

**SOCIAL PERCEPTIONS OF ADOLESCENTS BASED
ON HEIGHT AND FACIAL MATURITY**

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Social Perceptions of Adolescents Based on Height and Facial Maturity

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MASTER OF SCIENCE

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ABSTRACT

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This study explored the influence of adolescent height and facial maturity on adult social perceptions of their competence. A sample of 95 college students completed questionnaires rating the competence level of target adolescents based on manipulated full-body images of the targets. Findings indicate that height significantly contributed to social perceptions of adolescents; however, facial maturity did not. Furthermore, when physical characteristics were concordant, tall mature-faced adolescents were perceived as more competent than short baby-faced adolescents. When physical characteristics were discordant (tall with a baby face and short with a mature face), competence ratings were not significantly different. The limitations of this study and suggestions for future research are discussed.

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INTRODUCTION

*Appearances can be deceiving.
Never judge a book by its cover.*

Physiognomy, as defined by Webster's Third New International Dictionary (1993), is "the art of discovering temperament and character from outward appearance." As social beings, we are cautioned against making inferences about individuals based on their outward appearance. Despite proverbial wisdom, a substantial amount of literature has found that our perceptions of others are routinely influenced by superficial external characteristics. According to Berry and Zebrowitz-McArthur (1985), one of the strongest influences on person perception is an individual's outward appearance. Although the scientific merits of physiognomy are debatable, research continues to indicate that our automatic judgments of others based on their outward appearances are central to, and profoundly affect, the formation of initial perceptions (Dumas, Nilsen, & Lynch, 2001; Zebrowitz & Montepare, 2005).

These appearance-based, initial perceptions serve as guides during social exchanges, influencing not only our decision to interact with an individual, but also our expectations about his/her underlying traits or qualities (Zebrowitz, 1990). For many decades now, researchers in the social sciences have understood this concept, as is reflected in the vast number of studies that have been conducted on race, sex, hairstyle/color, facial maturity, attractiveness, height, weight, and others. The significance of understanding social perceptions is highlighted by the fact that the way we perceive individuals (be it accurate or not) influences the way we treat them, which, in turn, influences the way they behave (Zebrowitz, 1990).

Perceptual influences are especially important when we consider how children and adolescents use social exchanges and others' reactions to them as tools for discovering their own identities. Furthermore, during adolescence there are vast inter- and intra-individual differences that adults need to take into consideration when forming impressions of specific adolescents. Often these differences are a result of individual maturational timing (the early or late onset of puberty) resulting in what Moffitt (1993) refers to as "maturity gaps." These maturity gaps occur when an adolescent's biological maturity does not accurately reflect that adolescent's psychological maturity (Galambos, Barker, Tilton-Weaver, 2003). Therefore, using only physical appearance cues to determine underlying qualities, abilities, or competence may lead to the erroneous character perceptions of an adolescent.

Although there is a plethora of research on the influence of a specific physical appearance cue on perception/impression formation, there is very little research on which cues are more influential than others. In this study, I focused on two physical appearance cues that many adults use to form perceptions of adolescents: height and facial maturity. Past research has suggested that taller adolescents are perceived as more competent and intelligent than their shorter peers (Brackbill & Nevill, 1981; Nottelmann & Welsh, 1986). Moreover, mature-faced adolescents are perceived as more competent and independent than their baby-faced peers (Berry & Landry, 1997; Zebrowitz & Montepare, 1992, 2005). In light of these findings, the intent of this study was to examine which of two physical appearance cues (height or facial maturity) has the greater influence on adult perceptions of competence in early adolescence.

LITERATURE REVIEW

In the mid-twentieth century, Gordon Allport introduced to the field of psychology his view of social perceptions through the use of categories. Allport argued that the process of categorization is important because it demonstrates how individuals manage novel objects and situations (Allport, 1954). Moreover, humans have a natural tendency to categorize the objects in their world because it enables them to more efficiently interpret and identify the vast amounts of stimuli that they see, hear, and feel everyday.

According to Allport, categorization assimilates as many similar objects as possible into a particular generalized group. At a primary level, assimilation is much like a child's toy in which one places the round peg in the round opening and the square peg in the square opening. When presented with a novel stimulus, humans will identify it, categorize it, and respond accordingly (Allport, 1954). Often during this process, differences among the objects are ignored because differences create too many categories, which makes assimilation more difficult when the whole purpose of categories is to assist perception and ensuing behavior to make changes/transitions in life quick and easy (Allport, 1954). For example, the individual who categorizes all teenagers as 'troublemakers' has simplified his/her life to a greater extent than the individual who categorizes teenagers into several discriminating categories.

Furthermore, the objects within categories are colored with the same ideas and/or emotions; thus, they carry a sense of good or bad (e.g., teenagers are troublemakers and, therefore, they are bad) which leads to stereotypes. Since individuals themselves create these categories, they tend to believe that these categories are correct and rational. Even with the knowledge that our categories may not be perfect, we still believe that these

categories are rational if the probability of correct prediction remains high (Allport, 1954). These categories thus serve to determine the reality that a perceiver detects and interprets.

Much like the assimilation process of categorizing, cognitive heuristics are often employed to help us make sense of complex problems. Heuristics are shortcuts that reduce a complex problem into smaller, simpler components, and are intended to increase the likelihood of a solution (Tversky & Kahneman, 1974). The two most commonly used are the availability and representativeness heuristics. Perceivers who utilize the availability heuristic tend to make judgments based on the ease with which they can think of examples (Zebrowitz, 1990). Perceivers who utilize the representativeness heuristic tend to judge which category a person belongs in based on his/her similarity to, or representativeness of, to the average or norm of that category (Zebrowitz, 1990). Just as assimilation into categories tends to cause individuals to ignore differences, the representativeness heuristic may cause perceivers to ignore important fundamental information (e.g., the actual age of the target person) and form their impressions based primarily on the representativeness of a target's stimulus information (e.g., the height of the target person).

The Ecological Model of Perception Formation

The two most basic approaches to perception formation are the structuralist (analytic) and constructivist (Gestalt) models. The structuralist model assumes that the perception of an object is "data-driven" or shaped from the objective analysis of the individual sensory elements (e.g., color, texture, shape) of a target stimulus (Zebrowitz, 1990). Therefore, the perception of a target is constructed from these sensations much the same as a crystal is constructed from an array of atoms. Thus, the emphasis of the structuralist model is on the information provided by the individual stimuli of the target.

The constructivist model assumes that perceptions are “theory-driven” or constructed by individuals based on their own internal cognitive representations (i.e., schemas). This model emphasizes the individual perceiver as a social learner who constructs his/her reality on the basis of his/her own experiences with the social world. Therefore, the constructivist model uses a subjective approach to perception instead of an objective analysis of stimuli.

More modern theories of social perceptions, such as McArthur and Baron’s (1983) ecological model, tend to incorporate elements of both the structuralist and constructivist approaches that provide a foundation for addressing perception formation by accounting for the influences of both the perceiver’s schemas and the target stimulus. Like the structuralist approach, this model posits that although perceptions are not broken down into separate sensations, perceptions are still influenced by a target’s external stimuli information (Zebrowitz, 1990). However, similarly to the constructivist model, the ecological model posits that stimulus information is a holistic arrangement that cannot be reduced to separate sensory components (Zebrowitz, 1990). The ecological model takes these two assumptions one step further by blending them to assume both that external stimulus information is arranged holistically rather than composed of separate sensory elements, and that this holistic arrangement is detected rather than created by the perceiver (Zebrowitz, 1990). Although the constructivist and ecological models agree that the role of the perceiver is important, social ecologists assert that perceivers vary in the reality that they identify or attune to, and not the reality they create (Zebrowitz, 1990).

According to McArthur and Baron (1983), there are four tenets of the ecological model of social perception. The first is that social perceptions serve an adaptive role by ensuring species survival or providing for individual goal attainment (Zebrowitz, 1990).

For example, if the goal of an individual is to find a marriage partner, he/she will interact with other individuals that he/she perceives as attractive and available. This focus on the adaptive role of perceptions draws attention to the function of perception instead of the process of perception. Therefore, the information provided by the external stimulus serves as a guide for functional behaviors and interactions (McArthur & Baron, 1983).

A second tenet is that the information provided by the external stimulus is revealed through events, which are the changes that take place at different times and in different places (Zebrowitz, 1990). Although an individual may form accurate perceptions about a single, static target, the probability of accurate perceptions greatly increases when the target can be observed in various social contexts. This model asserts that accurate perceptions require multimodal stimulus information and that perceptual errors are made when the stimulus information is impoverished (i.e., the target is observed in only one context) (McArthur & Baron, 1983).

A third tenet is that perceptions are driven by social affordances, which are the qualities an object has that others can detect. This principle of social affordances incorporates the effects of the perceiver and the target on social perceptions because the usefulness of the target's affordances depends largely on the individual perceiver's goals and actions (Zebrowitz, 1990; McArthur & Baron, 1983). All objects in the external social world offer affordances; however, the affordances detected differ among perceivers. For example, what one person affords me (i.e., love, protection, friendship) may not be the same thing(s) that that same person affords someone else.

The fourth tenet is that the affordances a perceiver detects from a target will depend upon what that perceiver attunes to (Zebrowitz, 1990). Perceivers have selective

perception, based on attunements, that stems from their goals, expectations, and experiences (McArthur & Baron, 1983). This tenet accounts for the fact that perceivers are human beings with past personal histories and social experiences that influence their perceptions. Therefore, certain perceptual errors occur when an individual's attunement to specific information patterns is overgeneralized. For example, overgeneralization effects occur when social responses are derived from the appearance cues (i.e., short stature or baby face) of a target person that are merely representative of a specific sub-group (i.e., young or immature children) of the population (Zebrowitz, 1990).

Facial Maturity

The assertions that social perceptions serve an adaptive role and that the results of flawed perceptions reveal the overgeneralization effect of an adaptive attunement, have implications for our stereotypes of those with particular physical features (Zebrowitz, 1990). For example, the perception that baby-faced adults are naïve or dependent may reflect an overgeneralization of the adaptive impression that babies are naïve and dependent. Facial features such as large eyes, short nose, high forehead, small chin, and a full round face have been identified by ethologists as babyish or child-like (Zebrowitz, 1990; Zebrowitz & Montepare, 1992). Often times the characteristics of young children are overgeneralized to individuals who have these facial features.

The results of past research suggest that the effects of a target's facial maturity on their perceived character or ability are pervasive across age levels, cultures, and contexts. Specific personality traits are consistently attributed to individuals based on their facial maturity. Mature-faced targets are judged to be independent, physically strong, dominant, aggressive, and competent (Berry & Landry, 1997). Baby-faced targets are judged to be

dependent, naïve, submissive, physically weak, incompetent, and less likely to be able to follow complex instructions (Berry & Landry, 1997; Zebrowitz & Montepare, 1992, 2005). Additionally, baby-faced targets were perceived to be warmer and kinder, as well as more honest, affectionate, straightforward, and willing to be hugged than mature-faced targets (Berry & Landry, 1997; Zebrowitz, 1990; Zebrowitz & Montepare, 1992).

The effects of facial maturity are also evident in the perceptions that adults form of school-aged children and adolescents. Research conducted by Zebrowitz-McArthur and Kendall-Tackett (1989) found that parents are more likely to perceive the misbehaviors of mature-faced children as more deliberate than those of baby-faced children of the same age. Furthermore, Zebrowitz, Kendall-Tackett, and Fafel (1991) found that parents assign more physically and cognitively demanding tasks to their mature-faced children than to their baby-faced children. These results suggest that even when the age of the target individual is known, facial maturity still influences perceptions of intent and ability.

Physical Stature

Research on physical stature suggests that height influences perception in ways that are similar to facial features. A study conducted by Chu and Geary (2005) found that in contrast to shorter women, taller women were perceived as more intelligent, affluent, and assertive. Taller men are also perceived to have more positive attributes than shorter men (e.g., see Chu & Geary, 2005; for review). Furthermore, a positive correlation has been found between height and achievement in both adults and adolescents (Nottelmann & Welsh, 1986). Research also suggests that higher status individuals are perceived to be taller than lower status individuals (Brackbill & Nevill, 1981; Nottelmann & Welsh, 1986).

During adolescence, the height of individual same-age adolescents can vary greatly due to pubertal timing and rate of growth. Those with a slower or faster maturational/pubertal timing than normal (off-time as opposed to on-time) are the most susceptible to erroneous adult perceptions of their competence and ability. Nottelmann and Welsh (1986) reported “that relatively short and late maturing children are likely to be treated as if they were less competent than most of their age mates, and relatively tall and early maturing children are likely to be treated as if they were more competent than their agemates” (p. 17). Furthermore, these researchers found that teachers rate taller adolescents higher in intellect than shorter adolescents of the same age cohort, and that parents expect more academically from taller adolescents. Over five-decades ago, Krogman (1955) remarked that there is a common tendency for adults to treat taller children as if they are more mature and competent. Brackbill and Nevill (1981) found that parents, as well as other adults, tend to expect immature behavior from short-for-age children and require mature behavior from tall-for-age children. Their research also found that when age and height were not positively correlated, the adults in their study tended to assign more cognitively demanding tasks to taller rather than older children. Nottelmann and Welsh also reported that in the case of both adults and children, there is a marginally positive correlation between height and intelligence test scores. These results suggest not only that taller adolescents perform better on intellectual tests, but that this performance is expected of them. In short, adults anticipate greater things from taller adolescents.

Why Adolescence?

Adolescence has been described as one of the most intriguing and complex time periods of the human life span (Archibald, Graber, & Brooks-Gunn, 2003). At no other

time period are individual differences as great as they are during adolescence. The Carnegie Council on Adolescent Development (1996) noted that adolescents experience physical changes and growth spurts that are second only to those in infancy (Archibald, Graber, & Brooks-Gunn, 2003). By the end of adolescence, children have experienced many hormonal and physical changes. These changes in height, weight, and sexual maturity result in a more mature-looking and adult-like physical appearance (Reiter & Grumbach, 1982). As their own bodies develop and change, adolescents must cope not only with their own feelings about, and personal responses to, maturation, but also with others' responses to their new appearances (Archibald, Graber, & Brooks-Gunn, 2003; Arnett, 2007). Thus, physical changes may influence the adolescent's self-perception as well as the perceptions of them by parents, teachers, and other adults in their social environment (Dekovic, Noom, & Meeus, 1997; Johnson & Collins, 1988).

However, there is great interindividual variability in the timing, rate, and synchrony of pubertal/maturation development, particularly during early adolescence (Dorn, Dahl, Woodward, & Biro, 2006). Some early adolescent children appear more mature in physical characteristics and behavior, while others of the same age cohort continue to appear and act child-like (Dorn, Dahl, Woodward, & Biro, 2006). Variations in pubertal timing can have a profound influence on an adolescent's experiences and behaviors, which subsequently shape his/her social relationships. Moreover, the effects of maturational timing differ for females and males. For females, early maturation may lead to a variety of negative outcomes that late or on-time maturation does not. Whereas for males, both early and late maturation may lead to negative outcomes; however, early maturation does appear to have a few advantages (e.g., see Arnett, 2007; for review).

Research has also found that off-time maturers are subjected to adult expectations and demands that are incongruent with their actual maturity level (Silbereisen & Kracke, 1993). Furthermore, adolescents who appear more mature are treated as such by parents and teachers (Dekovic, Noom, & Meeus, 1997; Johnson & Collins, 1988). These variations in pubertal timing require that adults learn to appreciate those characteristics and abilities that are common to adolescents at various ages, the intraindividual variations among same-age adolescents, and the continuous developmental changes that take place within a single adolescent (Crow & Crow, 1956).

In each adolescent, different maturational changes occur at different ages, rendering age an unreliable predictor of maturational stage during this period of development. Although chronological age is correlated with stage, the relationship is not perfect and therefore one should be cautious about using age as an exclusive indicator of developmental stage (Dorn, Dahl, Woodward, & Biro, 2006). For some researchers, chronological age is said to be nothing more than a marker of time. For others, chronological age signifies age-graded influences and changes that impact an individual (Galambos, Kolaric, Sears, & Maggs, 1999).

When it comes to developmental stage in adolescence, one's biological age may play a more important role. According to Stattin and Magnusson (1990), biological age is characterized by the physical growth and hormonal changes that occur within each individual. It is well known that there is great variation in the timing and rate of adolescent maturation. Those with a slower maturational rate than their peers will eventually catch up in late adolescence. Therefore, an adult's reliance on chronological age to determine appropriate child development may be responsible for the inappropriate and unnecessary

labeling of healthy children who are simply maturing at a slower rate than their peers (Larsson et al., 2002). Despite its drawbacks, chronological age is generally a better indicator of adolescent competence than physical appearance cues, such as facial maturity or physical stature, which vary greatly during adolescence.

Effects of Adult Perceptions

As the aforementioned research results indicate, the external visual stimuli of a target individual are persuasive, but often inappropriate; however, many adult expectations for adolescents are based on these cues. Furthermore, even when adults know the chronological ages of adolescents, the visual perceptions of their physical appearance (e.g., height and facial maturity) appear to be the more salient factor for expectations of competence and ability (Brackbill & Nevill, 1981). Adults often rely on social and cultural representativeness heuristics of what ‘normal’ adolescents should look and act like based on their numerous interactions with others and media influences during their own life course. Consequently, when an adolescent fails to meet these expectations, adults will treat the adolescent as dysfunctional which influences the way he/she behaves often bringing out the expected dysfunctional behaviors (Dumas, Nilsen, & Lynch, 2001).

Even though the vast individual physical differences of early adolescence will decrease in late adolescence, the psychological consequences of these differences seem to persist, influencing self-esteem, motivations, and interpersonal attitudes (Nottelmann & Welsh, 1986). One possible explanation for these long-term effects is that of self-fulfilling prophecies, in which individuals will begin to behave in a manner consistent with their treatment. “This process of behavioral confirmation then shapes personalities to the extent that such characteristics eventually become internalized” (Rind & Gaudet, 2001, p. 816).

The inaccurate judgments that are made about adolescents based on their physical appearance can have very troubling outcomes on their psychological adjustment. Adult perceptions of adolescents, accurate or not, will influence how these adults treat off-time maturers, often without opportunity to interact with, or observe the behaviors of, these adolescents.

Nonetheless, according to ecological theory, the ability to detect the characteristics of age, vitality, competence, and emotion has an adaptive and social value (Zebrowitz, 1990). Humans are thus predisposed to make rapid, effortless judgments about physical qualities that reveal these characteristics (Dumas, Nilsen, & Lynch, 2001). Because these judgments are rapid and effortless (unconscious), they are prone to errors. These errors are reflected in the overgeneralizations that humans make. Zebrowitz and Montepare (2005) report that flawed judgments about internal characteristics are often overgeneralized to those who simply look like others who have those characteristics. As stated previously, perceptions of babies as weak, naïve, and dependent are often overgeneralized to baby-faced adults, who are erroneously judged as less competent than those with more mature facial features (Berry & Zebrowitz-McArthur, 1985; Zebrowitz & Montepare, 2005). Additionally, our perceptual correlation of height with maturity results in the flawed judgment of short individuals as less competent than tall individuals (Brackbill & Nevill, 1981; Nottelmann & Welsh, 1986).

Research Focus

As previously stated, research has found that targets who are taller and targets who have mature facial features are perceived as more competent. One limitation of this research is the focus on one specific physical trait. Physical appearance cues do not appear

in isolation. When forming perceptions based solely on physical appearance we tend to use a more holistic approach, viewing the sum of an individual's physical cues that make up his/her physical appearance. We do not observe an individual and see only one physical characteristic; we see his/her race, gender, facial maturity, height, attractiveness, etc. Physical appearance cues are easily accessible and influence initial perceptions, whether accurate or not (Albright, Kenny, & Malloy, 1988). Because of this holistic approach to perception, there is value in studying more than one physical trait simultaneously.

The competence areas of interest to this study are: intellectual, social, and physical. This is based on previous research findings that mature-faced adolescents are judged to be more independent, physically strong, dominant, aggressive, competent, and more likely to be able to follow complex instructions than their baby-faced peers. Furthermore, taller adolescents are judged to be higher in intellect, expected to act more mature, and assigned more cognitively demanding tasks than their shorter peers.

For the purposes of this study, I used full-body images of two 13-year-old Caucasian males. Only the height and facial maturity physical appearance cues were manipulated to investigate their combined influence on adult perceptions of this age group. Based on past research I hypothesized that:

1. The images of mature-faced adolescents would be perceived as more competent than the images of baby-faced adolescents when height was held constant.
2. Furthermore, when facial maturity was held constant the images of taller adolescents would be seen as more competent than the images of shorter adolescents.

3. The images of the taller adolescents with a mature face would be perceived as more competent than the images of the shorter adolescents with a baby face.

The unique contribution of this study was to address the following research question:

4. When presented with physical traits that stand in contrast to each other, such as a tall adolescent with a baby face or a short adolescent with a mature face, which physical characteristic would be the more influential characteristic in determining competence: height or facial maturity?

MATERIALS AND METHODS

Participants

Participants were 95 undergraduate students (18 males and 77 females) from North Dakota State University (NDSU). Participants were of varying ages, races, and educational backgrounds. Of the 95 students who participated: 95.8% were between the ages 18-25, 96.8% had no children, and 56.8% had no siblings under age 18. Of the 86 participants who reported having experience working with adolescents: 20.9% had less than one year, 47.7% had one to five years, and 31.4% had more than five years of experience. Participants were recruited through various undergraduate CDFS classes with open enrollment. For their participation, the students received extra credit in their class at the professors' discretion.

Visual Stimuli

The visual stimuli used for this study were two full-body digital images of two separate 13-year-old males that were manipulated to produce four separate image conditions for each child's image. The four conditions were: tall with baby face, tall with mature face, short with baby face, and short with mature face. These images were obtained through the consent of a custodial parent of each of four adolescent males who volunteered to have their picture taken.

To determine the two facial maturity conditions (babyish versus mature), a face-only image (i.e., from the shoulders up) of the four volunteer adolescents was manipulated, using Adobe Photoshop computer software, to display a (3x4 inch) version of a mature face and a (3x4 inch) version of a baby face. The end result was four original images and eight manipulated images. A panel of students recruited from two undergraduate CDFS classes viewed the manipulated images of the adolescent males (see Appendix A). Half of the

students viewed the four mature face versions and the other half viewed the four baby face manipulations. Each student received their own group of images to view and was asked to assign an age to each child based on their own perceptions of the child in the image. The students were asked to accomplish this task independently. The perceived ages of each child were then summed and an average age assigned to each image. The two adolescents with the greatest discrepancy between mean ages, with the least amount of variability, for their two manipulated images were the image sets used in the study.

After the facial maturity images were chosen, the background of the full-body (8.5 x 11 inch) image of those adolescents was manipulated so that they appeared taller or shorter than they really were. This was accomplished by inserting the image of a gas station doorway with height strip as the background and manipulating this image. According to the Center for Disease Control and Prevention (CDC) the average height of 13-year-old male is 61.5 inches, but can vary by as much as six inches in either direction. Therefore, the adolescents in the tall image condition appeared to be 67.5 inches tall and the adolescents in the short image condition appeared to be 55.5 inches tall. Although the image manipulations caused slight actual height variations, the tall and short adolescents still appeared to be 67.5 and 55.5 inches tall respectively.

Questionnaire

Harter's (1988) Self-Perception Profile for Adolescents (SPPA) was adapted for use in this study. This instrument assesses adolescents' perceptions of themselves in nine different domains: scholastic competence, social acceptance, athletic competence, physical appearance, job competence, romantic appeal, behavioral conduct, close friendship, and global self-worth. Five items are used to assess each domain for a total of 45 questionnaire

items. The original Harter questionnaire items are presented in a “structured alternative format” in which two statements are made, each describing an adolescent on different ends of the domain spectrum (Harter, 1988). The questionnaire items were modified to assess adult perceptions of the target male using only one statement. For example, a questionnaire item assessing athletic competence originally worded “*some teenagers do very well at all kinds of sports **BUT** other teenagers don’t feel that they are very good when it comes to sports*” was reworded to state “*he does very well at all kinds of sports.*”

For the purposes of this study three domains (romantic appeal, physical appearance, and global self-worth) were excluded, given that it would be difficult for the adult participants to judge without interaction. The other six domains were included because these domains tap into the three main types of competence of interest to this study: intellectual, social, and physical. These remaining 30 questionnaire items were scored using a 7-point Likert-scale with the response categories ranging from 1 (*disagree strongly*) to 7 (*agree strongly*). Thirteen items were negatively worded and reversed scored to avoid response biases associated with straight-line responding. Items in each domain were summed to yield a score ranging from 5 to 35 with higher scores representing greater perceived competence in that subscale. The totals across each domain were then summed to yield an overall competence score ranging from 30 to 210.

Procedure

For those classes that offered extra credit for participation in graduate research, an invitation to participate was posted on Blackboard. Included in this invitation was a brief description of the study, requirements for participants, and the date and times that the study was conducted. Students who volunteered to participate in this study were directed to

room 283E in EML Hall on the NDSU campus. Upon arrival, students read and signed an informed consent sheet (see Appendix B). Each participant was then asked to fill out a demographics questionnaire (see Appendix C). After completing the demographics questionnaire, the participants were randomly assigned to a study condition in which he or she received an 8.5x11 inch image (image A) of one of the four conditions: tall with baby face, tall with mature face, short with baby face, and short with mature face (see Appendix D) and asked to complete the accompanying modified SPPA questionnaire (see Appendix E). Upon completion of that questionnaire, the participants were given a second image (image B - same condition, different child) and asked to complete a second questionnaire (same as first). The even-numbered participants received image B first and image A second. After all three forms were completed the participants received a debriefing of the study (see Appendix F) as well as a research participation form to give to their professors for extra credit (see Appendix G).

Analysis

The hypotheses addressed in this study were as follows: 1) the images of mature-faced adolescents would be perceived as more competent than the images of baby-faced adolescents when height was held constant. 2) When facial maturity was held constant the images of taller adolescents would be seen as more competent than the images of shorter adolescents. 3) The images of the taller adolescents with a mature face would be perceived as more competent than the images of the shorter adolescents with a baby face.

The research question addressed in this study was: when presented with physical traits that stand in contrast to each other, such as a tall adolescent with a baby face or a

short adolescent with a mature face, which physical characteristic would be the more influential characteristic in determining competence: height or facial maturity?

To test these hypotheses, the data for overall competence were analyzed by a 2(height) X 2(facial maturity) X 2(image) repeated-measures analysis of variance (ANOVA) to evaluate the effect of height, facial maturity, and image on overall perceptions of competence, as well as any interactions between these variables. The dependent variable was an overall competence rating of 30 to 210. The independent variables were image with two levels (adolescent A and adolescent B), height with two levels (tall or short), and facial maturity with two levels (mature or babyish).

The data for domain-specific competence were analyzed by a series of 2(height) X 2(facial maturity) X 2(image) repeated-measures ANOVAs to evaluate the effect of height, facial maturity, and image on domain-specific perceptions of competence, as well as any interactions between these variables. The independent variables remained the same; however, the dependent variable was the domain-specific competence rating of 5 to 35. Means and standard deviations for all variables are presented in Tables 1, 2 and 3.

RESULTS

Overall Competence

A 2(height) X 2(facial maturity) X 2(image) repeated-measures ANOVA was used to analyze overall competence (see Table 1). The ANOVA yielded no significant interaction effects. Furthermore, the main effect for facial maturity was found to be nonsignificant, $F(1, 91) = 1.78, p = .19, \text{partial } \eta^2 = .02$. This finding contradicts hypothesis one and suggests that facial maturity did not significantly influence perceptions of overall competence. However, the main effect for height was found to be significant, $F(1, 91) = 6.58, p = .01, \text{partial } \eta^2 = .07$. This finding is consistent with hypothesis two that the images of the tall adolescents would be perceived as more competent than the images of the short adolescents (See Figure 1). These results suggest that only the height of the adolescents in the images, and not their facial maturity, significantly influenced ratings of competence.

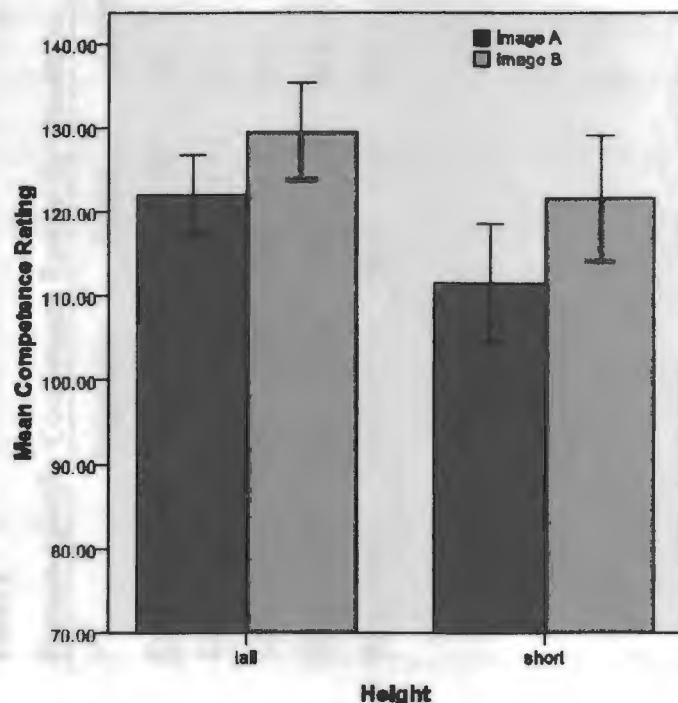


Figure 1. Mean Competence Ratings as a Function of Height by Image.

Table 1

Domain-specific Competence Ratings by Condition

Condition	Scholastic		Social		Athletic		Job		Friends		Behavior		Overall	
	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD
Tall/Mature	21.5	4.39	22.1	4.67	21.1	5.21	19.54	4.07	20.6	4.26	22.3	4.69	127.35	18.4
Tall/Baby	22.2	3.38	21.6	4.82	20.4	5.28	17.56	3.99	20.2	3.59	22.1	5.56	124.19	17.9
Short/Mature	21.4	6.08	21.0	6.16	20.6	5.26	15.92	5.26	19.8	5.24	20.7	5.84	119.71	26.3
Short/Baby	19.8	5.59	20.7	5.89	19.0	4.93	15.11	3.69	18.8	5.17	19.6	5.21	113.17	22.7

The main effect for image was also significant, $F(1, 91) = 11.72, p = .001$, partial $\eta^2 = .11$. The adolescent in image B was perceived as more competent overall than the adolescent in image A (see Table 2). This finding suggests the possibility of a third unmeasured variable, such as attractiveness, that may have influenced the perception of competence. However, the nonsignificant interaction effects indicate that even though one adolescent was rated as more competent than the other adolescent, the particular adolescent rated did not impact participants' ratings of competence across the conditions. In other words, ratings of overall competence for both images followed the same pattern: A significant main effect for height and no effect for facial maturity.

Domain-specific Competence

To evaluate domain-specific perceptions of competence, a series of six 2(height) X 2(facial maturity) X 2(image) repeated-measures ANOVAs were conducted. The only significant interaction effect emerged for image by facial maturity, $F(1, 91) = 4.12, p < .05$, partial $\eta^2 = .04$, in the domain of social competence. A paired-samples t test was conducted and the results revealed that the mean rating for the images of mature-faced adolescents in image B ($M = 23.10, SD = 5.69$) was significantly greater than the mean rating for the images of mature-faced adolescents in image A ($M = 20.13, SD = 5.19$), $t(47) = -3.45, p = .001$. Furthermore, the mean rating for the images of baby-faced adolescents in image B ($M = 23.91, SD = 6.17$) was significantly greater than the mean rating for the images of baby-faced adolescents in image A ($M = 18.43, SD = 4.60$), $t(46) = -6.06, p < .001$.

There was a significant main effect of image on ratings of social competence, $F(1, 91) = 46.14, p < .001$, partial $\eta^2 = .34$; athletic competence, $F(1, 91) = 122.57, p < .001$,

Table 2

Domain-specific Competence Ratings for Condition by Image

Image A	Scholastic		Social		Athletic		Job		Friends		Behavior		Overall	
	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD
Tall/Mature	22.4	4.51	20.5	4.59	17.2	5.13	20.1	3.86	22.4	3.91	22.1	4.62	125.04	16.8
Tall/Baby	22.4	3.23	19.5	3.66	16.7	4.97	18.3	4.05	21.0	3.19	20.9	5.25	119.00	15.8
Short/Mature	22.3	5.78	19.7	5.81	17.4	5.36	16.9	5.44	21.1	5.37	20.0	5.58	117.71	26.8
Short/Baby	19.7	5.84	17.3	5.26	14.5	4.00	15.6	2.86	19.8	4.97	17.8	4.61	104.96	19.3

Image B	Scholastic		Social		Athletic		Job		Friends		Behavior		Overall	
	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD
Tall/Mature	20.5	4.26	23.8	4.75	25.0	5.29	18.9	4.27	18.8	4.61	22.4	4.75	129.67	20.1
Tall/Baby	22.1	3.53	23.7	5.97	24.0	5.59	16.7	3.93	19.3	3.99	23.2	5.87	129.38	20.0
Short/Mature	20.5	6.38	22.3	6.51	23.9	5.16	14.9	5.07	18.5	5.10	21.3	6.10	121.71	25.8
Short/Baby	19.8	5.34	24.0	6.51	23.4	5.85	14.6	4.52	17.8	5.37	21.5	5.80	121.39	26.1

partial $\eta^2 = .57$; job competence, $F(1, 91) = 10.94$, $p = .001$, partial $\eta^2 = .11$; behavioral competence, $F(1,91) = 8.23$, $p = .005$, partial $\eta^2 = .08$; and friendships, $F(1,91) = 17.03$, $p < .001$, partial $\eta^2 = .16$ (see Table 2). The only domain with a nonsignificant main effect for image was scholastic competence, $F(1, 91) = 2.50$, $p = .12$, partial $\eta^2 = .03$. These findings indicate that only scholastic competence was not influenced significantly by the image of the adolescent being rated. The adolescent in image A was perceived as more competent in the domains of job competence and friendships. The adolescent in image B was perceived as more competent in the domains of social, athletic, and behavioral competence.

For height, a significant main effect was found for ratings of job competence, $F(1, 91) = 15.53$, $p < .001$, partial $\eta^2 = .15$, and behavior, $F(1, 91) = 5.31$, $p = .02$, partial $\eta^2 = .06$ (see Table 3). The images of the taller adolescents were rated as more competent in these two domains than the images of the shorter adolescents. These findings indicate that height significantly influenced perceptions of adolescent competence in regards to work-for-pay and the ability to act appropriately.

There were no significant main effects for facial maturity, nor were there any significant interactions for height by facial maturity across any of the six domains. This finding indicates that adult perceptions of adolescent competence were not influenced substantially by the facial maturity of the adolescents.

Table 3

Domain-specific Competence Ratings for Height by Image

Image A	Scholastic		Social		Athletic		Job		Friends		Behavior		Overall	
	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD
Tall	22.4	.71	20.0	.71	17.0	.71	19.25	.60	21.7	.64	21.5	.73	122.02	4.10
Short	21.0	.72	18.5	.71	15.9	.72	16.26	.61	20.5	.65	18.9	.74	111.33	4.15
Image B	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD
Tall	21.3	.72	23.8	.86	24.5	.79	17.85	.65	19.0	.69	22.8	.82	129.52	4.53
Short	20.2	.73	23.2	.87	23.7	.80	14.76	.65	18.2	.70	21.4	.82	121.55	4.57

DISCUSSION

One purpose of this study was to lend support to past research findings that taller individuals are perceived as more competent than their shorter peers and that mature-faced individuals are perceived as more competent than their baby-faced peers. A second purpose of this study was to investigate which physical appearance cue is more influential when observers are given the task of rating the competence of adolescents based on both height and facial maturity. In this study the perceivers were only given full-body photographs of the target adolescents with which to make their judgments. Other than age, no additional information was provided. In these zero acquaintance situations all judgments are made on the basis of observable physical appearance cues only. These “snap” judgments are often formed through the individual’s own stereotypic inferences (overgeneralizations) of others with those characteristics. This knowledge formed the basis for the hypotheses and research question addressed by this research.

As predicted, when facial maturity was held constant the images of the tall adolescents were perceived as more competent overall than the images of the short adolescents. This finding is consistent with previous research reports of a positive relationship between height and achievement or competence (e.g., Brackbill & Nevill, 1981; Chu & Geary, 2005; Nottelmann & Welsh, 1986). An interesting finding related to this prediction was that height significantly influenced perceptions of adolescent competence in regards to work-for-pay and the ability to act appropriately. These two domains require a certain amount of personal responsibility that is generally attributed to older or more mature adolescents. It seems that individuals use height as a social indicator

of maturity (taller equals more mature or older and shorter equals less mature or younger) and therefore rate taller adolescents higher in these two domains.

Contrary to my prediction, when height was held constant the images of the mature-faced adolescents were not perceived as more competent than the images of the baby-faced adolescents. This finding is surprising given the extensive research conducted by Zebrowitz-McArthur and colleagues all suggesting the overgeneralization effect of childlike attributes to baby-faced individuals. For example, Zebrowitz and Montepare (1992) reported that baby-faced targets “were perceived as more childlike in the domains of social, intellectual, and physical power” suggesting less competence in those domains than their mature-faced peers (p. 1150). This difference in findings could be due to the fact that the participants in this study also had to consider height in their ratings of competence. Because the stimuli used were full-body images of the target adolescents, the facial maturity of these targets was not as accentuated as the headshot only images of targets in studies investigating the effects of facial maturity.

Previous research findings suggest that taller individuals are perceived as more competent than their shorter peers and mature-faced individuals are perceived as more competent than their baby-faced peers. However, physical appearance cues do not appear in isolation, thus it seemed logical to predict that the images of the tall mature-face adolescents would be perceived as more competent than the images of the short baby-faced adolescents. The data from this study does support this prediction. The images of the tall adolescents were perceived as more competent than the images of the short adolescents regardless of facial maturity.

One purpose of this study was to investigate which physical appearance cue (height or facial maturity) is the most influential on adult ratings of adolescent competence. The finding of a significant main effect for height, but not for facial maturity, suggests that when judging adolescent competence, height is the more influential physical characteristic. This finding makes sense considering that an individual's height is readily assessed without the need for the close face-to-face contact necessary to assess facial maturity. Furthermore, there seems to be a natural human tendency to protect and nurture those who are smaller (shorter) than our selves (Money, 1975). Therefore, the taller an adolescent is (relative to his/her peers), the higher rating of competence will be.

The data from this study found a significant difference between the overall competence ratings for the two images used as stimuli. This difference between the images may be attributed to the perceived attractiveness of the adolescents. There is extensive research indicating that attractive individuals are perceived more favorably than their less attractive peers, producing a positive halo effect especially in social contexts (see Alley & Hildebrandt-Karraker, 1988; Bull & Rumsey, 1988 for a review). Therefore, if the participants perceived the adolescent in image B as more attractive than the adolescent in image A, this may have caused them to rate image B more favorably leading to the nonsignificant difference between the tall mature-faced condition and the short baby-faced condition in image B when using a Likert-scale response questionnaire. Furthermore, within the social competence domain, the adolescent in image B was rated more favorably than the adolescent in image A lending further support to the literature on the attractiveness halo effect and social contexts.

An alternative explanation for the rating differences between the images may be due to the availability of nonverbal appearance cues. Naumann, Vazire, Rentfrow, and Gosling (2009) proposed that there is an informative component to nonverbal expressive appearance cues and that observers use this information in their judgment process. These nonverbal appearance cues, such as gender, race, clothing, hairstyle, posture, and facial expression are all readily apparent and are often used to make judgments about the individual before an interaction even occurs. Although the target adolescents were asked to dress similarly (in plain jeans and a t-shirt) and maintain a neutral pose and expression, individual differences exist and created slight variations between the two images used. The raters in this study may have used these expressive nonverbal cues, such as facial expression and posture, in their perceptions of competence.

As Tables 1 and 3 demonstrate, the standard deviations for data in this study are large. This indicates that there was little consensus in the judgments of the individual raters. Each person has a unique history and personal experiences with the social world that shape how he/she perceives others. These individual histories could account for the variation in competence ratings of the same adolescent.

As Chu and Geary (2005) suggest, the use of digitally manipulated photographs present the most ecologically suitable methodology with which to examine the influence of physical characteristics on ratings of competence. This methodology allowed me to digitally manipulate the physical characteristics of interest while holding other characteristics constant. Rather than presenting participants with headshot only images or short vignettes describing the physical characteristics of the target adolescents, the participants were presented with a full-body visual image integrating the characteristics of

interest. Although conducted in a controlled research setting, this methodology encourages a judgment-making process that is similar to real-world situations. Furthermore, with the increased popularity of personal and social networking websites, digital photographs allow for increased accessibility to the physical appearance of individuals in non-face-to-face interactions.

Limitations and Suggestions for Future Research

There are some important limitations to this study that reveal possibilities for future research efforts. First, the target adolescents in this study were males of European American ethnicity. How raters would have judged female adolescents or adolescents of a different ethnic background is unknown. Future research could examine whether the results of this study would remain similar with targets that were female or of an ethnicity different from that of the majority sample population.

Second, this study relied on a convenience sample from a Midwestern University campus and therefore relied on college students as raters. Although the majority of participants in this study reported to have at least one year of experience working with children and adolescents, they still often do not have daily, prolonged contact with adolescents. Therefore, these college students may have rated the targets differently than individuals such as parents and/or teachers. Future research could examine whether the results of this study would be supported with student populations from other regions of the country. Furthermore, comparisons with samples of teachers and/or parents could be valuable given their daily interactions with adolescents.

Third, due to the voluntary status of participation, my sample population consisted mostly of females. It is unknown if the results of this study would have changed had gender

been more evenly distributed. Chu and Geary (2005) made the presumption that those who are part of a specific group (such as male or female) “are less likely to hold stereotypes of their own group”(p. 1932). If this is true then the results of this study may have been different with a larger male sample. Future research could replicate this present study with a larger male sample and check for cross-gender effects to see if this presumption holds true.

Fourth, since this study was only interested in the combined influence of height and facial maturity, perceived attractiveness of the targets was not controlled for. However, given the pervasive nature of the attractiveness halo effect often cited in literature (Alley & Hildebrandt-Karraker, 1988; Bull & Rumsey, 1988; Dumas, Nilsen, & Lynch, 2001), it is logical to assume that the ratings in this study may have also been influenced by the perceived attractiveness of the targets. Future research could examine whether the results of a similar study, controlling for the attractiveness of the targets, yields similar results.

Finally, due to the vast amount of variation in early adolescents’ physique and maturity, many adults may be unsure of what exactly to expect from adolescents. Keeping in mind Chu and Geary’s (2005) presumption that group members are less likely to hold stereotypes of their own group, future research could revise the current study to examine adults’ perceptions of targets within their same age-cohort.

Conclusions

To a great extent, our initial visual perceptions of individuals guide our subsequent interactions with them. The problem is that during the pubertal years, physique is often discordant with actual maturation. Even when chronological age is known, there is a tendency to respond according to visual indicators of maturity rather than knowledge of

actual age (Brackvill & Nevill, 1981). Money (1975) refers to this response tendency as the “tyranny of the eyes” (p. 1220). The findings of this study suggest that when making judgments of competence, adults predominately use an adolescents’ height as a deciding factor, even with knowledge of chronological age.

The expectation for adolescents who appear mature is that they will act more mature. When these adolescents behave in a manner that is appropriate for their chronological age, they are often labeled as immature and dealt with accordingly. On the other hand, adolescents who appear immature are often treated in a juvenile manner and therefore they begin to respond in a juvenile manner. This knowledge has important implications for the parents, teachers, physicians, counselors, and even law enforcement officers who interact with adolescents on a daily basis.

Through the results of past research and the findings of this study, one could logically assume that an adolescent’s physical appearance drives his/her social adjustment. However, the question as to what degree appearance drives adjustment remains. At some point during adolescence, those with a slower maturational rate catch up with their faster maturing peers. At this point these early unequal expectations of same-age adolescents would tend to equalize. A longitudinal study following children with fast and slow maturational rates from early to late adolescence and even into emerging adulthood would need to be conducted to answer any questions regarding appearance-driven social adjustment.

The ecological theory of social perception aids in our understanding of why we, as adults, draw the inferences that we do when considering our initial visual perceptions - there is an evolutionary value to it. As a society, our goal in raising children is to produce

functioning members of society. We tend to protect and nurture the immature while placing unfair expectations on the mature. The problem is that if we continue to infantilize adolescents with immature physical characteristics we fail to adequately prepare them for adulthood.

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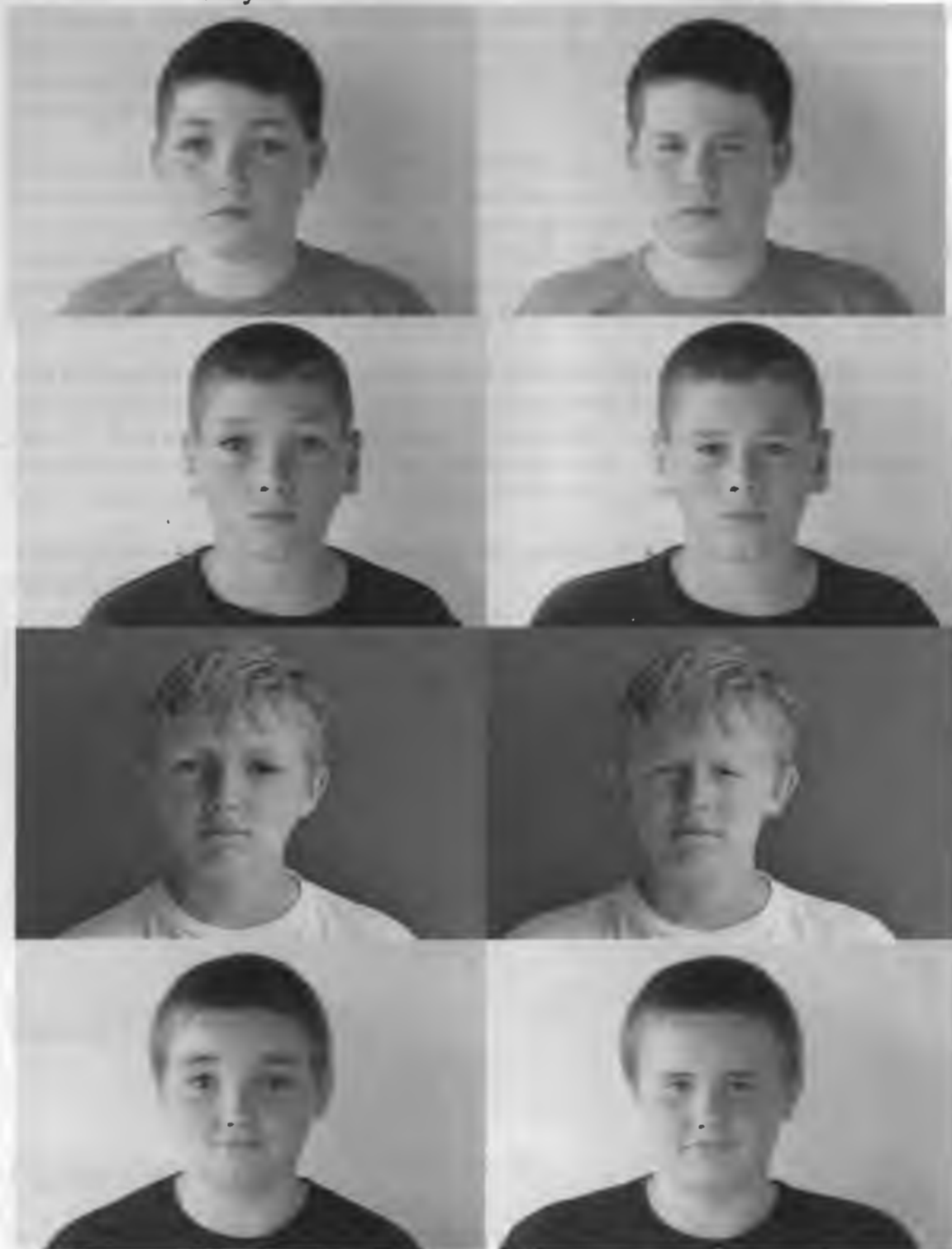
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APPENDIX A. MANIPULATED IMAGES FOR STUDENT PANEL

Babyish

Mature



APPENDIX B. INFORMED CONSENT FORM

You are invited to participate in a study of how first impressions influence social perceptions. Accurate or not, first impressions drive our initial interactions with others and influence how we treat specific individuals. I hope to learn what characteristic is the most salient in impression formation. You were selected as a possible participant in this study because you volunteered.

If you decide to participate, I (Elise Pforr) under the supervision of Dr. Deal, will ask you to complete three questionnaires. The first questionnaire is a demographics survey. Upon completion of this survey, you will be given an image of an adolescent male and asked to complete a questionnaire regarding your perceptions of that child. You will then be given a second image of a different adolescent male and asked to complete a second identical questionnaire. This should take approximately 15 minutes to complete.

Any information that is obtained in connection with this study and that can be identified with you will remain confidential and will not be disclosed to any unauthorized persons. Only Dr. Deal and myself will have access to the research materials, which will be kept in a locked cabinet. Any references to your identity that would compromise your anonymity will be removed or disguised prior to the preparation of the research report.

You will not be at physical or psychological risk and should experience no discomfort resulting from the research procedures.

You are making a decision whether or not to participate. Your decision not to participate will not prejudice your future relationships with the Child Development and Family Science Department here at North Dakota State University. Your signature, however, indicates that you have read the information provided above and have decided to participate. You may also withdraw at any time without penalty after signing this form should you choose to discontinue participation in this study.

If you have any questions, please ask now. If you have additional questions later, contact me at (701) 388-0737. I will be happy to answer them.

Signature of Participant

Date

Signature of Investigator

Date

APPENDIX C. DEMOGRAPHICS QUESTIONNAIRE

Code # _____

1) Gender: _____ Male _____ Female

2) Your age range: _____ 18-25 _____ 26-35 _____ 36-45 _____ 46+

3) Do you have children? _____ Yes _____ No

How many? _____ Age(s) of children (under 18): _____

4) Do you have a sibling under the age of 18? _____ Yes _____ No

Age(s): _____

5) Do you have experience working with children and/or teenagers other than your own children or siblings? _____ Yes _____ No

In what capacity? (i.e., daycare, school, mentoring programs, etc) _____

Length of time: _____ < 1 year _____ 1-5 years _____ 5+ years

6) What is your Undergraduate area of study? _____

Graduate? _____

APPENDIX D. VISUAL STIMULI USED IN STUDY

Condition 4 (image A)



Condition 4 (image B)



Condition 3 (image A)



Condition 3 (image B)



APPENDIX D. VISUAL STIMULI USED IN STUDY (continued)

Condition 2 (image A)



Condition 2 (image B)



Condition 1 (image A)



Condition 1 (image B)



APPENDIX E. MODIFIED HARTER QUESTIONNAIRE

In this section I am interested in what kind of person you think the 13-year-old male on the previous page is like. This is a survey, not a test. There are no right or wrong answers. Below are some sentences that describe the adolescent. You will decide your level of agreement with each statement based on your first impression of the adolescent from his image. Only circle one number for each question.

- 1 = Disagree strongly
- 2 = Disagree moderately
- 3 = Disagree slightly
- 4 = Neutral
- 5 = Agree slightly
- 6 = Agree moderately
- 7 = Agree strongly

- | | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1. He is just as smart as others his age..... | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 2. He finds it hard to make friends | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 3. He does very well at all kinds of sports..... | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 4. He is ready to do well at a part-time job..... | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 5. He usually does the right thing..... | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 6. He is able to make really close friends | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 7. He is pretty slow in finishing his school work | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 8. He has a lot of friends..... | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 9. He could do well at just about any new athletic activity..... | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 10. He doesn't have enough skills to do well at a job | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 11. He often gets in trouble for the things he does..... | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 12. He has a very close friend | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 13. He does very well with class work | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 14. He is very hard to like..... | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 15. He is better at sports than others his age | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 16. He is mature enough to get and keep a paying job | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 17. He feels really good about the way he acts..... | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 18. He wishes he had a close friend | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 19. He has trouble figuring out the answers in school..... | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 20. He is popular with others his age..... | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 21. He doesn't do well at new outdoor games..... | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 22. He could do better at work that he does for pay | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 23. He does things that he knows he shouldn't do | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 24. He finds it hard to make friends that he can really trust..... | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 25. He is pretty intelligent | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 26. He is socially accepted..... | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 27. He is not very athletic | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 28. He is able to handle the work on a paying job..... | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 29. He usually acts the way he is supposed to..... | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 30. He doesn't have a friend that is close enough to share really
personal thoughts with | 1 | 2 | 3 | 4 | 5 | 6 | 7 |

APPENDIX F. DEBRIEFING

This study is concerned with the influence of physical appearance on the social perceptions that adults form of adolescents. Specifically, the intent of this study is to examine which physical appearance cue (height or facial maturity) has the greatest influence on adult perceptions of young adolescents. Previous studies on height report that shorter individuals are viewed as less competent than taller individuals. Likewise, previous studies on facial maturity report that baby-faced individuals are viewed as less competent than mature-faced individuals. Although there is plenty of research on the influence of a specific physical appearance cue on perception formation, there is very little research on which cues are more salient than others.

In this study, you filled out a survey that will be used to determine your background and experience with adolescents. You also completed a questionnaire that will be used to determine your perceptions of the child you viewed in the photograph. Although the same child's image was used for all study conditions, the facial features and backgrounds were manipulated to produce four separate image conditions. These conditions are as follows: tall with baby face, short with baby face, tall with mature face, and short with mature face. All participants completed the same two questionnaires. However, the image of the child that each participant viewed was randomly assigned.

My first hypothesis for this study is that the mature-faced adolescent will be perceived as more competent than the baby-faced adolescent when height is held constant. Furthermore, when facial maturity is held constant the taller adolescent will be seen as more competent than the shorter adolescent. My second hypothesis is that the taller adolescent with a mature face will be perceived as more competent than the shorter adolescent with a baby face. My research question for this study is: when presented with physical traits that stand in contrast to each other, such as a tall adolescent with a baby face or a short adolescent with a mature face, which physical characteristic will be the more salient characteristic: height or facial maturity?

I ask that you maintain confidentiality about the purpose of the experiment since any pre-knowledge of the purpose will bias the data for that person and thus cannot be used.

If you would like to receive a summary of the study results or if you have any questions, please contact me at (701)388-0737 or elise.pforr@ndsu.edu. I do not expect that you should experience any undesirable consequences from participating; however, if you do, please contact the counseling center in Ceres Hall 212 at (701) 231-7671.

If you have any complaints, concerns, or questions about this research, please feel free to contact Dr. James Deal, Head of the CDFS Department at (701)231-7568, email: jim.deal@ndsu.edu.

If you are interested in this area of research, you may wish to read the following references:

- Dumas, J. E., Nilsen, W., & Lynch, A. M. (2001). How much does physical appearance say about the psychological adjustment of competent and dysfunctional children? *Journal of Clinical Child Psychology, 30*, 385-398.
- Nottelmann, E. D., & Welsh, C. J. (1986). The long and the short of physical stature in early adolescence. *Journal of Early Adolescence, 6*, 15-27.
- Zebrowitz, L. A., & Montepare, J. M. (1992). Impressions of babyfaced individuals across the lifespan. *Developmental Psychology, 28*, 1143-1152.

Thank you very much for participating!

APPENDIX G. RESEARCH CREDIT FORM

NDSU**Research Credit Form****To be completed by student receiving credit. (Please Print)**

Student Name: _____ ID# _____

Course Name for which credit is desired: _____

Time: _____ Instructor: _____

To be completed by researcher.**Date:** _____

Researcher's Name: _____

Faculty Supervisor: _____

Study Name: _____

Time commitment for participant: _____