

Barbie as a Model of Gender Nontraditional Career Possible Self Content for Preschool and

Kindergarten Girls

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### Abstract

Girls ( $N = 26$ , mean age = 4.38 years) were interviewed using Barbies dressed in gender traditional and nontraditional career outfits about their identification with the dolls and girls' own aspirations and self-efficacy to assess possible self content and the effects of exposure to a counterstereotypic model. Girls identified more often with the dolls in gender traditional career outfits but spoke about identification predominantly in terms of similarity of hair. The majority White sample identified with White dolls more frequently than Black dolls although nonwhite participants reasoned "likeness" to dolls based on skin more frequently than did White participants. Following exposure to the counterstereotypic dolls with gender nontraditional careers, girls affirmed being able to engage in a greater proportion of gender nontraditional careers as an adult than before exposure to these dolls. These results imply that toys themselves may constitute models for children, either constraining or expanding possible selves.

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Learning about the world, according to social cognitive theory, occurs through a combination of enactive experience, tuition, and modeling (Bandura, 1986). Observing models contributes to building self-efficacy in relevant domains and this self-efficacy contributes to or constrains the content of possible selves (Markus & Nurius, 1986). Through differential reward and punishment, different models, and different rehearsal experiences, boys and girls develop different activities, behaviors, and preferences (Bussey & Bandura, 1999). This extends to career aspirations as well. Additionally, it is logical that White and nonwhite children could receive different messages and thus develop differently.

One salient model for young children is Barbie. The average American girl owns eight Barbie dolls (Turkel, 1998). This iconic doll constitutes a role model by which girls may learn gender-typed behaviors and activities and through which children build efficacy for some tasks and not others. This differential efficacy building will affect the possible selves girls conceive of, which in turn may affect their career aspirations. Since Barbie herself may constitute a social learning model, what Barbie is and is not may limit girls' range of possible selves. For Black girls, race may be more salient than gender (Ramsey, 1991) so the dearth of nonwhite Barbies (Steinberg, 2004) may impact possible selves in that regard. Additionally, playing only or mostly with a single type of toy, like Barbie, could lead to greater sex-typing, or developing only a single gendered set of skills at the expense of other skills and competencies. Psychological androgyny, possessing both masculine and feminine traits, has in adults been associated with increased well-being (Wolfram, Mohr, & Borchert, 2009) and better adjustment (Lefkowitz & Zeldow, 2006).

## **Barbie Herself**

Barbie is a model to be imitated, a toy to rehearse behaviors with, and a direct source of information about gender and even race, all in one plastic doll. Barbie is blonde, thin, and heterosexual. There are activities she engages in and those she does not. Brunettes, redheads, and people of different racial backgrounds are largely relegated to “friends of Barbie” status. Thus Barbie defines what it means to be female, and what it means to be White; by omission she defines what it means not to be. Nonwhite Barbies are far less available. Many of the Black versions of common White Barbies are special-order or available only online (Coyle, 2008).

On Amazon.com (Coyle, 2008), not until the fourth page of search returns does the first nonwhite, doll who is not either a mythical, non-human creature or a member of the Dolls of the World collection, appear. The first nonwhite doll not part of a special collection is on the seventh page and costs two dollars less than the White version of the same doll. Of the limited selection of Barbie Career Dolls at an urban Toys “R” Us, not a single doll was Black. The most prominently placed and available Black doll at an urban discount department store was the annual Holiday Barbie doll, available in equal numbers alongside her White counterpart. But, she cost \$45, a price beyond the typical \$10 or less Barbie (Coyle, 2008). All of these factors, lack of availability, differences in price, and activities Barbie is portrayed engaging in, teach girls who play with Barbie about what it means to be a certain race or what it means to be a girl.

## **Social Cognitive Theory**

According to social cognitive theory, children learn both through direct participation and through observation (Bandura, 1986). Children observe personally salient models and rehearse the model’s activities cognitively and in enactive experience. This builds efficacy for a particular domain of behavior. The motivation to repeat a behavior comes from feedback following

enactive experience or feedback children observe a model receiving. This differential reward and punishment shapes a child's knowledge of what behaviors are good and bad, appropriate and inappropriate. It is important to note that observation of a model is selective, however, and that the child plays an agentic role in selecting models to observe (Bussey & Bandura, 1999).

According to social cognitive theory of gender development and differentiation (Bussey & Bandura, 1999), children learn how to behave as a member of their gender group through modeling, enactive experience, and direct tuition. Gender-linked information comes from models in the immediate environment as well as iconic individuals and through the media, and contributes to the development of gender schemas, definitions of what it is to be a certain gender. Children learn consequences of behavior by observing and experiencing the social sanctions cultures have for gender transgressions. Boys and girls have different models and are differentially sanctioned for the same behaviors, thus gender differentiation quickly emerges. Children build self-efficacy for activities they observe models engaging in successfully; since boys and girls have different models, they will necessarily build efficacy in different domains. This leads to gender differences in behavior, preferences, activities, and even occupational aspirations (Bussey & Bandura, 1999). It is this efficacy rather than actual achievement that determines perceived occupational efficacy and therefore occupational aspirations (Bandura, Barbaranelli, Caprara, & Pastorelli, 2001). In turn, this occupational self-efficacy predicts gender traditionality of career aspirations. Efficacy is key here as girls report desiring less traditional jobs than they actually expect to hold (Davey & Stoppard, 1993).

Social cognitive learning can influence learning in multiple domains. Just as gender differences emerge, so too could differences between other kinds of groups in terms of beliefs about what is appropriate for members of these groups. Just as differential modeling, enactive

experience, and direct tuition leads to efficacy in different domains for boys and girls, White and nonwhite children could build efficacy for different tasks and perceive different barriers to activity as well. Similar to the gender divide in career aspirations, Black students indicate career aspirations for occupations in which they see other Black workers, but not for predominantly White occupations (Terrell, Terrell, & Miller, 1993).

The degree to which perceived barriers hinder activity depends on coping efficacy, dispositional affect, and outcome expectations (Lent, Brown, & Hackett, 2000). If an individual believes they can succeed in adverse conditions, tends to experience positive affect, or does not believe the consequences of a behavior will be negative, that individual may not be hindered by the perception of a barrier. Conversely, if an individual does not believe they can effectively handle adverse conditions, tends to experience negative affect, or believes the consequences a behavior will be negative, that individual will be hindered by that barrier. These barriers guide action, perceptions of opportunities, and career development. They shape the content of possible selves, both hoped-for and feared.

### **Possible Selves**

Possible selves constitute an individual's ideas about their potential and their fears. Possible selves can include the ideal self an individual might become ("hoped-for"), a potential self an individual actually becomes, and the self an individual is afraid of becoming (Markus & Nurius, 1986). Possible selves link the self-concept with motivations; these motivations guide behavior towards becoming the hoped-for self and away from becoming the undesirable future self. They combine future development with an individual's knowledge about how they have developed so far. They are concrete, personalized, and often reflect a degree of social

comparison (Markus & Nurius, 1986). The notion of the self as agentic in future situations is crucial to the understanding of possible selves (Erikson, 2007).

Importantly, possible selves are constrained by sociocultural models (Markus & Nurius, 1986). Hoped-for selves are based largely on observations of other people (Hoyle & Sherrill, 2006). Stereotype disconfirming models assist individuals in expanding a possible self to include a role previously unavailable to them because of a stereotype against their group's participation. For instance Hillary Clinton's recent presidential bid and current appointment as Secretary of State may allow girls to include political participation as a facet of their future selves. Barack Obama's successful presidential bid may allow Black children to incorporate the possibility of being president into a hoped-for self. But, stereotype disconfirming models could come in less prominent arenas as well; mothers with gender nontraditional jobs may constitute for their own daughters the same kind of counterstereotypic model that Hillary Clinton does.

In addition to guiding future behavior, possible selves guide interpretations of current behavior (Markus & Nurius, 1986). The degree to which current behavior fits with a possible self affects the attributions an individual will make about that behavior. If one behaves consistently with an ideal future self, that self remains. If behavior is inconsistent with that future self, possible negative selves may be activated instead. Individuals tend mostly to believe that they are capable of positive things and incapable of negative things. Thus future selves reflect a positive bias and individuals typically possess a greater number of positive possible selves than negative possible selves (Markus & Nurius, 1986). While negative possible selves are associated with lower self-esteem (Knox, Funk, Elliott, & Bush, 1998), they also serve as a motivating force for behaviors that will aid in avoiding becoming that self. Possessing balanced possible selves,

similar numbers of hoped-for and feared possible selves, is associated with an increased number of strategies for avoiding becoming the feared possible self (Oyserman & Fryberg, 2006).

Efficacy plays an important role in future selves (Markus & Nurius, 1986). Roles that an individual has built efficacy for, either by doing, or as social cognitive theory suggests, seeing a role model do successfully, can be incorporated into a possible self. A lack of efficacy for a task or role is associated with negative future selves (Markus & Nurius, 1986). Positive future selves could be fostered in children by assisting them in building efficacy for a range of tasks and encouraging possible self-consistent behavior. A 2004 study (Shepard) found that among working-class adolescent females, family support and the availability of mentors and role models were important factors in identity exploration and positive future selves. A perceived lack of opportunity was associated with vague future selves and multiple negative future selves. Efficacy is also important in the perceived probability of attaining one's most ideal self (Robinson, Davis, & Meara, 2003).

### **Gender, Ethnicity, and Possible Selves**

Since possible selves are socially maintained (Oyserman & Fryberg, 2006), it is important to evaluate the possible selves of those in disadvantaged groups to understand how they are a reflection of social structure. Preschool children categorize others into their racial groups (Stevenson & Stewart, 1958) and begin to make associations between "Black" and "bad" and "White" and "good" (Renninger & Williams, 1966). Living in a White-biased culture, Black preschoolers demonstrate majority group attitudes (Spencer, 1984). Models provide examples of what it means to be a member of a racial group. Thus what is observed informs and limits the possible components of a racial identity. This affects efficacy building and may assist in the construction of possible selves. Interestingly, exposing preschool children to racial outgroups



increases their awareness of their ingroup (Kowalski, 1998) so even outgroup models informs racial identity development. Among Black girls, maternal involvement was associated with daughter's specific strategies for attaining positive future selves (Kerpelman, Shoffner, & Ross-Griffin, 2002).

Caught between personal desires and social expectations for one's group or role, individuals may possess numerous "ought" selves that they feel they should become, in addition to desired future selves (Curry, Trew, Turner, & Hunter, 1994). For girls, this may mean that they feel they ought to be a mother although they would like to have a higher prestige career that may not allow time for the dual burden of work and family duties. Possessing efficacy for academic abilities was found to be associated with a careerist orientation in girls (Curry et al., 1994). Moreover, girls may be making life choices earlier than boys are, thus affecting the content of their possible selves (Curry et al., 1994). However, among high school girls, future selves incorporating financial independence was found to be associated with self-esteem (Knox et al., 1998). Thus by understanding the possible selves of racial minorities, women, and other socially disadvantaged groups, work can be done to bridge achievement gaps.

### **Careers and Possible Selves**

Young children report career aspirations consistent with their gender, however unrealistic the aspiration. Fourth-graders were found to rely on gender stereotypes when ranking the appeal of various occupations, regardless of what they were taught about the specific characteristics of the job (Stockard & McGee, 1990). Ranking careers this way limits future options because children have written off gender nontraditional careers at a young age; they will not conceive of those occupations in terms of possible selves. This is consistent with the Circumscription and Compromise Theory of Vocational Aspirations (Gottfredson & Lapan, 1997), which states that

as self-image develops, career options inconsistent with this are eliminated and not further considered. Since gender is a particularly salient facet of self-image in childhood, it follows that gender nontraditional careers would be eliminated from consideration during this time. Related to this theory is that people eliminate careers they feel are beyond their capabilities (Brown, Eisenburg, & Sawilowsky, 1997), which could begin as early as childhood. Self-efficacy for such capabilities required by nontraditional careers is especially important.

Adolescents with flexible attitudes about gender roles and gender nontraditional domains of self-efficacy (e.g. math) aspire to nontraditional careers that are more prestigious than the gender-typical careers aspired to by girls with traditional gender role attitudes (O'Brien & Fassinger, 1993); importantly, gender traditionality and prestige are historically confounded but this may be a reflection of society, where male-dominated careers pay more and female-dominated careers pay less. Perceived career self-efficacy predicts traditionality of career choice among children in middle childhood (Bandura et al., 2001). If, as is so important in creating possible selves, girls build self-efficacy for nontraditional domains or careers, they may not eliminate gender nontraditional careers at a young age; possible selves could incorporate these gender nontraditional careers into possible selves with the requisite self-efficacy. As suggested by social cognitive theory, self-efficacy can be built from observing nontraditional models. Also, parental aspirations influence children's academic efficacy, which is associated with children's occupational aspirations (Bandura et al., 2001). Thus, a parent-provided gender nontraditional model, like a career-oriented Barbie, could serve to expand young girls' career possible selves. Rehearsing careers with such a doll could further build related self-efficacy.

It is important to note also that nonwhite children are aware of racial segregation in the workforce. In an examination of occupational attitudes and knowledge in first and sixth-grade

Black children, Bigler, Averhart, and Liben (2003) found that regardless of socioeconomic status, Black children indicated that Black people were less likely to perform high status than medium or low status jobs. When ranking the status of occupations using a pictorial measure, Black children rated jobs portrayed with White workers in the picture as higher status than those depicted with Black workers. Considering novel jobs only, Black children rated those depicted as being performed by White or Black and White people as higher status than those depicted as being performed only by Black people. In regards to occupational aspirations, younger children showed greater interest in novel occupations performed by White or Black and White people in the pictures. Overall, Black children showed greater interest in occupations depicted with White or Black and White workers than they did in occupations depicted by Black workers only (Bigler et al., 2003).

### **Make-Believe Play and Toys**

One learning source according to social cognitive theory is the mass media (Bussey & Bandura, 1999), and one subset of the mass media is toys. Children rehearse behaviors with toys and boys and girls engage with different, gender-appropriate toys. Thus boys and girls learn different skills. Moreover, toys may be an indication of what is appropriate or not for a gender or racial group. By playing with children, parents can send messages about what is appropriate for members of different groups. Given picture books with a main character playing with a cross-gender toy and receiving encouragement from same-sex parents, teachers, and peers, preschool girls engage in less gender-typed play (Green, Bigler, & Catherwood, 2004). Thus gender-typed play can be molded based on exposure to counterstereotypic models rewarded for cross-gender behavior.

The more defined a toy, the more it can contribute to schemas about a group. For instance, pink doll accessories send the message that pink is for girls; the reverse conclusion, that pink is not for boys, is also conveyed. If most Barbies at the local toy store come in bikinis, this contributes to the idea that women should be beautiful and sexualized; it does not further any notion that strong, working women are valued. If the career Barbie that is available is Babysitter Barbie and not Firefighter Barbie, this may send the message that being a childcare provider is more appropriate for girls than being a firefighter. Thus toys can be models themselves, they can be catalysts for behavior rehearsal and social interaction with parents and peers, and they can contribute to relevant schemas.

How children play with toys is also important. One mode of play young children engage in is make-believe play. During early childhood, boys engage in more fantasy and aggressive make-believe play while girls engage in doll play (Case-Smith & Kuhaneck, 2008). Engaging in pretend play reflects a degree of language development, theory of mind development, and perspective-taking ability (Nielsen & Christie, 2008). Rehearsing those skills through pretend play contributes to development in those domains. In an examination of make-believe play within same-sex preschool friendship groups (Kyratzis, 1999), it was found that girls especially use make-believe narrative play to explore possible selves. Children first engage in pretend play with adults who model pretense. Thus adults constitute an important source of information about how to engage in make-believe play and what in fact can be pretended.

But, not only does make-believe play involve rehearsing certain roles and activities (Kuther & McDonald, 2004), the toys themselves constitute models. Barbie is one such role model. Dittmar, Halliwell, and Ive (2006) found that for girls age 5 to 8, Barbie reminded them of their possible selves; a plus-size model doll activated negative possible selves. Barbie's

activities also inform possible selves for girls, and since Barbie is White, what is not possible for nonwhite girls. Since Barbie is usually gender typical, girls likely perceive those activities to be within the realm of possible selves but not gender atypical activities. Since those dolls are usually White, nonwhite girls may be left with little information about what is possible but a great deal about what is not. Some girls reflecting on their experiences with Barbie report that her career roles indeed influenced their play (Kuther & McDonald, 2004), so it is important to examine quantitatively the effect that career role Barbies have on occupational aspirations.

There may be a sensitive period for exposure to Barbie's messages. Research (Dittmar, Halliwell, & Ive, 2006) has shown five-year-old girls respond negatively in terms of body assessment to exposure to Barbie, while older girls (age 8) do not show a change. This may be because older girls have internalized Barbie's messages. Thus Barbie's impact on the content of possible selves may be heightened during the preschool and kindergarten years but less so later.

### **Barbie and Sex-Typed Play**

There may also be risk associated with playing predominantly with one type of toy. For instance playing only or mostly with Barbie dolls may result in a higher degree of sex-typing, being highly masculine or feminine without developing the skills of the other gender, than would playing with a wider variety of toys. Research about sex-typed adults (e.g. Stokes, Childs, & Fuehrer, 1981; Cheng, 2005) suggests that sex-typed individuals may be at a developmental disadvantage. In a study of self-disclosure, feminine women self-disclosed only to close friends while masculine men self-disclosed only to those who were less close, such as acquaintances and strangers (Stokes et al., 1981). This may be a function of social pressure for women to self-disclose to close friends and for men to maintain emotional distance in

relationships. When presented with hypothetical stressful situations, sex-typed participants were more depressed than androgynous participants (Cheng, 2005).

In contrast, androgyny, possessing both masculine and feminine characteristics, may instead be advantageous. In the self-disclosure study, androgynous individuals willingly self-disclosed to all groups, including strangers, acquaintances, and close friends (Stokes et al., 1981). In the stressful situations study, androgynous individuals showed the lowest levels of depression in comparison to sex-typed participants (Cheng, 2005). Androgyny has also been associated with increased emotional intelligence (Guastello & Guastello, 2003), increased well-being (Wolfram et al., 2009), better adjustment (Lefkowitz & Zeldow, 2006), and better knowledge of how to cope in changing situations (Cheng, 2005). In contrast to androgyny, undifferentiated individuals show low levels of both masculinity and femininity, and this has been associated with negative outcomes such as poor adjustment in adolescence (Wells, 1980) and low levels of self-esteem (Johnson et al., 2006).

Although psychological androgyny is assessed in terms of personality traits, the development of same- and cross-sex skills may factor into the types of traits boys and girls, men and women endorse as self-descriptive. Broader behavioral and emotional skill sets may be important to developing self-efficacy, and played with sex-typed toys such as Barbie may inhibit the development of a broader range of skills.

### **The Present Study**

It is important to examine what girls learn about gender from Barbie, and also what girls learn about race. This study sought to investigate how playing with Barbie informed the gendered content of girls' possible selves, particularly with regard to occupational opportunity. Specifically, this study compared how Barbie in different career outfits informs possible selves

for gender traditional versus gender nontraditional jobs. Race may be more salient than sex in children's categorizations of self and others (Ramsey, 1991). Because role play involves trying out possible selves, role play measures can be used to determine the content of possible selves (Packard & Conway, 2006). This study will focus on girls to the exclusion of boys because the role of possible selves and career aspirations is easily conceptualized with Barbie; future research should look to the effects of boys' toys on the content of their possible selves.

**Hypothesis 1.** It was expected that girls who have more Barbies and may play with Barbie more would have more traditional career aspirations and will endorse more positive attitudes about potential feminine jobs than masculine jobs. It was further expected that these girls would exhibit lesser gender flexibility in their attitudes about who should have a particular job, since Barbie is generally sold in non-career outfits or in gender traditional career outfits.

**Hypothesis 2.** During the free selection of dolls, it was expected that nonwhite children would reason "likeness" based on race more than White children. It was further expected that White children would select White dolls more often than Black dolls.

**Hypothesis 3.** It was predicted that White girls would deny being like dolls dressed in high status, gender nontraditional career outfits on account of their gender, regardless of the race of the doll used to portray an occupation.

**Hypothesis 4.** It was further hypothesized that following exposure to Barbies that constitute stereotype disconfirming models (e.g. a doll with a gender nontraditional occupation), girls would be more likely to say that they could be that occupation as an adult compared to pre-Barbie flexibility for gender nontraditional attitudes, particularly if they identify with the doll. That is, if they viewed the doll and identified with it, they might go on to identify that career as within the content of a possible self more often than if they did not identify with the doll.

## Method

### Participants

Participants were 26 kindergarten and preschool girls (mean age = 4.38 years). The sample was predominantly white (84.6%), however two children were biracial, Black and White, one child was Latina, and one child was Asian. Parents reported information about their employment status and work hours. Most mothers were employed, with 57.7% of mothers reporting full-time employment, 11.5% reporting part-time employment; 30.8% were stay-at-home mothers. All of the fathers in the sample were employed or currently enrolled in law or graduate school.

Participants were recruited from letter sent home to preschool classes and through afterschool programs in a rural Virginia university town, as well as through electronic campus notices at a university. Parents could opt for their child to be tested in the lab or during school or afterschool time when a researcher was scheduled to come to the school. Parents gave informed consent; children gave verbal assent.

### Materials

**Demographics.** A demographic assessment (see Appendix A) was completed by parents to assess basic information about participating children and their backgrounds. Questions included race/ethnicity, age, parents' employment status and occupations, as well as information about previous Barbie exposure. Parental occupations were coded for prestige, using the Duncan Socioeconomic Index (Duncan, 1991), and traditionality, using U.S. census data from the 2007 Household Data Annual Averages (see Table 11 of Bureau of Labor Statistics, 2007). Barbie exposure questions measured exposure to Barbie at home and in the classroom. Questions assessed the total number of Barbies owned, number of nonwhite Barbies owned, number of



career Barbies owned, and hours spent playing with Barbie per week. Free response questions asked about how girls played with their career Barbies, if applicable, in order to assess whether or not girls enacted the career aspect of such dolls in their everyday play.

**Gender-typed interests, attitudes, and behaviors.** The Children: Occupations, Activities, and Traits (COAT; Liben & Bigler, 2002) scale was used to measure gender-typed personal interests (COAT-PM subscale) and attitudes towards others' gender-typed behavior (COAT-AM subscale). Only questions about occupations were used. Pictures of props used as part of the occupations that make up the COAT-AM and -PM subscale questions were used to assist in asking the questions of an age group younger than that for which the COAT scale was primarily intended. This measure uses interview questions to ask who a child believes "should" perform a certain occupation as well as a child's own interest in occupations. Reliability for the COAT-PM was high ( $\alpha = .81$ ); reliability for the COAT-AM was .22. See Appendix B for sample questions and pictures.

Sample items from the COAT-AM used in the present study included "Who should be a dishwasher in a restaurant?" and "Who should be a dental hygienist?" Responses to who should perform certain occupations were "only boys," "only girls," or "both boys and girls." A box system was used, such that participants placed cards for each occupation in a job for "boys only," "girls only," or "boys and girls" so that the task could be more easily understood by such a young age group.

Sample items from the COAT-PM used in the present study included "How much would you want to be a supermarket check-out clerk?" and "How much would you want to be an elevator operator?" Responses were measured on a 1-4 Likert scale from "not at all" to "very much." For very young children, the response options for the present study were modified to ask

about feelings, with the question being posed as “How happy would you be if you were an elevator operator when you grow up?” with 4 smiley faces to point to, from “very happy” to “very sad.”

**Barbie as a possible self.** An interactive measure (see Appendix C) was used to assess the degree to which Barbies of a certain race or occupation represented a girl’s career possible self. Children were shown a doll dressed in a particular career outfit and asked what the doll’s occupation was and if they could do the career the doll was dressed to do. Incorrect responses to career identification questions were corrected. Girls who responded affirmatively to being like a given doll and to being able to perform that career as an adult were said to possess that image as a possible self. Reliability for this Possible Self measure was high ( $\alpha = .82$ ).

Girls for whom a given doll did not constitute a possible self were further probed to determine the source of the mismatch. Girls were asked for the reasoning behind negative responses and also asked “If I know another girl just like you, could she be a \_\_\_?” and “Is she like you?” to determine the larger group with which girls were identifying, whether that was a race or gender group.

### **Procedure**

Informed consent (see Appendix D) was obtained from parents through consent forms sent home with the children or given to parents by teachers. Children were asked for their verbal assent before the testing session. Children were tested individually in a quiet room outside their classroom, or in the lab.

Children were first taken to the testing room and seated at a table with two undressed dolls, one Black and one White. Eight occupation outfits were on the table to dress the dolls with. Four were gender traditional occupations (teacher, ballet dancer, nurse, and hair dresser)

and 4 were gender nontraditional occupations (firefighter, doctor, astronaut, and military).

Children were asked to select the undressed doll that was most "like" them, and then to choose an outfit to dress her with. In order to assure that each outfit was considered, children were asked to count the number of outfits on the table. The doll and the outfit selected were noted.

Children were then given the COAT, administered by a researcher. Ideally this was done at another location away from the doll play. In the lab this was done at another table. When testing was done in preschools, it was administered at another table or on floor space.

Finally, the researcher brought out 6 additional dolls (3 White, 3 Black) and dressed all 8 dolls, mixing race and traditional and nontraditional jobs, and administered the Barbie as a Possible Self measure. The dolls were dressed such that in one condition, two of the four traditional jobs were given to Black dolls and two of the four nontraditional jobs were given to White dolls; in the other condition, race and job traditionality were again counterbalanced, but with different jobs in order to avoid an unintentional effect of any particular doll or outfit. Therefore in each case, all 8 outfits were used and 4 dolls were Black and 4 were White, with gender traditionality and race being mixed (see Appendix E). See Appendix F for the script used.

Children were thanked and given a small prize for participating. Debriefing sheets were sent home to parents (see Appendix G).

## Results

### Preliminary Analysis

**Experience with Barbies and career play.** Parent reports of the number of Barbies that children had at home ranged from zero to 23, with a mean of 5.92 dolls ( $SD = 7.18$ ). Girls had an average of 1.04 ( $SD = 1.74$ ) nonwhite dolls and an average of 0.74 ( $SD = 1.32$ ) career dolls. Parents reported that girls played with Barbies for an average of 1.76 hours per week ( $SD =$

2.28), although that ranged from zero to ten hours, and some parents reported being unable to estimate the hours their daughters spent playing with Barbie. Although 23.1% of parents were unsure, 30.8% of parents reported that their daughters had access to Barbies at school or daycare. Although not all children had Barbie dolls or had career Barbies, 57.7% of parents reported that their daughters played with non-career dolls or other toys in a career-related way, for instance playing “doctor” with stuffed animals.

**Scores on dependent measures.** Scores on the outcome variables are summarized in Table 1. A paired samples *t*-test indicated that girls rated the feminine occupations as more desirable on average than the masculine occupations,  $t(25) = 2.61, p = .01$ . They scored on average below the midpoint of the COAT-AM flexibility scale. Girls reported possessing just over half of the total possible number of Barbie possible selves. This was defined as identifying with the doll and responding affirmatively to the question “can you do that when you grow up?” after identifying the job the doll was dressed to do. A paired samples *t*-test indicated that girls endorsed a greater number of possible selves for gender traditional careers than for nontraditional careers,  $t(25) = 3.14, p = .004$ , but no significant difference emerged in the number of same- and other-race dolls endorsed as possible selves, however,  $t(25) = 0.70, p = .49$ .

**Correlational relationships.** Pearson’s correlations were conducted to check for multicollinearity. COAT-AM flexibility scores were negatively correlated with the number of same-race possible selves that girls possessed ( $r = -.46, n = 26, p = .02$ ). The traditionality of mothers’ and fathers’ jobs was negatively correlated with the COAT-PM score for feminine occupations ( $r = -.42, n = 25, p = .04$  and  $r = -.46, n = 23, p = .03$ , respectively), indicating that girls rating feminine occupations more highly had parents with less traditional careers. The

number of Barbies that girls have at home was negatively associated with the prestige of mothers' jobs ( $r = -.46, n = 24, p = .02$ ) and positively related to the traditionality of mothers' jobs ( $r = .51, n = 23, p = .01$ ). Therefore parents' job traditionality and mothers' job prestige were held constant in analyses involving the COAT-PM and the number of Barbies girls have at home, to control for the effects of parents as models in and of themselves.

### **Hypothesis Testing**

**Hypothesis 1.** It was expected that girls who had more Barbie dolls would have more traditional career aspirations and would endorse more positive attitudes about feminine jobs, and be less gender flexible. A simple regression to examine the association between Barbie exposure at home and the traditionality of girls' desired occupations revealed no significant difference ( $\beta = -.07, p = .76, R^2 = .005$ ). A multiple regression, holding constant parents' job traditionality and mothers job prestige, indicated that the COAT-PM measures did not account for any variance over and above parental job prestige and traditionality in the number of Barbies girls had ( $R^2$  change = .04,  $p = .58$ ). A simple regression to assess the relationship between gender flexibility, the COAT-AM score, and the number of Barbies at home, was not significant ( $\beta = -.10, p = .62, R^2 = .01$ ).

**Hypothesis 2.** During the free selection of dolls, it was expected that nonwhite girls would reason "likeness" based on race more than White girls. It was further expected that White girls would select White dolls more than Black dolls. Although the sample of nonwhite girls in this study was not exclusively comprised of Black girls and was quite small, a chi square analysis was conducted to compare the free selection of the Black or White doll by White and nonwhite girls. No proportional difference was found but this is likely due to insufficient power.

The nonwhite girls selected the Black doll two times and the White doll two times, and the White girls selected the Black doll six times and the White doll 16 times,  $\chi^2 = 0.82$   $df = 1$ ,  $p = .36$ .

The possible selves measure was broken down to analyze how girls reasoned "likeness." Girls' responses to the follow-up question "why is she like you?" were coded into the following categories: those related to skin, those related to hair (e.g. color or length), those referring to another physical trait (e.g. eyes or lips), those related to clothing (e.g. color), and other (e.g. "we both pray before snack time" or "she likes me"). Frequency counts split by race reveal that for White children, 45.78% of the time they reasoned likeness based on hair, 20.48% of the time they reasoned based on clothing, 12.65% of the time they reasoned based on skin, 10.84% of the time they reasoned based on another physical trait, and 10.24% of the time they reasoned based on another category. In contrast, nonwhite girls reasoned based on clothing 41.38% of the time, skin fully 37.93% of the time, and hair or another physically trait equally 10.34% each. See Figure 1 for this comparison.

**Hypothesis 3.** It was hypothesized that White girls would deny being like dolls dressed in nontraditional career outfits, due to reasoning based on their gender and regardless of the race of the doll. As already discussed in the preliminary analysis of Barbie possible selves, there was a significant difference in the number of gender traditional career possible selves that girls reported possessing and the number of gender nontraditional career possible selves, however there was no significant difference in the number of same-race and other-race possible selves. To examine how girls identified with dolls, paired samples *t*-tests were conducted to compare how often girls endorsed being "like" a doll in a gender traditional versus nontraditional career outfit, and how often girls endorsed being like a Black or White doll. Responses to the question "Is she like you" for the gender traditional jobs were summed and responses to the same question for the

gender nontraditional jobs were summed, and both were entered in the paired samples test. This analysis found a significant difference such that girls more often endorsed being like a doll in a gender traditional career outfit ( $M = 2.88, SD = 1.14$ ) than a doll in a nontraditional career outfit ( $M = 2.46, SD = 1.53$ ),  $t(25) = 2.10, p = .046$ .

Responses to the same question for the Black dolls and for the White dolls across the two conditions were also summed and entered into a paired samples test. This analysis revealed that girls more frequently endorsed being like the White doll ( $M = 3.04, SD = 1.34$ ) than the Black doll ( $M = 2.31, SD = 1.69$ ),  $t(25) = 2.12, p = .04$ . It is important to remember that the sample was 84.6% white and that no significant difference was found between the number of same- and other-race possible selves that girls possessed.

As already discussed, the possible selves measure was broken down to analyze the reasons that girls did or did not identify with a doll. See Figure 1 for the comparison of White and nonwhite girls' responses to the question "why is she like you?" in the coded categories of: those related to skin, those related to hair (e.g. color or length), those referring to another physical trait (e.g. eyes or lips), those related to clothing (e.g. color), and other (e.g. "we both pray before snack time" or "she likes me"). As expected, nonwhite girls reasoned likeness based on skin 37.93% of the time, versus White girls who reasoned likeness based on skin only 12.65% of the time.

**Hypothesis 4.** Finally, it was hypothesized that girls would be more likely to say they could engage in a nontraditional occupation as an adult after viewing the Barbies in nontraditional career outfits as part of the Barbie as a Possible Self measure. To test this, the subscore of the COAT-AM flexibility score pertaining only to the masculine items was calculated. This score was compared to the proportion of nontraditional career Barbie careers

that girls reported being able to engage in as adults during the Barbie as Possible Self measure in a paired samples *t*-test. Following exposure to the stereotype disconfirming models of the Barbies in gender nontraditional jobs, girls reported being able to engage in a greater proportion of nontraditional jobs ( $M = .80, SD = 0.30$ ) than the proportion of masculine jobs on the COAT-AM that they said both men and women could hold ( $M = .43, SD = 0.25$ ),  $t(24) = 4.40, p = .000$ .

It was particularly expected that girls would report being able to engage in a gender nontraditional occupation as an adult if they identified with the doll portraying that occupation. A paired samples *t*-test was conducted to compare the number of times that girls endorsed identifying with a doll in a nontraditional career outfit with the number of times that girls said they could do any of those four gender nontraditional jobs. Contrary to expectations, girls actually said they could engage in a nontraditional career more often ( $M = 3.21, SD = 1.22$ ) than they said they were like a doll dressed in a nontraditional career outfit ( $M = 2.33, SD = 1.52$ ),  $t(23) = 2.95, p = .01$ .

### Discussion

Contrary to expectations, possessing a greater number of Barbies was not predictive of more traditional career aspirations in girls, lesser gender flexibility, or more positive attitudes about traditionally feminine jobs. Although the difference was not statistically significant, White and nonwhite girls selected the Black and White dolls in different numbers; it was expected that nonwhite children reason "likeness" based on the more personally salient category of race and that White girls would select White dolls more often than Black ones. As expected, girls more frequently endorsed being like a doll in a gender traditional outfit; however the reasoning they gave for this identification was not based on the job the doll portrayed. Moreover, girls more frequently endorsed being like the White doll; however the reasoning for the identification for



White girls was most often based on hair or clothing while for nonwhite girls, the identification was most often based on clothing or skin. Finally, as predicted, girls endorsed greater belief in their ability to engage in nontraditional jobs after exposure to the counterstereotypic model of Barbie in gender nontraditional job clothing than before.

Parents' job traditionality and mothers' job prestige were correlated with scores on feminine items for the COAT-PM and on the number of Barbies girls have at home. Parents in very traditional jobs and mothers in low prestige jobs, historically confounded with highly traditional feminine jobs, may be more likely to purchase dolls for their child. They also themselves constitute a model of traditionality for their children, which may influence the content and number of possible selves that their children possess.

#### **Factors that Influence "Likeness"**

Although the difference was not statistically significant, the White and nonwhite children selected Black and White dolls in descriptively different proportions, with the White children selecting the White doll more frequently than the Black doll. The reasoning that girls gave for judging likeness differed between the two groups. For White girls, hair and aspects of clothing were most important, while for nonwhite girls, skin and aspects of clothing were paramount. This suggests that skin color or race may be a more salient category for nonwhite children living in a majority White society. Interestingly, brunette White girls often indicated the Black dolls were like them, and the White dolls were not, because the Black dolls had brown hair and the White dolls were blonde. However, this response was not uniform for all brunette girls. It is also possible that White children were using hair color as a proxy to talk about race, if they were aware that race is something of a taboo subject for discussion.

As anticipated, this majority-White sample identified more frequently with dolls in gender traditional career outfits, and endorsed more of the gender traditional Barbie possible selves than the nontraditional career Barbie possible selves. These findings are of particular interest because in the reasons girls gave for evaluating likeness, they did not discuss the careers the dolls were dressed to perform. Even when girls mentioned the dolls' outfits, the comments were often about color or similarity to their own (e.g. "she is wearing blue and I like blue"). Thus there appears to be an effect of the doll's career, since girls identified more often with dolls in gender traditional career outfits than gender nontraditional career outfits, but girls are not identifying or discussing this effect.

### **Career Barbie as a Counterstereotypic Model**

As hypothesized, girls were more likely after viewing the counterstereotypic model of Barbie in a gender nontraditional career outfit to affirm being able to engage in a gender nontraditional occupation as an adult. This increase was measured by the proportion of stereotypically masculine (gender nontraditional) jobs that girls said both men and women could engage in on the COAT-AM compared to the proportion of gender nontraditional jobs Barbie portrayed that girls affirmed being able to engage in as adults. Moreover, girls did not need to identify with the doll in the nontraditional career to believe they could do the nontraditional career the doll was dressed to perform, contrary to expectations. These data suggest that Barbie as a toy serves as a model in and of itself. These data further suggest that Barbie in a gender nontraditional career outfit, serving as a stereotype disconfirming model, may at least temporarily boost self-efficacy.

However, these results must be interpreted with caution. Most Barbies available are not such stereotype disconfirming models as the four Barbies in this study dressed in gender

nontraditional career outfits. Such stereotype disconfirming career dolls are not themselves readily available either (Coyle, 2008). In fact, Barbie exposure even to dolls stereotype disconfirming in dress may still be harmful due to the unrealistic body they model (Dittmar et al., 2006). The tradeoff between teaching about self-efficacy but heightening the focus on appearance may not be a healthy or worthwhile exchange.

Moreover, playing only or primarily with Barbie dolls could result in a high degree of sex-typing, limiting the range of skills that girls develop. Importantly, Barbie is not the only mode by which girls can learn about gender nontraditional careers and play with them, but Barbie does encode a host of sex-typed messages. Many mothers (57.7%) in this study reported that their daughters played with non-career dolls or toys in career-type play. So, a stereotype disconfirming Barbie in career clothes may not be absolutely necessary to expanding girls' perceptions of what they can do; this may be a message that can be taught through other toys with a less loaded message than Barbie's.

### **Limitations**

One limitation of the present study was the sample utilized. It was both small overall and too small in each of the two categories, White and nonwhite. Moreover, the nonwhite comparison group included girls of a variety of racial and ethnic backgrounds although the comparison dolls used in the study were exclusively Black. The nonwhite sample included adopted and biracial children as well, living in a rural white town; this sample itself is likely unrepresentative of nonwhite samples elsewhere and thus these children cannot be expected to experience the same development of racial identity. The overall sample also included an oversampling of parents who were professors, and their children. Future studies should include a larger sample with a broader sampling of socioeconomic backgrounds and types of households.

## Implications and Conclusions

The present study demonstrates that exposure to Barbie dolls in gender nontraditional career outfits may expand girls' belief about their ability to engage in such gender nontraditional careers. In this particular application, Barbie may have a positive effect. But since these dolls are not the norm for Barbie and since Barbie may have other negative effects, the solution is likely not to simply market Barbie in gender nontraditional career outfits at a higher rate. However, it is apparent that Mattel has an important hold on the toy market for little girls (Steinburg, 2004), and it may be a change that has to come from within Mattel; for instance marketing dolls with more gender nontraditional activities generally, but also marketing dolls with more realistic, less sexualized bodies. Perhaps if Barbie is still called Barbie, Mattel can make the change that niche-specific dolls have attempted but failed in the popularity contest of toy marketing.

Future studies should look at a larger nonwhite sample to assess what factors into a stereotype disconfirming toy for a nonwhite child; for instance is race a necessary facet? Future studies should also look at boys and typically male toys to assess what boys are learning from their toys. Action figures are similarly unrealistic representations of the human form and may have the negative effects on body image that Barbies do; they also have the potential to promote sex-typed play at the expense of developing broader skills. Preadolescent boys recognize that the new figures are more muscular and rate them as healthier and more preferable than the older, less muscular versions of the same character (Baghurst, Carlston, Wood, & Wyatt, 2007). Moreover, males who played with highly muscular action figures had lower body esteem and body image esteem than males who manipulated less muscular figures (Barlett, Harris, Smith, & Bonds-Raacke, 2005).

Playing with gender nontraditional career Barbies may be positive within a particular scope. Most importantly, the present study suggests that toys themselves indeed serve as models and that children look to their toys for messages about gender not simply in terms of developing skills and competencies but also in terms of ideations about self-efficacy and to inform the content of possible selves. Therefore parents need to consider this aspect of learning from toys when selecting toys for their children, and toy companies should incorporate this learning into their toy designs by avoiding sex-typed messages in toys. Toys may be models as much as they are playthings, so access to stereotype disconfirming models in play is critical.

## References

- Baghurst, T., Carlston, D., Wood, J., & Wyatt, F. B. (2007). Preadolescent male perceptions of action figure physiques. *Journal of Adolescent Health, 41*, 613-615.
- Bandura, A. (1986). *Social foundations of thought and action: A social cognitive theory*. Englewood Cliffs, NJ: Prentice-Hall.
- Bandura, A., Barbaranelli, C., Caprara, G. V., & Pastorelli, C. (2001). Self-efficacy beliefs as shapers of children's aspirations and career trajectories. *Child Development, 72*, 187-206.
- Barlett, C., Harris, R., Smith, S., & Bonds-Raacke, J. (2005). Action figures and men. *Sex Roles, 53*, 877-885.
- Bigler, R., Averhart, C., & Liben, L. (2003). Race and the workforce: Occupational status, aspirations, and stereotyping among African American children. *Developmental Psychology, 39*, 572-580.
- Brown, M., Eisenberg, A., & Sawilowsky, S. (1997). Traditionality and the discriminating effect of expectations of occupational success and occupational values for women within math-oriented fields. *Journal of Vocational Behavior, 50*, 418-431.
- Bureau of Labor Statistics (2001). Household Data Annual Averages. Table 11: Employed persons by detailed occupation, sex, race, and Hispanic origin, (online) Available: [www.bls.gov/cps/cpsaat11.pdf](http://www.bls.gov/cps/cpsaat11.pdf).
- Bussey, K., & Bandura, (1999). A. Social cognitive theory of gender development and differentiation. *Psychological Review, 106*, 676-713.
- Case-Smith, J., & Kuhaneck, H. (2008). Play preferences of typically developing children and children with developmental delays between ages 3 and 7 years. *Occupation Therapy Journal of Research, 28*, 19-29.

- Cheng, C. (2005). Processes underlying gender-role flexibility: Do androgynous individuals know more or know how to cope? *Journal of Personality, 73*, 645-673.
- Coyle, E. (2008, March). *Towards more intelligent play: Barbie in a multiethnic society*. Paper presented at the annual meeting of the Southern Anthropological Society, Staunton, VA.
- Curry, C., Trew, K., Turner, I., & Hunter, J. (1994). The effect of life domains on girls' possible selves. *Adolescence, 29*, 133-150.
- Davey, F. H., & Stoppard, J. (1993). Some factors affecting the occupational expectations of female adolescents. *Journal of Vocational Behavior, 43*, 235-250.
- Dittmar, H., Halliwell, E., & Ive, S. (2006). Does Barbie make girls want to be thin? The effect of experimental exposure to images of dolls on the body image of 5- to 8-year-old girls. *Developmental Psychology, 42*, 283-292.
- Duncan, O. D. (1991). Socioeconomic Index. In Miller, D. C. (Ed.), *Handbook of Research Design and Social Measurement* (5th ed.). Newbury Park, CA: Sage.
- Erikson, M. (2007). The meaning of the future: Toward a more specific definition of possible selves. *Review of General Psychology, 11*, 348-358.
- Gottfredson, L., & Lapan, R. (1997). Assessing gender-based circumscription of occupational aspirations. *Journal of Career Assessment, 5*(4), 419-441.
- Green, V., Bigler, R., & Catherwood, D. (2004). The variability and flexibility of gender-typed toy play: A close look at children's behavioral responses to counterstereotypic models. *Sex Roles, 51*, 371-386.
- Guastello, D. D., & Guastello, S. J. (2003). Androgyny, gender role behavior, and emotional intelligence among college students and their parents. *Sex Roles, 49*, 663-673.
- Hoyle, R., & Sherrill, M. (2006). Future orientation in the self-system: Possible selves, self-

regulation, and behavior. *Journal of Personality*, 74, 1673-1696.

Johnson, H. D., McNair, R., Vojick, A., Congdon, D., Monacelli, J., & Lamont, J. (2006).

Categorical and continuous measurement of sex-role orientation: Differences in associations with young adults' reports of well-being. *Social Behavior and Personality*, 34, 59-76.

Kerpelman, J., Shoffner, M., & Ross-Griffin, S. (2002). African American mothers' and daughters' beliefs about possible selves and their strategies for reaching the adolescents' future academic and career goals. *Journal of Youth and Adolescence*, 31, 289-302.

Knox, M., Funk, J., Elliott, R., & Bush, E. (1998). Adolescents' possible selves and their relationship to global self-esteem. *Sex Roles*, 39, 61-80.

Kowalski, K. (1998). The impact of vicarious exposure to diversity on preschooler's emerging ethnic/racial attitudes. *Early Child Development and Care*, 146, 41-51.

Kuther, T., & McDonald, E. (2004). Early adolescents' experiences with, and views of, Barbie. *Adolescence*, 39, 39-51.

Kyrtziz, A. (1999). Narrative identity: Preschooler's self-construction through narrative in same-sex friendship group dramatic play. *Narrative Inquiry*, 9, 427-455.

Lefkowitz, E. S., & Zeldow, P. B. (2006). Masculinity and femininity predict optimal mental health : A belated test of the androgyny hypothesis. *Journal of Personality Assessment*, 87, 95-101.

Lent, R., Brown, S., & Hackett, G. (2000). Contextual supports and barriers to career choice: A social cognitive analysis. *Journal of Counseling Psychology*, 47, 36-49.

Liben, L., S. & Bigler, R. S. (2002). The developmental course of gender differentiation:



Conceptualizing, measuring, and evaluating constructs and pathways. *Monographs of the Society for Research in Child Development*, 67(2, serial no. 269).

Markus, H., & Nurius, P. (1986). Possible selves. *American Psychologist*, 41, 954-969.

Nielsen, M., & Christie, T. (2008). Adult modeling facilitates young children's generation of novel pretend acts. *Infant and Child Development*, 17, 151-162.

O'Brien, K., & Fassinger, R. (1993). A causal model of the career orientation and career choice of adolescent women. *Journal of Counseling Psychology*, 40, 456-469.

Oyserman, D., & Fryberg, S. (2006). The possible selves of diverse adolescents: Content and function across gender, race, and national origin. In C. Dunkel & J. Kerpelman (Eds.), *Possible Selves: Theory, Research, and Application* (pp. 17-39). Hauppauge, NY: Nova Science Publishers.

Packard, B., & Conway, P. (2006). Methodological choice and its consequences for possible selves research. *Identity*, 6, 251-271.

Ramsey, P. (1991). The salience of race in young children growing up in an all-White community. *Journal of Educational Psychology*, 83, 28-34.

Renninger, C., & Williams, J. (1966). Black-White color connotations and racial awareness in preschool children. *Perceptual and Motor Skills*, 22, 771-785.

Robinson, B., Davis, K., & Meara, N. (2003). Motivational attributes of occupational possible selves for low-income rural women. *Journal of Counseling Psychology*, 50, 156-164.

Shepard, B. (2004). In search of self: A qualitative study of the life-career development of rural young women. *Canadian Journal of Counselling*, 38, 75-90.

Spencer, M. (1984). Black children's race awareness, racial attitudes, and self-concept: A reinterpretation. *Journal of Child Psychology and Psychiatry*, 25, 433-441.

Steinburg, S. (2004). The bitch who has everything. In S. Steinberg & J. Kincheloe (Eds.),

*Kinderculture: The Corporate Construction of Childhood* (pp. 207-218). Boulder, CO:

Westview Press.

Stevenson, H., & Stewart, E. (1958). A developmental study of racial awareness in young

children. *Child Development*, 29, 399-409.

Stockard, J., & McGee, J. (1990). Children's occupational preferences: The influence of sex and

perceptions of occupational characteristics. *Journal of Vocational Behavior*, 36, 287-303.

Stokes, J., Childs, L., & Fuehrer, A. (1981). Gender and sex roles as predictors of self-disclosure.

*Journal of Counseling Psychology*, 28, 510-514.

Terrell, F., Terrell, S., & Miller, F. (1993). Level of cultural mistrust as a function of educational

and occupational aspirations among Black students. *Adolescence*, 28, 573-578.

Turkel, A.-R. (1998). All about Barbie: Distortions of a transitional object. *Journal of the*

*American Academy of Psychoanalysis*, 26, 165-177.

Wells, K. (1980). Gender-role identity and psychological adjustment in adolescence. *Journal of*

*Youth and Adolescence*, 9, 59-73.

Wolfram, H., Mohr, G., & Borchert, J. (2009). Gender role self-concept, gender-role conflict,

and well-being in male primary school teachers. *Sex Roles*, 60, 114-127.

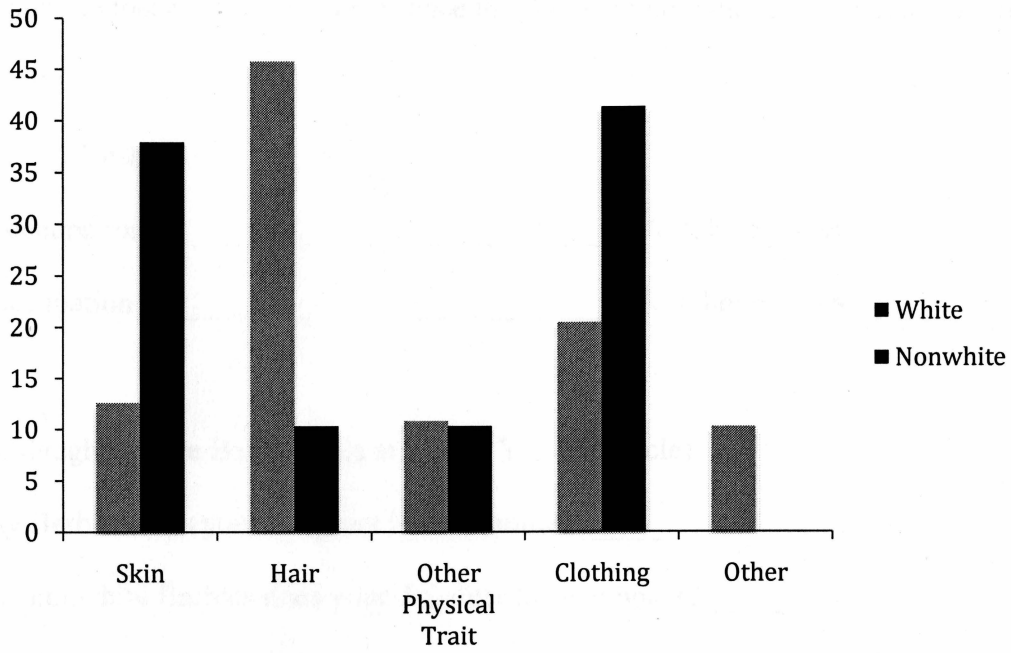
Table 1

*Summary of Scores on Dependant Measures*

	Min	Max	<i>M</i>	<i>SD</i>
COAT-PM (feminine items)	1.00	2.80	1.60	0.39
COAT-PM (masculine items)	1.00	2.80	1.84	0.48
COAT-AM Flexibility	.00	1.00	.42	0.23
Total Barbie possible selves	1	8	5	2.58
Gender traditional career possible selves			2.84	1.19
Gender nontraditional career possible selves			2.15	1.59
Same-race possible selves			2.62	1.47
Other-race possible selves			2.38	1.60

*Note.* The COAT-PM had a possible range from 1 to 4. The COAT-AM had a possible range from 0 to 1. The Barbie possible selves had a possible range from 1 to 8, with 4 gender traditional possible selves, 4 nontraditional possible selves, 4 same-race possible selves, and 4 other-race possible selves.

Figure 1. The types of reasoning applied in assessing identification with Black and White Barbies, by White and nonwhite girls.



## Appendix A

## Parent Demographic Questionnaire

Please respond to these questions in reference to your daughter who is participating in this study.

Race/ethnicity: \_\_\_\_\_

Age: \_\_\_\_\_, Birthday \_\_\_ / \_\_\_ / \_\_\_\_\_

Mother's occupation \_\_\_\_\_ Work hours/week \_\_\_\_\_

Father's occupation \_\_\_\_\_ Work hours/week \_\_\_\_\_

Does your daughter have Barbie dolls at home? Y / N (circle)

How many Barbies does your daughter have at home? \_\_\_\_\_

How many nonwhite Barbies does your daughter have at home? \_\_\_\_\_

How many career Barbies does your daughter have at home? \_\_\_\_\_

How many hours per week does your daughter spend playing with Barbie dolls? \_\_\_\_\_

Does your daughter have access to Barbie dolls at school or daycare? Y / N (circle)

Please indicate (if applicable) how your daughter plays with her career dolls (e.g. does she engage in career-related play). Does your daughter engage in career-related play with non-career Barbie dolls? \_\_\_\_\_

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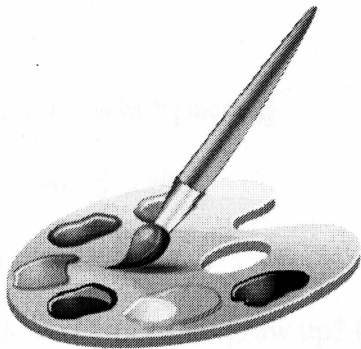
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Appendix B

Children: Occupations, Activities, and Traits Scale (sample questions)

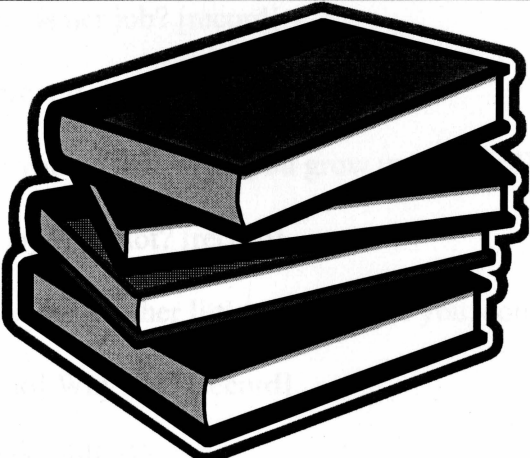
COAT-PM

“How happy would you be if you were an artist when you grow up?”

	<p>An artist paints pictures.</p>
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COAT-AM

“Who should be a librarian?”

	<p>A librarian helps you find books in the library.</p>
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Appendix C

Barbie as a Possible Self (script)

Let's play with the dolls again. Now it is my turn to get them dressed!

[dress according to condition]

I have some questions for you about these dolls.

[show doll #1]

Is she like you? Why? [record]

What is her job? [record]

[correct if necessary]

Can you do that when you grow up? [record]

[if no] Why not? [record]

If I know another little girl just like you, could she do that? [record]

[if no] Why not? [record]

[show doll #2]

Is she like you? Why? [record]

What is her job? [record]

[correct if necessary]

Can you do that when you grow up? [record]

[if no] Why not? [record]

If I know another little girl just like you, could she do that? [record]

[if no] Why not? [record]

[show doll #3]

Is she like you? Why? [record]

What is her job? [record]

[correct if necessary]

Can you do that when you grow up? [record]

[if no] Why not? [record]

If I know another little girl just like you, could she do that? [record]

[if no] Why not? [record]

[show doll #4]

Is she like you? Why? [record]

What is her job? [record]

[correct if necessary]

Can you do that when you grow up? [record]

[if no] Why not? [record]

If I know another little girl just like you, could she do that? [record]

[if no] Why not? [record]

[show doll #5]

Is she like you? Why? [record]

What is her job? [record]

[correct if necessary]

Can you do that when you grow up? [record]

[if no] Why not? [record]

If I know another little girl just like you, could she do that? [record]

[if no] Why not? [record]

[show doll #6]



Is she like you? Why? [record]

What is her job? [record]

[correct if necessary]

Can you do that when you grow up? [record]

[if no] Why not? [record]

If I know another little girl just like you, could she do that? [record]

[if no] Why not? [record]

[show doll #7]

Is she like you? Why? [record]

What is her job? [record]

[correct if necessary]

Can you do that when you grow up? [record]

[if no] Why not? [record]

If I know another little girl just like you, could she do that? [record]

[if no] Why not? [record]

[show doll #8]

Is she like you? Why? [record]

What is her job? [record]

[correct if necessary]

Can you do that when you grow up? [record]

[if no] Why not? [record]

If I know another little girl just like you, could she do that? [record]

[if no] Why not? [record]

## Appendix D

## CONSENT TO PARTICIPATE IN HUMAN RESEARCH PROJECT

Washington and Lee University

Barbie and Occupational Aspirations

Researcher: Emily Coyle, [coylee10@mail.wlu.edu](mailto:coylee10@mail.wlu.edu), Psychology Honors Thesis, 206-618-2261  
Supervising Faculty: Dr. Megan Fulcher, [fulcherm@wlu.edu](mailto:fulcherm@wlu.edu), 540-458-8107

You have been asked to participate, and you have been asked to allow your child to participate, in a research study at Washington and Lee University. The purpose of this study is to examine girls' career aspirations and how girls play with career-related Barbie dolls.

The purpose of this study, in terms of your and your child's participation, as well as any expected risks and benefits, must be fully explained to you before you sign this form and give your consent.

You will be asked to complete a demographic questionnaire about your child. Your child will be asked to play freely with Barbie dolls and then asked specific questions about occupational aspirations, using the Barbies as visual models. Your child will also answer questions about personal interests and attitudes related to gender. There are no foreseeable risks to you or your child.

Participation in research is entirely voluntary and there is no monetary compensation for participating. You may refuse to participate or to allow your child to participate or may withdraw you or your child from participation at any time without penalty.

The investigator may withdraw you or your child from participation at his/her professional discretion.

If, during the course of this study, significant new information becomes available, which may relate to your willingness to continue to participate or to have your child participate, this information will be provided to you by the investigator.

Any information derived from this research project which personally identifies you or your child will not be voluntarily released or disclosed without your separate consent, except as specifically required by law.

If at any time you have questions regarding this research or you or your child's participation in it, you should contact the investigator or his/her assistants at the numbers above who must answer your questions.

If, at any time, you have questions regarding the conduct of this research or if you wish to discuss you or your child's rights as a research participant, you may contact Wythe Whiting, the IRB Chairperson at 540-458-8210 or [whitingw@wlu.edu](mailto:whitingw@wlu.edu).

You will be given a copy of this consent form to keep.

I consent for my child, \_\_\_\_\_, to participate in this study.

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Signature of Parent/Legal Guardian

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Date

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Signature of Investigator

Date

## Appendix E

## Two Conditions

Job	Traditional				Nontraditional			
	Nurse	Ballet dancer	Teacher	Hair dresser	Army	Doctor	Astronaut	Firefighter
Condition 1	W	W	B	B	W	W	B	B
Condition 2	B	B	W	W	B	B	W	W

## Appendix F

## Procedural Script

Hi, my name is Emily. I'm doing some homework and I need your help. I'm interested in what kids think. Does that sound like fun? Let's play and answer some questions! I'm going to write down some answers because it helps me remember what you are saying.

What's your name? \_\_\_\_\_

How old are you? \_\_\_\_\_

Where do you go to school? \_\_\_\_\_

What do you want to be when you grow up? \_\_\_\_\_

Here are two dolls. Can you show me which doll is like you?

B / W

Here are a lot of clothes! Can you pick something for your doll to wear?

What do you like best about her outfit? \_\_\_\_\_

Why? \_\_\_\_\_

Do you know what job she does? [correct if necessary] correct Y / N

Ok, now I will show you some pictures and ask you some questions.

We will do some practice questions first. I'm going to ask you about activities. If they would make you really happy, point to the big smiley face. If they would make you a little happy, point to this smiley face [point]. If they would make you really sad, point to the big frowny face. If they would make you a little sad, point to this face [point].

Let's practice. How much would you want to eat ice cream? How much would you want to fall off your bike?

Very good!

I am going to give you a list of jobs people can do. Can you point to the (face) to tell me how you would feel if you did that when you grow up?

How would you feel if you were a:

1. Supermarket check-out clerk	1	2	3	4
2. artist	1	2	3	4
3. perfume salesperson	1	2	3	4
4. elevator operator	1	2	3	4
5. jockey	1	2	3	4
6. librarian	1	2	3	4
7. cheerleader	1	2	3	4
8. cook in a restaurant	1	2	3	4
9. secretary	1	2	3	4
10. nurse	1	2	3	4
11. banker	1	2	3	4
12. writer	1	2	3	4
13. geographer	1	2	3	4
14. lawyer	1	2	3	4
15. hairstylist	1	2	3	4
16. construction worker	1	2	3	4
17. scientist	1	2	3	4
18. baker	1	2	3	4
19. computer builder	1	2	3	4
20. architect	1	2	3	4
21. dental assistant	1	2	3	4
22. ship captain	1	2	3	4
23. spy	1	2	3	4
24. jewelry maker	1	2	3	4
25. florist	1	2	3	4

Very good!

Now we're going to answer a different kind of question. I'm going to ask you who does an activity: boys, girls, or boys and girls. If boys do it, put the card in this box [point]. If girls do it, put the card in this box [point]. If both boys and girls do it, put the card in this box [point]. Let's practice again. Who wears dresses? Who wears a suit and tie? Who eats food?

Very good!

Who should do these jobs? I am going to give you another list of jobs. I want you to tell me if you think each job should be done only by boys, only by girls, or by both boys and girls. There are no right or wrong answers, I just want to know who you think should do these jobs.

Who should be a:

1. dishwasher in a restaurant	B	B/G	G
2. supermarket check-out clerk	B	B/G	G
3. artist	B	B/G	G
4. house cleaner	B	B/G	G
5. telephone operator	B	B/G	G
6. school principle	B	B/G	G
7. librarian	B	B/G	G
8. cook in a restaurant	B	B/G	G
9. babysitter	B	B/G	G
10. secretary	B	B/G	G
11. plumber	B	B/G	G
12. nurse	B	B/G	G
13. factory owner	B	B/G	G
14. hairstylist	B	B/G	G
15. scientist	B	B/G	G
16. baker	B	B/G	G
17. police officer	B	B/G	G
18. computer builder	B	B/G	G
19. architect	B	B/G	G
20. dentist	B	B/G	G
21. comedian	B	B/G	G
22. dental assistant	B	B/G	G
23. ship captain	B	B/G	G
24. spy	B	B/G	G
25. florist	B	B/G	G

Let's play with the dolls again. Now it is my turn to get them dressed!

[dress according to condition]

I have some questions for you about these dolls.

(B hair): Is she like you? Y / N Why? \_\_\_\_\_

\_\_\_\_\_

What is her job? \_\_\_\_\_

[correct if necessary]

Can you do that when you grow up? Y / N

[if no] Why not? \_\_\_\_\_

\_\_\_\_\_

Can people like you do that? Y / N

[if no] Why not? \_\_\_\_\_

\_\_\_\_\_

(W doc): Is she like you? Y / N Why? \_\_\_\_\_

\_\_\_\_\_

What is her job? \_\_\_\_\_

[correct if necessary]

Can you do that when you grow up? Y / N

[if no] Why not? \_\_\_\_\_

\_\_\_\_\_

Can people like you do that? Y / N

[if no] Why not? \_\_\_\_\_

\_\_\_\_\_

(B astro): Is she like you? Y / N Why? \_\_\_\_\_

\_\_\_\_\_

What is her job? \_\_\_\_\_

[correct if necessary]

Can you do that when you grow up? Y / N

[if no] Why not? \_\_\_\_\_

\_\_\_\_\_



Can people like you do that? Y / N

[if no] Why not? \_\_\_\_\_

(W nurse): Is she like you? Y / N Why? \_\_\_\_\_

What is her job? \_\_\_\_\_

[correct if necessary]

Can you do that when you grow up? Y / N

[if no] Why not? \_\_\_\_\_

Can people like you do that? Y / N

[if no] Why not? \_\_\_\_\_

(B teach): Is she like you? Y / N Why? \_\_\_\_\_

What is her job? \_\_\_\_\_

[correct if necessary]

Can you do that when you grow up? Y / N

[if no] Why not? \_\_\_\_\_

Can people like you do that? Y / N

[if no] Why not? \_\_\_\_\_

(W army): Is she like you? Y / N Why? \_\_\_\_\_

\_\_\_\_\_

What is her job? \_\_\_\_\_

[correct if necessary]

Can you do that when you grow up? Y / N

[if no] Why not? \_\_\_\_\_

\_\_\_\_\_

Can people like you do that? Y / N

[if no] Why not? \_\_\_\_\_

\_\_\_\_\_

(B fire): Is she like you? Y / N Why? \_\_\_\_\_

\_\_\_\_\_

What is her job? \_\_\_\_\_

[correct if necessary]

Can you do that when you grow up? Y / N

[if no] Why not? \_\_\_\_\_

\_\_\_\_\_

Can people like you do that? Y / N

[if no] Why not? \_\_\_\_\_

\_\_\_\_\_

(W ballet): Is she like you? Y / N Why? \_\_\_\_\_

\_\_\_\_\_

What is her job? \_\_\_\_\_

[correct if necessary]

Can you do that when you grow up? Y / N

[if no] Why not? \_\_\_\_\_

\_\_\_\_\_

Can people like you do that? Y / N

[if no] Why not? \_\_\_\_\_

\_\_\_\_\_

Very good! Remember, boys and girls can be anything when they grow up. They can play any kind of game and act any kind of way. Thank you so much for your help today! I have a prize for you for helping me, can you come pick out which one you want?

[give toy box]

## Appendix G

## Debriefing Sheet for Parents

Thank you so much for letting your child participate in this research! This study looked at the effects of Black and White Barbie dolls in gender traditional and gender nontraditional career outfits. Your child was asked what they want to be when they grow up and asked specific questions about different dolls in different outfits.

It is expected that preschool and kindergarten girls are already aware of and sensitive to their gender, and that gender may be an important basis for reasoning and decision-making; race may also already serve a similar purpose for nonwhite girls of this age group. Research suggests that girls of this age group are already aware of cultural and social biases against groups based on race and gender which limit what jobs women and minorities hold. Girls may apply this knowledge when deciding what kind of job they want to have when they grow up, even at this very young age. The present study may therefore have applications to the role that toys can play in encouraging girls to consider a wide range of career opportunities that they may otherwise be ruling out as young as five to six years old.

It is hoped that the results of this research will help us better understand the effect that toys have on career aspirations and possible selves. Hopefully, this will help parents make more informed decisions about what toys to buy and will help toymakers to create and market socially responsible toys.

If you have any questions about this research or your child's participation, please contact me ([coylee10@mail.wlu.edu](mailto:coylee10@mail.wlu.edu); 206-618-2261) or my advisor, Dr. Megan Fulcher ([fulcherm@wlu.edu](mailto:fulcherm@wlu.edu); 540-458-8107).

Sincerely,

Emily Coyle