive 1 2 3 4 5 6 7 8 9 Attractive

7. How important has physical attractiveness been in your life? How would you rate your degree of concern about physical appearance (yourself and/or others) at different times in your life?

Your age:	Degree of concern about own attractiveness
Up to 12	Unconcerned 1 2 3 4 5 Concerned
12 to 18	Unconcerned 1 2 3 4 5 Concerned
18 to present	Unconcerned 1 2 3 4 5 Concerned

Your age:	Concern about others' attractiveness
Up to 12	Unconcerned 1 2 3 4 5 Concerned
12 to 18	Unconcerned 1 2 3 4 5 Concerned
18 to present	Unconcerned 1 2 3 4 5 Concerned

8. Do you consider yourself as having any unusual physical features or handicaps (large nose, limp, etc.)?
_____Yes _____No

If yes, describe: _____

_____

Appendix E
Group Training Procedures

INTRODUCTION:

"This is a study of training techniques for professionals learning to accurately score verbal items on the Wechsler Intelligence Scale for Children-Revised (WISC-R). Your participation is greatly appreciated, as you will be assisting in trying to find the 'best' methods to be used with psychologists in training. Obviously, you will also have the opportunity to become familiar with the verbal items on the WISC-R, which may well help you understand the concept of an intelligence test a little better.

Please keep in mind that you will not be qualified to administer or score the WISC-R upon completion of this training. Only psychologists who have completed specific, in-depth training are qualified to do so. However, the knowledge you will gain should be beneficial in understanding what the test is about and in communicating with other professionals in the future.

You have the right to withdraw from the study at any time--no one is forcing you to do this. However, I will very much appreciate your cooperation.

All of your scoring and any other information you provide during this study will be kept in confidence. This will be assured due to a code number which will be assigned

to you and placed on any data sheets needed for the study.

Any questions?

The authors of the WISC-R conceive of intelligence as a global entity; they avoid equating general intelligence with intellectual ability. The current revised form of the test appeared in 1974; the original form was marketed in 1949. The test is individually administered, primarily for use with children ages 6 through 16. Norms were derived from a standardization sample of 200 children in the United States. Each person tested is assigned an IQ which, at his or her age, represents his relative intelligence rating. The IQ of 100 on the WISC-R is set equal to the mean total score for each age group, and the standard deviation is set equal to 15 IQ points.

The test consists of a Verbal and a Performance component, each containing six subtests:

VERBAL	PERFORMANCE
1. Information	2. Picture Completion
3. Similarities	4. Picture Arrangement
5. Arithmetic	6. Block Design
7. Vocabulary	8. Object Assembly
9. Comprehension	10. Coding (or mazes)

This study focuses upon the verbal items only. You will not be concerned with the actual administration of the test, but with learning to score the verbal subtests. You will be required to learn to score with a predetermined degree of accuracy. If you are unable to meet this criteria, I'll have to ask you to leave the study at that point. It is

doubtful that this will happen, but if it does, it is no reflection on your overall capabilities, as the training period used here is really quite short.

Any questions? Concerns?

For your information, here is what the WISC-R manual looks like and here is one of the official record forms for recording the child´s responses.

Now let´s examine each of the verbal subtests and learn how to accurately score each one."

(Distribute the WISC-R manual information to each subject)

PROCEDURES:

1. Go through each verbal subtest and briefly explain the scoring procedures. Emphasize that the subjects are to always use the WISC-R manual as an aid in scoring, as do professionals who score the test.

2. Offer two general scoring rules: If a child answers correctly but then spontaneously makes his answer wrong, score 0. And vice versa: If a child gives a wrong answer but spontaneously corrects him or herself, score as appropriate, 1 or 2.

3. Have the subjects score a protocol of typed responses on their own. Have them score each subtest, one at a time; verbally provide the correct answers and open the discussion

for clarification of any scoring problems.

4. Use a videotaped example of a testing session in progress. Give each subject a typed protocol of the responses; then randomly view the tape and have the subjects score at least two responses in each of the six subtests. Again, discuss each of the correct responses as a group and answer any questions about scoring.

5. Have each subject meet the established criteria for scoring accuracy (each verbal subtest score falls within one standard error of measurement of the "true" score). To do this, play an audiotape of a test session for the whole training group and have each privately score each response by: (1) Recording each response verbatim on a WISC-R scoring form; (2) Scoring each response in writing as they go.

6. If a subject does not meet criteria on the audiotape, he/she will have two subsequent opportunities to do so. Each subject will be provided additional typed responses for only the subtests on which he/she has not yet met criteria. If criteria are not met by the third trial, the subject will be asked to leave the study.

7. Subjects will be told that the next session will be held individually in order to test some further ideas concerning training.

Appendix F
Practice WISC-R Protocols

Protocol 1. (AGE OF CHILD: 6 years 3 months)

INFORMATION responses	True Score
1. (Finger) Thumb	1
2. (Ears) Two	1
3. (Legs) Four	1
4. (Boil) Heat it	1
5. (Nickel) Five	1
6. (Cow) I don´t know	0
7. (Week) Seven	1
8. (March) February	0
9. (Bacon) Pig	1
10. (Dozen) 100	0
11. (Seasons) Spring, Summer, Winter	0
12. (America) Edison	0
13. (Stomach) It pumps	0
14. (Sun) North	0
TOTAL:	7

SIMILARITIES responses	
1. (Wheel-ball) You roll them.	1
2. (Candle-lamp) They make light.	1
3. (Shirt-hat) You wear them.	1
4. (Piano-guitar) You play music with them.	1
5. (Apple-banana) You eat them.	1
6. (Beer-wine) You drink them. (Q) Just drinks.	1
7. (Cat-mouse) They´re animals that run.	2
8. (Elbow-knee) They both bend; they have parts to make your arm bend like this.	1
9. (Telephone-radio) You turn them both on and off in a different way.	0
10. (Pound-yard) What´s a pound?	0
11. (Anger-joy) I don´t know.	0
12. (Scissors-copper pan) They´re tools in the kitchen. (Q) Just tools.	0
TOTAL:	9

ARITHMETIC responses	True Score
1. Counts to 12	1
2. Leaves 4	1
3. Leaves 9	1
4. 2	0
5. 2	1
6. 4	1
7. 6	1
8. I don´t know	0
9. 5	0
10. I don´t know	0
TOTAL:	6

VOCABULARY responses	
1. (Knife) Cut with it	2
2. (Umbrella) Use it to keep rain off	2
3. (Clock) Something you tell time with	2
4. (Hat) You wear it to keep you head warm	2
5, (Bicycle) Something you ride around	1
6. (Nail) Hammer in to boards to hold them together	2
7. (Alphabet) All the letters are in it	2
8. (Donkey) Something to ride (Q) get meat from it	1
9. (Thief) A person that steals	2
10. (Join) Two people know each other and meet at one place	2
11. (Brave) If there´s a scary thing, you stay and aren´t scared	2
12. (Diamond) Put them on necklaces and earrings	1
13. (Gamble) Fuss; cry	0
14. (Nonsense) Someone´s talking about something not really happening	0
15. (Prevent) I don´t know	0
16. (Contagious) Somebody´s mad	0
17. (Nuisance) Being bad (Q) I don´t know what else; bugging another person	2
18. (Fable) I don´t know	0
19. (hazardous) I don´t know	0
20. (Migrate) I don´t know	0
21. (Stanza) stand	0
22. (Seclude) I don´t know	0
TOTAL:	23

COMPREHENSION responses	True Score
1. (Cut finger) Put a band-aid on it.	2
2. (Find wallet) Take it to the salesman in store or the person.	2
3. (Smoke) Call the fire place; tell the neighbors.	2
4. (Policemen) Streets are dangerous without them; they catch people that rob.	2
5. (Lose ball) Try to find it (Q); tell my friend or find it.	1
6. (Fight) Walk away.	2
7. (Build house) Wooden one could start on fire (q); it´s harder to break in.	1
8. (License plates) If get caught, show license (Q); Write down if they have no license.	0
9. (Criminals) They might hurt people, if not (Q); they might steal.	1
10. (Stamps) Pays for mailing.	2
11. (Inspect meat) I don´t know.	0
12. (Charity) Beggar might be a robber (Q); beggar might want to earn money.	1
13. (Secret ballot) I don´t know.	0
14. (Paperbacks) A paperback can break.	0
15. (Promise) The other person might get hurt or mad.	1
16. (Cotton) Make it into yarn and yarn is used to make stuff.	0
17. (Senators) I don´t know.	0
TOTAL:	17

Protocol 2. (AGE OF CHILD: 7 years 3 months)

INFORMATION responses	True Score
1. (Finger) Thumb	1
2. (Ears) Two	1
3. (Legs) Four	1
4. (Boil) Put it on the oven and turn oven on	1
5. (Nickel) Five	1
6. (Cow) Calf	1
7. (Week) Seven	1
8. (March) September	0
9. (Bacon) Pig	1
10. (Dozen) Six	0
11. (Seasons) Winter, Summer, Fall, Spring	1
12. (America) Columbus	1
13. (Stomach) I don´t know; holds food	1
14. (Sun) West	1
15. (Leap year) Last month; one extra day in last month	0
16. (Bulb) Can´t remember	0
17. (1776) Africa	0
18. (Oil) It´s light	1
19. (Border) England and . . . I don´t know	0
20. (Ton) 2 pounds	0
21. (Chile) I don´t know	0
22. (Glass) Fiber	0
23. (Greece) Lady Liberty	0
TOTAL:	13

SIMILARITIES responses	
1. (Wheel-ball) Both round.	1
2. (Candle-lamp) Both give off light.	1
3. (Shirt-hat) You wear them.	1
4. (Piano-guitar) Both play music.	1
5. (Apple-banana) Both are fruit and you eat them.	2
6. (Beer-wine) Both have alcohol in them.	2
7. (Cat-mouse) Both run fast.	1
8. (Elbow-knee) Both bend.	1
9. (Telephone-radio) You can hear things on both (Q); like on a telephone when you are talking to someone, on the radio they talk to you.	1
10. (Pound-yard) Both have things in them.	0
11. (Anger-joy) I don´t know; let´s skip it.	0
12. (Scissors-copper pan) Both metal.	2
13. (Mountain-lake) Can we skip that one?	0

	True Score
14. (Liberty-justice) Both are doing right (Q); Justice is doing something right; liberty is when you've done something right.	0
15. (First-last) Skip that one.	0
TOTAL:	13

ARITHMETIC responses

1. Counts to 12	1
2. Leaves 4	1
3. Leaves 9	1
4. 14	1
5. 2	1
6. 4	1
7. 6	1
8. 16, no, 14	1
9. 7	1
10. 23 cents	0
11. 27	1
12. 15	0
13. 24 hours	0
14. 40 cents	0
TOTAL:	10

VOCABULARY responses

1. (Knife) Something sharp (Q); and something you can cut with.	2
2. (Umbrella) Something that shelters you from the rain.	2
3. (Clock) Something that tells time.	2
4. (Hat) Something you wear (Q); something you put on your head.	2
5. (Bicycle) something you ride (Q); something with wheels.	2
6. (Nail) Something that holds something together.	1
7. (Alphabet) Words; letters (Q); means learning things.	1
8. (Donkey) An animal.	2
9. (Thief) Somebody who steals.	2
10. (Join) When you join somebody, like to dance (Q); like to go and play with somebody with their friends.	1
11. (Brave) When you're not afraid of something.	2
12. (Diamond) A jewel.	2
13. (Gamble) It means to give away money.	0

	True Score
14. (Nonsense) Something that doesn´t make sense.	2
15. (Prevent) It means to stop something (Q); If your tooth starts to decay, it starts to prevent tooth decay.	1
16. (Contagious) Something like when somebody´s sick and you go near them, you can get it.	2
17. (Nuisance) Like when you´re bugging somebody.	2
18. (Fable) When somebody can´t do something.	0
19. (Hazardous) When something is hazardous to your health.	1
20. (Migrate) Like when you go in circles.	0
21. (Stanza) Let´s skip that one.	0
22. (Seclude) That´s a hard one, too; like when you get a clue.	0
23. (Mantis) Like an animal, like the praying mantis (Q); I told all I know.	1
24. (Espionage) That´s a hard one; let´s go to the next one.	0
25. (Belfry) Like when a bell falls down.	0
26. (Rivalry) When you want revenge (Q); someone you don´t like tries to get back at you.	0
27. (Amendment) Let´s skip that one.	0
28. (Compel) When you compare somebody to another person.	0
29. (Affliction) Skip that one.	0
30. (Obliterate) Skip it.	0
31. (Imminent) You won´t give up.	0
TOTAL:	30

COMPREHENSION responses

1. (Cut finger) Run it under cold water (Q); and put a band-aid on it.	2
2. (Find wallet) Give it back (Q); or just leave it there, cause they might come back to get it.	0
3. (Smoke) Tell them (Q); try and get the fire out if there is one.	1
4. (Policemen) So we won´t get hurt and if someone kills another person, they could just keep doing it cause nobody´d be there (Q); If someone stole something and there are no police, there isn´t anything you could do about it (Q); If somebody went too fast in a car they might kill somebody.	1
5. (Lose ball) Tell him the truth.	0

		True Score
6.	(Fight) Try to work it out (Q); don´t hit him.	2
7.	(Build house) One built with wood could get ruined by rain (Q); wood one could fall down.	1
8.	(License plates) So if they kidnap somebody they could find the same car; if they didn´t they might get the wrong person (Q); That´s hard. I don´t know.	2
9.	(Criminals) so they won´t do it again (Q); so they can´t do it again. They´re in jail and can´t get out and kill another person.	1
10.	(Stamps) So we know what state they go to.	0
11.	(Inspect meat) If one of the cows had a disease, so humans wouldn´t get it; could be bad for us.	2
12.	(Charity) Charity gives it to older people who really need it (Q); I don´t know any.	1
13.	(Secret ballot) Cause somebody might go against you and kill you, so you wouldn´t win.	0
14.	(Paperbacks) If they fall they won´t hurt you (Q); they´re softer.	0
15.	(Promise) If it isn´t, it would be like lying	0
16.	(Cotton) It´s soft.	0
17.	(Senators) Let´s skip it.	0
	TOTAL:	13

Note. For each item, the initial word in parentheses is an identifier for that particular item. A "Q" in parentheses signifies that the examiner asked the child for further clarification of his/her answer or for "another reason why." "Automatic credit" means that the child successfully responded to items at a higher age level and therefore "automatically" receives a score for this preceding item.

Appendix G
WISC-R Protocols for
Criteria Assessment

Protocol 3. (AGE OF CHILD: 6 years 9 months)

INFORMATION responses	True Score
1. (Finger) Thumb	1
2. (Ears) Two	1
3. (Legs) Four	1
4. (Boil) Cook it	1
5. (Nickel) Five	1
6. (Cow) calf	1
7. (Week) Nine	0
8. (March) Easter	0
9. (Bacon) Cow	0
10. (Dozen) Twelve	1
11. (Seasons) Summer, Spring, and Winter	0
12. (America) Washington and Lincoln	0
13. (Stomach) Growls	0
14. (Sun) Left	0
15. (Leap year) I don´t know	0
TOTAL:	7
CRITERIA RANGE:	6 THRU 8

SIMILARITIES responses	
1. (Wheel-ball) Both circles.	1
2. (Candle-lamp) Both have straight and both light up.	1
3. (Shirt-hat) When someone puts shirt on, it has a circle here (points to wrist) and hat has a circle around it.	0
4. (Piano-guitar) Both play music.	1
5. ((Apple-banana) Both to eat.	1
6. (Beer-wine) Both drink them and both come in a can (Q); both drinks.	1
7. (Cat-mouse) Have the same tail; have the same body.	0
8. (Elbow-knee) Both bend.	1
9. (Telephone-radio) Both have sounds and both are in a square shape.	0
10. (Pound-yard) What is a pound? I don´t know.	0
11. (Anger-joy) Both opposites.	0
TOTAL:	6
CRITERIA RANGE:	5 THRU 7

ARITHMETIC responses	True Score
1. Counts to 12	1
2. Leaves 4	1
3. Leaves 9	1
4. 59	0
5. 10	0
6. 4	1
7. 6	1
8. 14	1
9. 7	1
10. 24	1
11. 27	1
12. 15	0
13. 40	0
14. (No response)	0
TOTAL:	9

CRITERIA RANGE: 8.5 THRU 9.5

VOCABULARY responses	
1. (Knife) It cuts something.	2
2. (Umbrella) Something you put up in the rain or snow or when it starts to pour (Q); or by an ocean you can put it up so sun doesn´t get in your eyes; or you can use it as dancing thing.	2
3. (Clock) To tell you what time it is.	2
4. (Hat) Something to put on your head and wear.	2
5. (Bicycle) Something you ride on (Q); has two wheels, sometimes even four.	2
6. (Nail) Something you hammer stuff with.	1
7. (Alphabet) Means you can do words with it and sing the alphabet and it means a lot of letters.	2
8. (Donkey) You can ride it (Q); Mary rode in Bethlehem.	1
9. (Thief) Somebody that steals some things of yours.	2
10. (Join) It means come on and play with us or join means come and do your homework with us.	1
11. (Brave) It means somebody like rescued somebody. also, the Indians were brave.	1
12. (Diamond) It means something real fragile; it glows and stuff and its shiny and white.	1
13. (Gamble) I don´t know.	0
14. (Nonsense) Somebody´s doing something they´re not supposed to and somebody´s not believing them.	0

	True Score
15. (Prevent) I don´t know.	0
16. (Contagious) Somebody´s real bad sick (Q); I don´t know any more.	0
17. (Nuisance) I don´t know.	0
TOTAL:	19
CRITERIA RANGE: 17 THRU 20	

COMPREHENSION responses

1. (Cut finger) Run it under cold water and put a band-aid over it.	2
2. (Find wallet) Go show it to a woman or man and tell them to report it (Q); or if you know the person, give it to them.	1
3. (Smoke) Call the fire station (Q); tell them to get out right away.	2
4. (Policemen) To stop burglars; to arrest people; to help people; to get them to do fires with the fire station and let people report on people like if they ran away.	2
5. (Lose ball) Go tell them and they might help you find it (Q); I don´t know.	1
6. (Fight) Don´t fight with him.	2
7. (Build house) Cause wood may fall down and bricks wouldn´t (Q); cause wood very easily falls down.	1
8. (License plates) So if somebody gives you candy and you don´t know them, you should look at their license and write it down and report it to the police (Q); I don´t know.	1
9. (Criminals) For stealing stuff.	0
10. (Stamps) So the . . . I don´t know. So the mailman gets it to the right place.	0
11. (Inspect meat) I don´t know.	0
12. (Charity) Because street beggars just beg so much.	0
TOTAL:	12
CRITERIA RANGE: 11 THRU 13	

Protocol 4. (AGE OF CHILD: 10 years 7 months)

INFORMATION responses	True Score
1. (Finger) (Automatic credit)	1
2. (Ears) (Automatic credit)	1
3. (Legs) (Automatic credit)	1
4. (Boil) (Automatic credit)	1
5. (Nickel) Five	1
6. (Cow) Calf	1
7. (Week) Seven	1
8. (March) April	1
9. (Bacon) Pig	1
10. (Dozen) 12	1
11. (Seasons) Spring, Summer, Fall, Winter	1
12. (America) Christopher Columbus	1
13. (Stomach) Digests food	1
14. (Sun) West	1
15. (Leap year) February	1
16. (Bulb) Thomas Edison	1
17. (1776) Britain	1
18. (Oil) Cause it´s lighter	1
19. (Border) Canada, Mexico	1
20. (Ton) 60	0
21. (Chile) Asia	0
22. (Glass) Sand	1
23. (Greece) I don´t know	0
24. (Tall) 5 feet 7 inches	1
25. (Barometer) Weather thing; measures air pressure	1
26. (Rust) Water (Q); I don´t know	0
27. (Los Angeles) 12,085 miles	0
28. (Hieroglyphics) Shapes that stars form	0
29. (Darwin) I don´t know	0
30. (Turpentine) I don´t know; I think oil	0
TOTAL:	22
CRITERIA RANGE: 21 THRU 24	

SIMILARITIES responses	
1. (Wheel-ball) They roll.	1
2. (Candle-lamp) Both provide light.	1
3. (Shirt-hat) You wear them.	1
4. (Piano-guitar) Both string instruments.	1
5. ((Apple-banana) They´re fruit.	2
6. (Beer-wine) Both have alcohol in them.	2
7. (Cat-mouse) Both animals--mammals.	2
8. (Elbow-knee) They´re joints.	2
9. (Telephone-radio) You can listen to them; they tell you stuff.	1

		True Score
10.	(Pound-yard) They measure something; its weight or its length.	2
11.	(Anger-joy) They´re emotions.	2
12.	(Scissors-copper pan) Both made out of metal or a metal alloy.	2
13.	(Mountain-lake) Both part of nature (Q); both natural things.	2
14.	(Liberty-justice) Both have something to do with being fair (Q); If you didn´t have liberty and justice you wouldn´t be able to do things other people do; wouldn´t get a chance to do it.	1
15.	(First-last) Both have something to do with placement (Q); They place something; first, middle, or last.	1
16.	(The numbers 49 and 121) Both are over 45.	0
17.	(Salt-water) Both are something that you eat or drink.	0
	TOTAL:	23
	CRITERIA RANGE: 22 THRU 30	

ARITHMETIC responses

1.	(Automatic credit)	1
2.	(Automatic credit)	1
3.	(Automatic credit)	1
4.	(Automatic credit)	1
5.	2	1
6.	4	1
7.	6	1
8.	14	1
9.	7	1
10.	24 cents	1
11.	$27.00	1
12.	11	1
13.	9	1
14.	63	0
15.	18	1
16.	12 cents	0
17.	I don´t know	0
18.	8	0
	TOTAL:	14
	CRITERIA RANGE: 13 THRU 15	

VOCABULARY responses	True Score
1. (Knife) (Automatic credit)	2
2. (Umbrella) (Automatic credit)	2
3. (Clock) (Automatic credit)	2
4. (Hat) Thing you wear on your head.	2
5. (Bicycle) A two-wheeled thing that has a chain that you pedal, and it moves you from place to place.	2
6. (Nail) A fingernail or a regular nail? (Examiner: just a nail) a piece of iron that is shaped so that it has a flat top; comes in different sizes; hit it with a hammer to hold pieces of wood together.	2
7. (Alphabet) A group of letters for the English language (Q); A group of letters when broken up and added together form words and sentences.	2
8. (Donkey) A four-legged animal.	2
9. (Thief) A person who steals stuff.	2
10. (Join) Put together.	2
11. (Brave) You do something most people wouldn´t do (Q); If somebody were someplace and in trouble and couldn´t get out of it, you´d help them even if you were risking your own life.	2
12. (Diamond) A rock that´s valuable; people mine it out of mines to get it.	2
13. (Gamble) To bet money on something you think could win.	2
14. (Nonsense) Stuff that doesn´t make sense; something out of somebody´s imagination.	2
15. (Prevent) To stop somebody or something from doing something.	2
16. (Contagious) Something could spread thru people or animals, like a disease.	2
17. (Nuisance) Doing something that´s not really good and sometimes sort of bad (Q); Doing something you´re not supposed to, like teasing your sister.	1
18. (Fable) A story; a story that isn´t really true.	2
19. (Hazardous) Something that is dangerous to do or be around.	2
20. (Migrate) To go from one place to another.	2
21. (Stanza) A part of a song; sort of like a paragraph of a song.	2
22. (Seclude) I don´t know.	0
23. (Mantis) I don´t know.	0

True Score

24. (Espionage) I don´t know--I´ve heard of it though. 0
25. (Belfry) I don´t know. 0
26. (Rivalry) Sort of like your enemy (Q); Someone who you disagree with and sometimes you fight. 1
27. (Amendment) Sort of like a rule that gives you certain rights (Q); Gives you a right to do certain things without being stopped by someone. 0
28. (Compel) I don´t know. 0
29. (Affliction) Sort of something bad that happens; like if you get sick. 2
30. (Obliterate) I don´t know. 0
31. (Imminent) I don´t know. 0
32. (Dilatory) I don´t know. 0

TOTAL: 44

CRITERIA RANGE: 42 THRU 47

COMPREHENSION responses

1. (Cut finger) Let it bleed a little; apply pressure; rinse it; put band-aid on it. 2
2. (Find wallet) Take it up to a store clerk and tell them you found it and where so if someone goes looking for it. 2
3. (Smoke) Go see what´s happening; if fire, call fire department. 2
4. (Policemen) So that we have somebody to enforce law and help find your way home if you´re lost. 2
5. (Lose ball) Tell them and if don´t find it in a few days, buy him a new one. 2
6. (Fight) Sort of ignore him. 2
7. (Build house) Brick and stone don´t burn and an ax wouldn´t chop at it; better protection (Q); They withstand the weather better. 2
8. (License plates) Cause it´s the law--and, so if there´s a whole bunch of cars that look pretty much the same as your car, if you memorize the license plate, you can tell which car is yours (Q); so that if your car is seen someplace and it´s been stolen, if somebody remembered the license plate of it, you could know it was yours, if the police found it. 1

True Score

9. (Criminals) As a punishment and so they can´t escape and break the law or hurt or steal other people´s things. 2
10. (Stamps) When you buy stamps, it´s a way for paying the mailman and the postal service and workers. 2
11. (Inspect meat) Meat might go spoiled and people at the plant might not know about it. 1
12. (Charity) If you give it to a well-known charity, you´ll probably know what will become of the money; if you give it to a street beggar you won´t know what will happen with the money (Q); If you give it to a charity, it will probably go to people who need it. 1
13. (Secret ballot) Cause if you don´t, someone might get mad at you if they find out you didn´t vote for them; they might kill you or beat you up or something. 2
14. (Paperbacks) Cause paperback books are usually cheaper than hardcover books; and hardcover books, if you drop them, the bindings and the flap will break and a paperback book, if you keep on dropping it and stuff, will bend. 1
15. (Promise) If you keep your promise, people will trust you and respect you and think you´re a pretty good person. 1
16. (Cotton) Easily made into cloth; people will buy cotton cause it can be made into clothes (Q); cotton is grown in the United States so it is usually cheaper cause it doesn´t have to be imported. 2
17. (Senators) Cause those people, they sort of rule over people and they´ve gone to college and know about making the law and stuff; if you didn´t have them in your state, just anybody could go up and tell people what to do and they wouldn´t have anybody else to disapprove (Q); If they´re doing something you don´t like, you have the right to tell them and tell them what you´d like them to do, and if they see that your way´s better . . . 1

TOTAL: 28

CRITERIA RANGE: 26 THRU 29

Protocol 5. (AGE OF CHILD: 9 years 8 months)

INFORMATION responses	True Score
1. (Finger) (Automatic credit)	1
2. (Ears) (Automatic credit)	1
3. (Legs) (Automatic credit)	1
4. (Boil) (Automatic credit)	1
5. (Nickel) Five	1
6. (Cow) Calf	1
7. (Week) Seven	1
8. (March) April	1
9. (Bacon) Pig	1
10. (Dozen) 12	1
11. (Seasons) Winter, Spring, Fall, Summer	1
12. (America) Columbus	1
13. (Stomach) Digests your food	1
14. (Sun) West	1
15. (Leap year) December	0
16. (Bulb) Ben Franklin	0
17. (1776) America	0
18. (Oil) It doesn´t have very much weight	1
19. (Border) Utah, Nevada	0
20. (Ton) 2,000	1
21. (Chile) I don´t know	0
22. (Glass) I´ll skip it	0
23. (Greece) I don´t know	0
24. (Tall) 6 feet	0
25. (Barometer) some distance; sort of like a meter	0
TOTAL:	16
CRITERIA RANGE:	15 THRU 18

SIMILARITIES responses	
1. (Wheel-ball) Both round.	1
2. (Candle-lamp) Both give off light.	1
3. (Shirt-hat) You can both wear ´em.	1
4. (Piano-guitar) Both make sound (Q); Both make music.	1
5. (Apple-banana) Both a fruit.	2
6. (Beer-wine) Both not too good for you (Q); You can both drink them.	1
7. (Cat-mouse) Both have tails.	1
8. (Elbow-knee) Both parts of your body.	1
9. (Telephone-radio) You hear sound from both of them.	1
10. (Pound-yard) Both can have animals in them.	2

		True Score
11.	(Anger-joy) They give some expression (Q); One is happy and one not so happy; smile and no smile.	1
12.	(Scissors-copper pan) Both hard (Q); made from something solid that doesn´t break or bend very easy.	0
13.	(Mountain-lake) Both can have water.	0
14.	(Liberty-justice) They´re proud things; you be proud of liberty and justice.	0
15.	(First-last) One is at the front and one is at the end and they´re both in a line.	1
16.	(The numbers 49 and 121) Both odd numbers (Q); 1 to 9 is odd number and 2 to 10 is even.	1
17.	(Salt-water) They both come from the same place, like in the Great Salt Lake.	0
	TOTAL:	15
	CRITERIA RANGE:	13 THRU 16

ARITHMETIC responses

1.	(Automatic credit)	1
2.	(Automatic credit)	1
3.	(Automatic credit)	1
4.	(Automatic credit)	1
5.	2	1
6.	4	1
7.	6	1
8.	14	1
9.	7	1
10.	24 cents	1
11.	$27.00	1
12.	11	1
13.	9	1
14.	20 cents	0
15.	13	0
16.	(No response)	0
	TOTAL:	13
	CRITERIA RANGE:	13 THRU 14

VOCABULARY responses	True Score
1. (Knife) Something sharp, you can cut things with.	2
2. (Umbrella) Something that keeps you dry when it rains.	2
3. (Clock) Something that tells time.	2
4. (Hat) Something that you wear (Q); keeps the sun out of your eyes.	2
5. (Bicycle) Something that has two wheels and you can ride it.	2
6. (Nail) Something that you pound into wood.	2
7. (Alphabet) Means letters (Q); in an alphabet there´s a whole bunch of letters.	1
8. (Donkey) It´s something like a horse and it has four legs and you can ride it.	2
9. (Thief) Somebody that steals.	2
10. (Join) Like if there´s a bunch of people scattered around and someone would tell you to join together, you would group up all together.	2
11. (Brave) Means you do something that lots of other people don´t do; like if there´s a lion and you´d be brave enough to go kill it.	2
12. (Diamond) Something like gold; it´s worth a lot and it´s shiny.	2
13. (Gamble) You put your money in and you play cards and try to gamble for money; to win money.	2
14. (Nonsense) Like it´s not true (Q); If you say you saw something no one ever saw before and they say like it´s not true.	2
15. (Prevent) Like if something is gonna happen, you´re not gonna let it happen.	2
16. (Contagious) You got some kind of a sickness (Q); like you´re not healthy; you don´t feel well.	0
17. (Nuisance) Something that bothers you; you don´t like very much.	2
18. (Fable) I don´t know.	0
19. (Hazardous) something that´s a mess; somebody comes and wrecks something all up (Q); you´re not very careful.	0
20. (Migrate) Something an animal does in the winter(Q); like an animal goes and hibernates.	0
21. (Stanza) Is it kind of like a party?	0
22. (Seclude) I don´t know.	0
TOTAL:	31
CRITERIA RANGE: 29 THRU 35	

COMPREHENSION responses	True Score
1. (Cut finger) Put a band-aid on it.	2
2. (Find wallet) Try to find the owner (Q); go around the store and ask if anyone lost a wallet.	2
3. (Smoke) Call for help (Q); call the fire department; go help try to get people out.	2
4. (Policemen) So that people won't keep robbing banks (Q); maybe if we're lost, they can help us find our way.	2
5. (Lose ball) Go tell them you're sorry and make up for the ball; buy another one or do something for them.	2
6. (Fight) Get him calmed down and tell him that he shouldn't fight.	2
7. (Build house) It's stronger; more sturdy, and it doesn't burn as easy.	2
8. (License plates) So if they rob a bank, they can write down the license and try to find the car; so they know who you are.	2
9. (Criminals) So they can't rob or steal anymore; so they can't hurt anybody.	2
10. (Stamps) so you can go where you want them to (Q); there's a lot of stamps so you need the right stamp to go to the right place.	0
11. (Inspect meat) So it doesn't have anything in it that could hurt somebody's body, or else it isn't good meat and no one will buy it.	2
12. (Charity) Because they don't beg for it.	0
13. (Secret ballot) I don't know.	0
14. (Paperbacks) I don't know.	0
15. (Promise) Other people won't believe you if you don't keep your promise.	1
16. (Cotton) It's soft.	0
17. (Senators) I don't think I know that one.	0
TOTAL:	21
CRITERIA RANGE: 18 THRU 23	

Note. For each item, the initial word in parentheses is an identifier for that particular item. A "Q" in parentheses signifies that the examiner asked the child for further clarification of his/her answer or for "another reason why." "Automatic credit" means that the child successfully responded to items at a higher age level and therefore "automatically" receives a score for this preceding item.

Appendix H
Individual Training Procedures
--Test Condition

1. As the subject arrives for the "test condition", assign him/her an identification code number (ID) and record this number on all of the forms they will be using (WISC-R scoring form, Adjective Ratings, General Impressions Summary sheet, and Additional Information sheet). Select the appropriate school file (containing photograph of unattractive male, attractive male, unattractive female, or attractive female child), which has already been randomly assigned for that particular ID.

2. Seat the subject in a room by him/herself. Explain that he/she will be scoring another WISC-R in a few minutes, but that: "I would first like you to review this school file before beginning to score the WISC-R. This is a common procedure for psychologists to have access to such a file and we are attempting to make the training as realistic as possible."

3. Give the subject a tape player and audiotape. Explain that the recorded tape is of an actual WISC-R testing session; the "breaks" in the audio sound are a result of eliminating many pauses but all information is still intact. Ask the subject to listen to the WISC-R test session at his/her own pace, record each verbal response on a WISC-R

form, and score that response as he/she proceeds through the taped session. Ask him/her to signal the experimenter when this is completed.

4. Provide the subject with a General Impressions Summary sheet. Say: "Psychologists are often asked to formulate their general impressions for a teacher after such a testing session. With this in mind, please write your general impressions of this child on this sheet. Some ideas for things to include are suggested. Let me know when you've finished."

5. Provide the subject with the Adjective Ratings form. Say: "Finally, I'd like you to rate this child on a scale of 1 to 9 for each of the characteristics you see listed here."

6. Debriefing: (Individually or in groups of two to four) Begin the debriefing or advise the subject that he/she will be debriefed very shortly, before he/she departs.

"I want to get your feedback on this study and explain the purpose of this research in greater detail. I appreciate your expending the time and energy necessary to make this study worthwhile. You helped me a lot in examining training procedures. I hope you gained some understanding of the test and will feel somewhat more comfortable in some of your professional communications about intelligence tests in the future. Another focus of this study was to determine how

people react to information in a school file. Research has shown that a physical attractiveness bias operates in our culture but it is not clear how such factors operate in the mental health profession--for example, when psychologists score an intelligence test such as the one you just did. Do psychologists score differently just because someone is attractive or unattractive? This study, then, is a beginning research attempt to determine how the physical attractiveness or unattractiveness of the child affected your scoring and descriptions of the child, if it did at all. Any questions or concerns?"

If there are any signs that someone is disturbed by the deception involved, be prepared to "dehoax": (1) "I as the experimenter deceived you so that any negative results are not your fault"; (2) "Even though effects of physical attractiveness might be created in a laboratory setting such as this, it does not directly follow that the same effect is occurring in real life."

7. "Finally, I would ask that you fill out this additional information for me. (Hand them the Additional Information sheet). Note that number 4 asks for a self-rating of your own attractiveness. We don´t know to what degree self-perceptions of attractiveness might bias behavior. To help us in studying this phenomenon, we are asking you to provide a rating of your own attractiveness, if you feel

comfortable in doing this. The rest should be self-explanatory, but ask if you have questions."

8. "You may pick up a summary of the results of this study at the Psychology Department Office, no earlier than the first week in August."

9. "Before you go, I must ask you to refrain from discussing your involvement in this study. If you happen to explain that this study deals with physical attractiveness and this is heard by a subject who has not yet participated, the results will obviously be contaminated. So, I am asking you to pledge silence at this time, until you are sure the study is completed. You will know this for sure when the summary is available."

10. "I hope your involvement was beneficial to you and that you will continue to develop further testing and assessment skills in your own professional career."

Appendix I
School File

ELEMENTARY PUPIL PERMANENT RECORD

NAME : Rimer (LAST) L. (M.I.) Kim (FIRST) PHONE: 482-7911

ADDRESS: 516 West 500 North, Middlefield, Utah 86213

STUDENT NUMBER: 5684-21

DATE OF BIRTH: 8-22-75 BIRTHPLACE Middlefield, UT

FATHER: Harold K. Rimer MOTHER: Joan A. Rimer

SIBLINGS: Jane, Born 5-2-78; Karla, Born 7-14-73

	GRADE 1	GRADE 2	GRADE 3	GRADE 4	GRADE 5	GRADE 6
YEAR	80-81	81-82	82-83	83-84		
SCHOOL	Bradley	Bradley	Todd	Todd		
TEACHER	Smith	McCon	Sharp	Callahan		
DAYS BELONGING	180	180	180	180		
DAYS PRESENT	175	178	177	174		
GRADE GIVEN FOR:						
Reading	B	C+	C	B		
Writing	C+	B-	C	C+		
Spelling	C	B	B	B		
Language	B-	B	C+	B		
Mathematics	C	B	B-	C+		
Science	--	B-	B	B		
Social Studies	--	B+	B+	B		
Music	Satisf.	C	B	B-		
Art	Satisf	B	B-	C+		
Phys. Ed.	--	--	Sat.	Satisfactory		
Health	--	B+	B	C		

STUDENT NUMBER: 5684-21

HEALTH RECORD:	GRADE 1	GRADE 2	GRADE 3	GRADE 4	GRADE 5	GRADE 6
Height	4'	4'2"	4'2½"	4'4¼"		
Weight	52	56	61 lbs	67		
Vision-Right	20/30	20/30	20/30	20/30		
Left	20/20	20/20	20/20	20/30		
Hearing-Right	Normal	Normal	Normal	Normal		
Left	Normal	Normal	Normal	Normal		

Any Medical problems? None reported

ACHIEVEMENT TEST SCORES:

COMPREHENSIVE TEST OF BASIC SKILLS (CTBS)

GRADE 1:	CTBS, Sp 81 -	Composite: 58 %tile	Reading: 62 %tile	Language: 57 %tile	Math: 55 %tile
GRADE 2:	CTBS, Sp 82 -	Composite: 55 %tile	Reading: 58 %tile	Language: 59 %tile	Math: 48 %tile
GRADE 3:	CTBS, SP 83 -	Composit 56%	Read 58%	Language 58%	math 52%
GRADE 4:	CTBS, SP 84 -	Composit 60%	Reading 61%	Language 62%	Math 57%
GRADE: 5					
GRADE 6:					

Appendix J
WISC-R Protocol

Test condition protocol. (AGE OF CHILD: 7 years 9 months)

INFORMATION responses	True Score
1. (Finger) (Automatic credit)	1
2. (Ears) (Automatic credit)	1
3. (Legs) (Automatic credit)	1
4. (Boil) (Automatic credit)	1
5. (Nickel) Five	1
6. (Cow) Calf	1
7. (Week) Seven	1
8. (March) April	1
9. (Bacon) Pig	1
10. (Dozen) 12	1
11. (Seasons) Spring, Winter, Fall, Summer	1
12. (America) Christopher Columbus	1
13. (Stomach) Digests the food	1
14. (Sun) West	1
15. (Leap year) May	0
16. (Bulb) Benjamin Franklin	0
17. (1776) Is it England?	1
18. (Oil) Because it´s lighter	1
19. (Border) England; I don´t know the second one	0
20. (Ton) 20	0
21. (Chile) I don´t know	0
22. (Glass) I don´t know	0
23. (Greece) I don´t know	0
TOTAL:	16

SIMILARITIES responses	
1. (Wheel-ball) They both roll.	1
2. (Candle-lamp) They both give off light.	1
3. (Shirt-hat) You wear them both.	1
4. (Piano-guitar) Both play music.	1
5. (Apple-banana) You eat them.	1
6. (Beer-wine) You drink them (Q); I don´t know.	1
7. (Cat-mouse) Both animals.	2
8. (Elbow-knee) Both bend.	1
9. (Telephone-radio) I don´t know.	0
10. (Pound-yard) Both in measurement.	2

	True Score
11. (Anger-joy) Both feelings.	2
12. (Scissors-copper pan) Both made out of metal.	2
13. (Mountain-lake) I don´t know.	0
14. (Liberty-justice) Mean the same thing (Q); I don´t know any more about it.	0
15. (First-last) I don´t know.	0
TOTAL:	15

ARITHMETIC responses

1. (Automatic credit)	1
2. (Automatic credit)	1
3. (Automatic credit)	1
4. (Automatic credit)	1
5. 2	1
6. 4	1
7. 6	1
8. 14	1
9. 7	1
10. 27 cents	0
11. 16	0
12. I don´t know	0
TOTAL:	9

VOCABULARY responses

1. (Knife) It´s a sharp thing (Q); a utensil; you also use it to cut meat.	2
2. (Umbrella) Thing you hold over your head in a rainstorm.	2
3. (Clock) Thing that tells time.	2
4. (Hat) Thing that you wear on your head.	2
5. (Bicycle) Thing on two wheels and people ride it (Q); That´s all I know.	2
6. (Nail) Something you pound into wood and it holds wood together.	2
7. (Alphabet) Letters (Q); I don´t know more.	1
8. (Donkey) The same as a mule; people ride on it.	2
9. (Thief) Person that steals money and gold jewels.	2
10. (Join) When kids are playing and another kid wants to play, he joins.	2
11. (Brave) You have courage to do things you never tried before.	2

	True Score
12. (Diamond) A jewel that people collect, and also a rock.	2
13. (Gamble) I don´t know.	0
14. (Nonsense) Something that´s silly (Q); I don´t know anything more about it.	2
15. (Prevent) People like to prevent forest fires (Q); because the forest is where the animals live and the people like trees.	1
16. (Contagious) I don´t know.	0
17. (Nuisance) I don´t know.	0
18. (Fable) Something that´s not true (Q); I don´t know.	2
19. (Hazardous) I don´t know.	0
20. (Migrate) When birds fly south for the winter.	2
21. (Stanza) I don´t know.	0
22. (Seclude) I do not know.	0
23. (Mantis) I don´t know.	0
24. (Espionage) I do not know.	0
25. (Belfry) I don´t know.	0
TOTAL:	30

COMPREHENSION responses

1. (Cut finger) Put a band-aid on it.	2
2. (Find wallet) Give it to the store manager.	2
3. (Smoke) Call the fire department and get a hose from your house and try to start putting it out.	2
4. (Policemen) So they can catch people that rob (Q); To find people´s mother or father if they´re lost.	2
5. (Lose ball) Go try to find it (Q); I don´t know any more about it.	1
6. (Fight) Don´t fight back.	2
7. (Build house) Wood one can get knocked down in a windstorm (Q); one made of wood can be blown down more easy in a hurricane.	1
8. (License plates) So that people know it´s not their car (Q); so that if they rob and stole something the police can catch them.	2
9. (Criminals) So they won´t do it anymore (Q); I don´t know.	1
10. (Stamps) to pay (Q); to pay for the stamp.	0

	True Score
11. (Inspect meat) So if someone wants to come in at night and kill people, they won´t get killed by poison.	1
12. (Charity) Street beggar might not really be poor; he might be rich an want more money (Q); I don´t know another reason.	1
13. (Secret ballot) So that nobody makes fun of you if you vote for a different one (Q); I don´t know any more about that.	2
14. (Paperbacks) I don´t know. (Examiner encourages him to try it) I don´t want to. You should switch it around. Hardcover books fall in winter and are okay; a paperback gets all messed up.	0
15. (Promise) Cause you would lie if you broke the promise (Q) That´s all I know.	0
16. (Cotton) I don´t know. (Examiner encourages him to try it) I don´t want to.	0
17. (Senators) I don´t know.	0
TOTAL:	19

Note. For each item, the initial word in parentheses is an identifier for that particular item. A "Q" in parentheses signifies that the examiner asked the child for further clarification of his/her answer or for "another reason why." "Automatic credit" means that the child successfully responded to items at a higher age level and therefore "automatically" receives a score for this preceding item.

Appendix K
Anderson's Adjectives

(Anderson, 1968)

Word no.	Word	L	s^2	M	Word no.	Word	L	s^2	M
1*	sincere	573	.30	370	65	conscientious	481	.82	360
2*	honest	555	.47	384	66	resourceful	481	.74	356
3*	understanding	549	.52	368	67*	alert	480	.65	370
4*	loyal	547	.60	366	68	good	480	.99	330
5*	truthful	545	.61	384	69*	witty	480	.81	370
6*	trustworthy	539	.62	370	70	clear-headed	479	.69	340
7*	intelligent	537	.62	368	71	kindly	479	1.06	362
8*	dependable	536	.66	386	72	admirable	478	.78	344
9	open-minded	530	.56	354	73*	patient	478	.70	376
10*	thoughtful	529	.47	376	74*	talented	478	.84	368
11	wise	528	.61	354	75	perceptive	477	.84	366
12*	considerate	527	.76	372	76	spirited	477	.64	342
13	good-natured	527	.82	358	77	sportsmanlike	477	1.11	352
14*	reliable	527	.66	374	78*	well-mannered	477	1.05	374
15	mature	522	.66	344	79*	cooperative	476	.85	380
16*	warm	522	.60	356	80	ethical	476	1.15	336
17	earnest	521	.73	336	81	intellectual	476	.91	358
18*	kind	520	.69	368	82	versatile	474	.66	358
19*	friendly	519	.72	380	83*	capable	471	.63	370
20	kind-hearted	514	.87	354	84	courageous	471	.85	366
21*	happy	514	.77	370	85	constructive	468	.46	340
22	clean	514	.99	350	86	productive	468	.81	362
23	interesting	511	.64	352	87	progressive	468	.78	302
24*	unselfish	510	.68	370	88	individualistic	467	1.50	360
25	good-humored	507	.73	366	89*	observant	467	.81	374
26	honorable	507	.85	344	90	ingenious	466	.75	334
27*	humorous	505	.86	372	91	lively	466	.75	360
28*	responsible	505	.76	370	92*	neat	466	.93	382
29*	cheerful	504	.83	372	93*	punctual	466	1.26	382
30*	trustful	504	1.07	378	94*	logical	465	.76	370
31	warm-hearted	504	.62	360	95*	prompt	465	1.16	380
32*	broad-minded	503	.80	364	96	accurate	464	.98	336
33	gentle	503	1.00	368	97*	sensible	464	.84	368
34	well-spoken	501	.78	332	98*	creative	462	1.15	366
35	educated	500	.73	360	99*	self-reliant	462	.96	368
36	reasonable	500	.73	362	100*	tolerant	461	.91	372
37	companionable	499	.88	314	101*	amusing	460	.89	376
38	likable	497	.78	368	102	clean-cut	460	1.49	338
39	trusting	497	1.20	378	103*	generous	459	.89	370
40*	clever	496	.56	370	104	sympathetic	459	1.05	360
41*	pleasant	495	.86	372	105*	energetic	457	.81	384
42*	courteous	494	.94	366	106	high-spirited	457	.73	350
43	quick-witted	494	.78	356	107	self-controlled	456	.69	350
44	tactful	494	.84	354	108	tender	456	1.30	344
45*	helpful	492	.74	374	109	active	455	.65	356
46	appreciative	492	.78	364	110*	independent	455	1.32	374
47*	imaginative	492	.96	364	111	respectable	455	1.10	354
48	outstanding	492	1.00	334	112	inventive	453	.86	356
49	self-disciplined	491	.75	366	113	wholesome	453	1.14	320
50	brilliant	490	.96	366	114	congenial	452	.82	340
51*	enthusiastic	489	.72	382	115	cordial	452	.96	330
52	level-headed	489	.68	346	116	experienced	451	.76	356
53*	polite	489	1.11	382	117*	attentive	450	.84	372
54	original	488	.75	338	118	cultured	450	.80	336
55	smart	488	.65	362	119*	frank	450	1.10	378
56*	forgiving	486	1.03	370	120	purposeful	450	.86	340
57	sharp-witted	486	1.01	368	121	decent	449	1.00	318
58	well-read	486	.67	366	122	diligent	449	.82	348
59*	ambitious	484	1.14	378	123	realist	449	.94	362
60	bright	483	.67	362	124	eager	448	.80	368
61	respectful	483	1.17	360	125	poised	448	.78	342
62*	efficient	482	.94	374	126*	competent	447	.82	374
63	good-tempered	482	1.02	358	127	realistic	447	.90	362
64	grateful	482	1.00	346	128	amiable	446	1.02	348

Word no.	Word	L	s^2	M	Word no.	Word	L	s^2	M
129	optimistic	443	1.30	376	196	soft-hearted	387	1.69	348
130	vigorous	443	.81	354	197	dignified	386	1.05	358
131	entertaining	442	.63	362	198	philosophical	386	1.78	326
132	adventurous	441	.90	350	199*	idealistic	384	1.35	350
133	vivacious	440	.91	330	200	soft-spoken	380	1.03	354
134	composed	439	.87	340	201	disciplined	379	1.24	346
135*	relaxed	439	.99	378	202*	serious	379	.89	366
136	romantic	439	1.19	348	203	definite	375	.76	328
137	proficient	438	.70	322	204	convincing	374	.76	346
138	rational	438	1.37	364	205*	persuasive	374	.92	378
139	skillful	438	.80	364	206*	obedient	373	1.67	380
140	enterprising	437	.76	322	207	quick	373	1.33	326
141	gracious	437	1.04	350	208	sophisticated	372	.95	332
142	able	436	.68	354	209*	thrifty	372	.75	372
143	nice	436	1.28	354	210*	sentimental	371	1.10	360
144	agreeable	434	.95	354	211	objective	370	1.81	352
145	skilled	433	.83	362	212*	nonconforming	369	1.33	370
146*	curious	432	1.13	372	213	righteous	369	2.24	312
147	modern	432	.93	302	214	mathematical	367	1.01	326
148	charming	430	.98	348	215	meditative	366	1.52	324
149*	sociable	429	.85	360	216	fearless	366	1.12	358
150*	modest	428	1.25	374	217*	systematic	366	1.12	360
151	decisive	427	1.03	360	218	subtle	365	1.00	320
152	humble	427	1.51	354	219	normal	362	1.21	324
153*	tidy	427	.82	382	220*	daring	360	1.03	358
154	popular	426	.98	362	221	middleclass	360	.99	328
155	upright	426	1.04	296	222	lucky	358	1.30	348
156	literary	425	1.46	318	223*	proud	358	1.66	368
157*	practical	425	.73	370	224	sensitive	358	2.00	354
158	light-hearted	424	.99	324	225	moralistic	357	2.13	310
159	well-bred	423	1.13	332	226*	talkative	352	1.32	390
160	refined	422	1.16	330	227*	excited	351	.86	364
161*	self-confident	421	.81	376	228	moderate	351	.90	312
162	cool-headed	420	.97	338	229	satirical	351	1.18	324
163*	studious	418	1.00	386	230	prudent	348	1.71	320
164	venturesome	417	.85	320	231	reserved	348	1.00	356
165	discreet	416	1.29	310	232*	persistent	347	1.66	382
166	informal	416	1.00	344	233	meticulous	346	1.38	348
167	thorough	416	.94	340	234*	unconventional	346	.92	344
168	exuberant	414	.97	320	235	deliberate	345	1.40	344
169*	inquisitive	413	1.47	380	236	painstaking	345	1.44	334
170*	easygoing	412	1.20	366	237*	bold	336	1.22	366
171*	outgoing	412	1.46	364	238	suave	335	1.40	322
172	self-sufficient	412	1.30	358	239*	cautious	334	.77	364
173	casual	411	1.11	348	240	innocent	332	1.27	342
174	consistent	411	1.01	352	241	inoffensive	332	.91	330
175	moral	411	1.67	332	242	shrewd	328	2.47	346
176*	self-assured	411	.72	364	243	methodical	325	1.54	336
177	untiring	410	.98	350	244	nonchalant	324	1.23	356
178	hopeful	406	.92	328	245	self-contented	324	2.04	324
179*	calm	406	.84	366	246*	perfectionistic	322	1.69	380
180	strong-minded	404	1.27	336	247	forward	318	1.12	346
181	positive	403	1.28	342	248*	excitable	317	1.15	366
182*	confident	401	1.04	378	249	outspoken	313	1.77	362
183	artistic	400	1.58	348	250	prideful	313	1.99	350
184	precise	400	1.05	358	251*	quiet	311	.91	376
185	scientific	400	1.05	340	252*	impulsive	307	1.58	380
186*	orderly	399	.84	360	253*	aggressive	304	1.43	372
187	social	398	1.05	338	254	changeable	297	1.08	356
188	direct	396	1.07	338	255	conservative	295	.92	352
189*	careful	390	.84	364	256*	shy	291	.89	376
190	candid	389	1.43	316	257	hesitant	290	.76	358
191	comical	389	1.09	360	258*	unpredictable	290	1.26	378
192	obliging	389	1.53	334	259	solemn	289	.85	338
193*	self-critical	389	1.55	360	260	blunt	287	1.63	352
194	fashionable	387	1.28	344	261	self-righteous	287	2.46	310
195	religious	387	1.93	352	262	average	284	.90	320

Word no.	Word	L	s^2	M	Word no.	Word	L	s^2	M
263	discriminating	283	3.48	350	330	spendthrift	221	.73	354
264*	emotional	283	1.23	376	331	temperamental	221	1.10	360
265	unlucky	280	.52	360	332*	gullible	219	.88	366
266*	bashful	279	.65	380	333*	indecisive	219	.90	376
267	self-concerned	279	1.64	334	334	silly	219	1.53	350
268	authoritative	274	1.81	334	335	submissive	219	.90	336
269*	lonesome	274	1.06	366	336	unstudious	218	1.06	338
270*	restless	274	.76	362	337	preoccupied	216	1.12	358
271	choosy	272	1.62	334	338	tense	215	.90	356
272	self-possesssed	272	2.53	284	339*	fearful	214	.69	370
273	naive	270	1.06	360	340	unromantic	214	1.33	334
274	opportunist	270	2.47	342	341*	absent-minded	213	1.00	382
275	theatrical	269	1.59	326	342*	impractical	213	1.12	364
276	unsophisticated	267	1.23	332	343	withdrawn	213	.80	356
277	impressionable	266	.91	346	344	unadventurous	212	.93	356
278	ordinary	266	.77	332	345*	sarcastic	210	1.30	370
279	strict	266	1.30	348	346	sad	209	.93	358
280	skeptical	264	1.52	348	347*	unemotional	209	1.50	366
281	extravagant	263	.88	360	348	worrying	209	.71	366
282	forceful	263	1.65	358	349	high-strung	208	1.57	334
283	cunning	262	2.18	344	350	unoriginal	207	.81	350
284	inexperienced	262	.66	344	351	unpoised	206	.76	332
285	unmethodical	262	.86	310	352	compulsive	205	1.20	320
286	daredevil	261	1.23	344	353*	worrier	205	1.00	376
287	wordy	261	1.05	350	354	demanding	203	.94	362
288*	daydreamer	260	.95	368	355*	unhappy	203	.98	376
289	conventional	260	.95	322	356*	indifferent	202	1.31	372
290*	materialistic	260	1.66	370	357	uncultured	201	1.00	342
291	self-satisfied	260	2.00	346	358*	clumsy	199	.92	376
292*	rebellious	258	1.40	370	359*	insecure	198	.75	370
293	eccentric	257	1.58	336	360	unentertaining	198	.65	338
294	opinionated	257	1.98	356	361	imitative	198	1.17	330
295	stern	257	1.10	356	362	melancholy	198	1.13	342
296*	lonely	256	1.02	364	363	mediocre	197	1.10	336
297*	dependent	254	1.97	360	364	obstinate	197	.94	348
298	unsystematic	253	.92	344	365*	unhealthy	197	1.42	364
299*	self-conscious	249	.92	366	366	headstrong	196	1.17	336
300	undecided	249	.86	342	367*	nervous	196	.83	380
301	resigned	248	1.22	320	368	nonconfident	196	.87	344
302	clownish	247	1.73	348	369*	stubborn	196	1.31	380
303	anxious	246	.90	338	370*	unimaginative	195	1.06	368
304	conforming	246	1.26	362	371	down-hearted	194	.97	288
305*	critical	243	1.46	378	372*	unobservant	194	.90	366
306*	conformist	241	1.15	372	373*	inconsistent	193	.91	372
307	radical	241	1.80	340	374*	unpunctual	192	.96	366
308	dissatisfied	239	1.65	356	375	unindustrious	191	.81	354
309	old-fashioned	239	1.39	340	376	disturbed	189	.97	312
310	meek	238	1.37	346	377*	superstitious	189	1.33	376
311	frivolous	237	1.55	314	378	frustrated	188	.93	350
312	discontented	237	1.00	358	379	illogical	186	.97	354
313	troubled	235	.71	360	380	rash	186	.59	342
314	irreligious	234	1.74	308	381	unenthusiastic	186	1.05	356
315	overcautious	229	.55	360	382	inaccurate	185	.59	318
316*	silent	228	.83	368	383	noninquisitive	184	.90	358
317	tough	228	1.74	336	384	unagreeable	184	1.08	340
318	ungraceful	228	.87	350	385	jumpy	183	.73	344
319*	argumentative	227	1.25	354	386*	possessive	183	1.62	378
320	withdrawing	227	.78	342	387	purposeless	183	1.90	344
321	uninquisitive	225	.94	358	388*	moody	182	1.36	370
322*	forgetful	224	.83	386	389	unenterprising	180	.81	320
323	inhibited	224	.87	342	390	unintellectual	180	1.17	332
324	unskilled	224	.71	360	391	unwise	180	.79	358
325	crafty	223	1.98	342	392*	oversensitive	179	.77	364
326	passive	223	.97	348	393	inefficient	178	.68	358
327	immodest	222	1.61	340	394	reckless	178	1.42	362
328	unpopular	222	.80	362	395	pompous	177	1.43	326
329*	timid	222	.78	380	396	uncongenial	175	.69	304

Word no.	Word	L	s^2	M	Word no.	Word	L	s^2	M
397*	untidy	175	.92	386	464	tiresome	130	.70	340
398	unaccomodating	174	.68	312	465*	disobedient	128	1.23	378
399*	noisy	173	.88	378	466*	complaining	127	.74	374
400	squeamish	172	.97	316	467	lifeless	127	.68	354
401	cynical	171	1.26	334	468	vain	127	.99	350
402*	angry	169	.90	374	469*	lazy	126	.88	380
403	listless	169	.72	332	470*	unappreciative	126	.84	372
404	uninspiring	169	.64	336	471	maladjusted	123	1.07	314
405*	unintelligent	168	1.07	364	472	aimless	122	1.16	342
406*	domineering	167	1.52	382	473*	boastful	122	.74	380
407	scolding	166	.67	346	474	dull	121	.81	352
408*	depressed	166	1.01	370	475*	gossipy	119	.96	376
409	unobliging	165	.86	322	476	unappealing	119	1.04	332
410*	pessimistic	164	1.06	376	477	hypochondriac	118	.88	356
411*	unattentive	164	.74	364	478*	irritating	118	.67	372
412	boisterous	163	1.10	352	479	petty	118	.73	336
413	suspicious	163	.88	362	480	shallow	118	1.00	332
414	inattentive	162	1.13	356	481	deceptive	117	1.01	358
415*	overconfident	162	.88	376	482	grouchy	117	.61	366
416	smug	161	.68	304	483*	egotistical	116	1.25	372
417*	unsociable	161	1.13	354	484	meddlesome	116	.62	344
418	unproductive	160	.65	346	485	uncivil	116	.96	300
419*	wasteful	160	.67	366	486*	cold	113	.94	360
420	fickle	159	1.13	330	487	unsportsmanlike	113	.72	356
421	neglectful	159	.59	356	488	bossy	112	.89	370
422*	short-tempered	159	.85	376	489	unpleasing	112	.71	342
423	hot-headed	158	1.09	362	490*	cowardly	110	.82	374
424	unsocial	158	1.16	332	491*	discourteous	110	.80	370
425*	envious	157	.77	364	492	incompetent	110	.68	364
426*	overcritical	157	.85	374	493	childish	109	.81	360
427	scheming	156	1.50	348	494	superficial	109	.95	330
428	sly	156	1.58	346	495*	ungrateful	109	.71	370
429	weak	155	1.02	338	496	self-conceited	108	1.14	304
430	foolhardy	154	1.00	330	497	hard-hearted	107	1.00	328
431	immature	154	.88	352	498	unfair	107	1.00	364
432*	dominating	153	1.28	372	499*	irresponsible	106	1.17	372
433	showy	153	.92	354	500*	prejudiced	106	1.33	376
434*	sloppy	153	.96	376	501	bragging	104	.72	370
435*	unsympathetic	153	1.32	366	502*	jealous	104	.77	372
436	uncompromising	153	1.26	358	503*	unpleasant	104	.81	372
437*	hot-tempered	152	1.06	366	504*	unreliable	104	.93	386
438	neurotic	152	1.34	300	505*	impolite	103	.72	374
439	unsporting	152	.80	334	506	crude	102	1.29	360
440	finicky	150	.68	316	507*	nosey	102	.67	378
441	resentful	150	.90	352	508	humorless	101	.82	362
442	unruly	150	.88	324	509*	quarrelsome	101	.72	370
443*	fault-finding	148	.96	358	510	abusive	100	.83	330
444	messy	147	.78	370	511*	distrustful	99	1.24	378
445	misfit	147	1.28	322	512	intolerant	98	.97	362
446*	uninteresting	146	.78	372	513	unforgiving	98	.71	368
447	scornful	145	.88	350	514*	boring	97	.76	374
448	antisocial	144	1.24	358	515	unethical	97	.90	342
449*	irritable	143	.85	378	516	unreasonable	97	.86	370
450	stingy	143	.69	368	517*	self-centered	96	1.13	380
451	tactless	142	.85	356	518	snobbish	96	.87	356
452*	careless	140	.91	374	519	unkindly	96	.64	358
453	foolish	140	.83	348	520*	ill-mannered	95	.76	374
454	troublesome	140	.73	364	521	ill-tempered	95	.62	362
455	ungracious	140	.71	344	522*	unfriendly	92	.80	386
456	negligent	139	.68	360	523*	hostile	91	.77	372
457	wishy-washy	139	1.17	328	524	dislikable	90	.78	340
458	profane	137	1.65	312	525	ultra-critical	90	.98	348
459*	gloomy	136	.84	376	526	offensive	88	.83	362
460	helpless	136	1.12	358	527	belligerent	86	.79	332
461*	disagreeable	134	.67	372	528	underhanded	86	1.19	330
462	touchy	134	.83	362	529	annoying	84	.66	358
463	irrational	130	.70	354	530	disrespectful	83	.79	360

Word no.	Word	L	s^2	M	Word no.	Word	L	s^2	M
531*	loud-mouthed	83	.87	376	544*	unkind	66	.71	378
532*	selfish	82	.65	384	545*	untrustworthy	65	.63	376
533*	narrow-minded	80	.58	374	546	deceitful	62	.96	360
534	vulgar	79	1.10	354	547	dishonorable	52	.47	342
535	heartless	78	.92	350	548*	malicious	52	.49	346
536	insolent	78	.88	322	549*	obnoxious	48	.60	376
537	thoughtless	77	.76	366	550*	untruthful	43	.43	380
538*	rude	76	.79	376	551*	dishonest	41	.51	386
539*	conceited	74	.84	378	552*	cruel	40	.54	376
540*	greedy	72	.61	374	553*	mean	37	.48	356
541	spiteful	72	.61	338	554*	phony	27	.30	360
542	insulting	69	.86	370	555*	liar	26	.36	392
543*	insincere	66	.65	364					

KEY:

L = Mean "likableness" rating (decimal is omitted) for 100 subjects using a scale of 0 (least favorable) thru 6 (most favorable)

s^2 = "Likableness" variance for each adjective

M = Mean "meaningfulness" rating (decimal is omitted) for 50 subjects using a scale of 0 (no idea of meaning of word) thru 4 (clear and definite understanding of word)

* = One of the words on the list of 200 adjectives identified as having high quality meaning

VITA

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Doctor of Philosophy

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