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SEX ROLE TYPE AS A PREDICTOR OF GENDER STEREOTYPE USE IN THE
EVALUATION OF OTHERS:
DOES BEING ATYPICAL PRECLUDE SEX TYPING OF OTHERS?

A Thesis

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In Partial Fulfillment

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Master of Arts

by

Jennifer L. Miller

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EVALUATION OF OTHERS: DOES BEING ATYPICAL PRECLUDE SEX TYPING
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ABSTRACT

SEX ROLE TYPE AS A PREDICTOR OF GENDER STEREOTYPE USE IN THE
EVALUATION OF OTHERS: DOES BEING ATYPICAL PRECLUDE SEX TYPING
OF OTHERS?

By Jennifer L. Miller

The purpose of this investigation was to see if sex role adherence could be used to predict gender stereotype use when viewing children. This was tested using a conceptual replication of an influential gender label study by Condry and Condry in which participants viewed a video of a baby crying in response to a startling event. Contrary to the Condry findings, this study found that participant perception of why a baby was crying was not consistent with the gender label given (consistent, being angry for the boy label and fearful for the girl label). Participant ratings did not vary significantly based on the gender label. Also measured in this investigation was participant sex role orientation, with the expectation that it would moderate the impact of the boy/girl label on perception. Sex role did not appear to have an effect on ratings with the exception of androgynous types who did rate emotion as stronger in general, but their ratings were not significantly different from those of other sex types when gender label was considered. Results indicated that androgynous types are well-adjusted and that undifferentiated types may have some maladjustment compared to the other sex roles.

ACKNOWLEDGMENTS

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Introduction

Many Americans think of gender in stereotypical ways: It is common to think of men as having masculine behavior attributes and mostly lacking feminine ones, and women as having feminine behavior attributes and mostly lacking masculine ones (Bem 1993; Bussey & Bandura, 1999; Goffman, 1963; Leaper, 2007). For example, men are often thought to be athletic but not graceful and women to be graceful but not athletic. Because men often appear athletic, it is stereotypically assumed that all men are athletic, even those who are not. Those kinds of gender-stereotype assumptions lead Americans to encourage boys and girls to participate only in those activities that fit the stereotypes (Bem, 1993; Goffman, 1963). For example, boys are encouraged to be athletic and discouraged from participating in activities such as ballet, and girls are encouraged to be graceful and discouraged from participating in activities such as football. By encouraging and discouraging children's gendered behavior, we convey to them the rules for gender expression.

Some people vary from the norm on one or more gender-typical attributes, such as a man who is a graceful dancer or a woman who is a skilled football player. Such people may be reflecting a lack of personal adherence to gender stereotypes. A person with non-normative personal behavior might in turn be free from perceiving or enforcing stereotypes in the behavior of others. For example, a man who does not follow the masculine gender stereotype and instead dances ballet might not enforce that stereotype in boys who show an interest in dance or some other typically non-masculine behavior. The goal of the present investigation was to determine whether adherence to sex role

stereotypes results in gender stereotype application when considering other people, and conversely, to determine if a lack of adherence to gender stereotypes for oneself results in a lack in application of gender stereotypes to others.

Gender stereotypes are found in most cultures on Earth (Williams & Best, 1990). They differ over time and culture, but there are always some distinct gender expectations that vary between the sexes and manifest in behavior. Group normative differences in behavior lead to gender stereotyping (McGarty, Yzerbyt, & Spears, 2002). Some gender stereotypes are based on biological facts such as those related to reproduction or body strength, but many gender stereotypes do not have such obvious or universal origin. For example, a man might be as adept at sewing as a woman, yet in American culture, sewing is traditionally considered to be a woman's activity.

For years, psychological research has been conducted on gender differences and on people's perceptions of these differences. Gender stereotyping has been fertile ground for research; from stereotype threat causing girls to do less well in math than boys (Chatard, Guimond, & Selimbegovic, 2007) to job discrimination (Rosen & Jerdee, 1973); from modeling behavior to children (Bussey & Bandura, 1999) to placing expectations on children to behave in ways that conform to gender stereotypes (Bem, 1983; Stern & Karraker, 1989) these studies have shown that gender stereotyping leads to behavior that is constrained by those stereotypes. Females are constrained by the feminine sex role, making it inappropriate to express anger, act in an assertive manner, or play aggressive sports such as football, whereas males are constrained by their masculine sex role,

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making it inappropriate for them to express sadness or weakness (Bem, 1975) or to dance gracefully.

In the past, psychological and cultural differences between women and men were measured using masculine and feminine gender roles on a continuum. If you were more masculine, you were less feminine (Constantinople, 1973). This continuum method ignored all traits that fell on the lower side of the dichotomous axis. A man's traits that indicated he enjoyed aesthetic art such as ballet might be ignored if he had other more sex-typed traits that overwhelmed the axis. One early study, for example, concluded that masculine men were more likely to be aloof and tough and less likely to be warm, sensitive, and aesthetic, whereas feminine men were more likely to have good verbal skills and less likely to have economic values, assume a "tough poise," or have bodily dexterity (Hareford, Willis, & Deabler, 1967).

Gender Label Studies

One method used to find evidence of stereotyped thinking is the gender label paradigm. Studies using this paradigm have shown that adults respond differently to the behavior of the same baby based on the gender label assigned to that baby (Stern & Karraker, 1989). These studies used images, videos, and in some cases live interaction with very young children. In gender label studies, the sex of the baby is ambiguous, and the only indicator that participants receive of the baby's sex is a label that states either *boy* or *girl* or a male-typical or female-typical name. Results of these studies indicate that participants hold gender stereotypes that perpetuate expectations of how a baby should behave based on the baby's presumed sex. One such study, Sex differences: A

study of the eye of the beholder (Condry & Condry, 1976), is often cited as a classic gender label study. The authors theorized that gender stereotypes held by adults would lead those adults to interpret the cause of a baby's behavior in line with gender stereotypes. For the original Condry and Condry study (1976) the authors borrowed some video clips that had been recorded for earlier research conducted by a colleague. In these videos, a 9-month-old baby is seen reacting to various stimuli. One of these clips was of the baby reacting to a jack-in-the-box suddenly popping out of its box. The baby appeared to be startled, stared, and then cried in response to the jack-in-the-box stimulus. The reactions and the gender of the baby in the video were somewhat ambiguous. For their study, the Condrys recruited just over 200 adult students and tested 60 to 70 of them at a time. The participants sat in a classroom facing a screen on which the videotape of the baby was shown. Each of the participants had a packet on which they recorded their own demographic information including sex and a self-report rating of their experience with children. Finally, each packet contained scales to rate the level of the emotion seen in the video. The Condrys manipulated the gender of the baby by giving the participants the gendered name label David or Dana, each name divided roughly equally among participants. Participant attention was diverted from the gender manipulation by telling the participants that the purpose was to "study emotional development in the first two years of life" (Condry & Condry, p. 813). The general finding of the Condry study was that participants who viewed *the same* video of a baby crying in response to a startling event perceived the baby as angry when they thought it was a boy and afraid when they thought it was a girl. The Condrys concluded that adult perceptions of a 9-month-old's

emotion were based on the baby's gender, moderated by the adults' gender and level of experience with children.

The Condry and Condry (1976) study has been used as evidence of adult expectations of gender-typed behavior actually causing the very gender differences perceived (Stern & Karraker, 1989). Other researchers have attempted to replicate the Condry findings with varying degrees of success. Stern and Karraker (1989) reviewed 23 different gender label studies that attempted to replicate the Condry findings but found poor consistency and weak effects of the between-subjects gender manipulation. Citing these issues, Steuer, Bode, Rada, and Hittner (2010) attempted to recreate the original Condry stimulus videos, but the replication of the original Condry findings proved elusive. One possible reason for a lack of replication could have been the baby's weak reaction to the stimuli in the videos. A weak emotional response by the baby might not have elicited high enough ratings from the adult participants to show significant differences between the gender conditions.

Another limitation of past gender label studies could be the lack of accounting for between-subject differences. Whereas biological sex of the participant is accounted for, differences in gender presentation beyond this very basic feature are not. It might be that some people are more prone to using gender stereotypes than others, perhaps based upon an individuals' adherence to societally prescribed sex role orientations.

Gender Schema

A schema is a cognitive construct that develops in each individual. A gender schema is the filter through which a person organizes and views gender information

(Bem, 1981b). Bem began investigating the concept of gender schematicity; she has described it as the "internalizing of gender polarization" (Bem, 1993, p. 125) into masculine and feminine rather than some other category. A gender-stereotyped reaction to a baby's behavior imposes expectations on that baby that might influence how the baby will develop his or her own gender schema (Broverman, 1972; Cook,1985; Condry & Condry, 1976; Deaux, 1995). This gender schema, with its expectations and limitations, is reflected outward and leads to gender stereotyping of others. Judith Butler argues that gender exists only through repeated performance of stereotypic behavior (Butler, 1990). These performances of gender lead to perpetuation of the stereotype. For many people, adherence to gender traits leads to a narrowing of possible behaviors based on the dichotomous distinction of masculine and feminine. American culture seems to value this distinction as can be witnessed in popular culture such as literature, movies, and television. Policing of the borders of sex role is rampant throughout popular media and occurs in children's schools (Pascoe, 2007).

Gender and Sex: Terminology Matters

The words *gender* and *sex* are commonly used interchangeably, even in published psychological research. In this thesis, *gender* is defined as the social and psychological construction of the behavioral and cultural aspects of masculine and feminine; *sex* is defined as a typical person's male or female biological attributes. Gender differentiation is a fundamental part of identity formation in which gender conceptions are constructed in each individual from a dynamic mix of biology, social interaction, and experience (Bem, 1981a; Bussey & Bandura, 1999, Ogunleye & Babatola, 2013). Gender identity is

mediated by social status and power similar to other categorical attributes such as race and economic class (Leaper, 2007). Sex, on the other hand, is not culturally or psychologically modified per se; sex is a biological fact.

Gender stereotype research evolved in the 1980s, and around that time Sandra Bem published her first sex role inventory and Janet Spence separately released her own. Both Spence (1984) and Bem (1981) described a new way to measure gender traits that was not scored on the old masculine/feminine continuum. With the methods that Spence and Bem employed, a person who is high in masculine gender traits might also score high in feminine gender traits, or conversely, a person low in masculine traits might also score low in feminine traits. In other words, taking gender traits off a single continuum allowed researchers to measure men and women as holding a mix of masculine and feminine traits, regardless of their biological sex.

The term *sex role* is used in classic studies on gendered behavior by Janet Spence (Helmreich & Spence, 1979), Sandra Bem (Bem, 1974, 1975, 1981a, 1981b; Bem, Martyna, & Watson, 1976), and others, to describe the results of sex-typing. Sex-typing comes about through cultural gender prescriptions based on one's sex. In her work on sex role types, Sandra Bem defined sex role as a person's "generalized readiness" (1981a, p. 1) to associate certain objects and behaviors with a specific sex. In this thesis, the term *sex role* will be used as Bem defined it. Individuals identify their sex roles by self-reporting how strongly they believe that positive gender stereotyped traits describe themselves.

Sex Role

Sex role lies within a spectrum of possible identifications ranging from masculine to feminine, a combination of both, or an absence of both. The Bem Sex Role Inventory (BSRI) (Bem, 1974, 1981a, 1981b) has been used for more than forty years to determine the sex role orientations of individuals. The BSRI is a self-report measure of adherence to American gender stereotypes and is used to measure the strength and direction of those stereotypes. The BSRI categorizes individuals based on their scores into one of four orthogonal sex roles: masculine, feminine, androgynous, or undifferentiated (Figure 1).
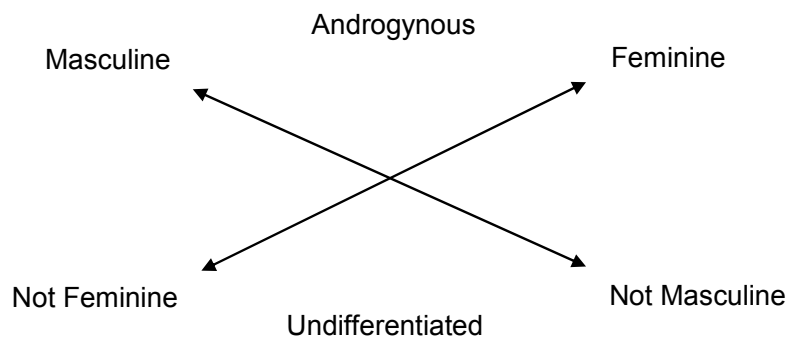
Figure 1. Sex role orthogonal model.

In the BSRI questionnaire, respondents are given a total of 40 sex-typed characteristics, 20 masculine and 20 feminine. The masculine characteristics include traits such as forceful and athletic, and the feminine characteristics include traits such as helpful and theatrical. Individuals scoring high in masculine traits but low in feminine ones have the masculine sex role. Individuals scoring high in feminine traits but low in masculine ones have the feminine sex role. Individuals scoring high in both masculine and feminine traits have the androgynous sex role. And individuals scoring low in both masculine and feminine traits have the undifferentiated sex role.

An individual's masculine or feminine sex role can be congruent or noncongruent with their sex. For example, a male who scores as masculine has a congruent sex role, whereas a male who scores as feminine has a noncongruent sex role. People with congruent sex roles are referred to as *sex-typed*, and people with noncongruent sex roles are referred to as *cross-sex-typed*. Scoring as masculine, feminine, or both (androgynous) predicts a strong adherence to the masculine and feminine gender stereotypes. Conversely, scoring as neither masculine nor feminine (undifferentiated) predicts a weak adherence to the masculine and feminine gender stereotypes.

In my review of the literature for this study, I found that of the Americans who have taken sex role inventory tests, about one quarter fall into each of the four sex role categories. Although they account for one quarter of the respondent scores, very little has been said about undifferentiated individuals in the literature. Of the studies found in this review in which the undifferentiated sex role was discussed, in many a score of undifferentiated was associated with psychological problems such as fear of success (Cano, Solomon, & Holmes, 1984), lack of self-efficacy or self-esteem (Choi, 2004; Della Selva, & Dusek, 1984; Kelly & Worell 1977), lack of loving (Coleman & Ganong, 1985), and being depressed (Flett, Krames, & Vredenburg, 2009). But there is some evidence suggesting that people who do not identify with masculine nor feminine stereotypes are not constrained in the same ways as are sex-typed people. These undifferentiated individuals may have more cognitive and social psychological tools and behavior possibilities open to them than people who are constrained by a masculine or feminine orientation (Jonsson, & Carlsson, 2000).

Purpose of the Current Study

The purpose of this study was twofold. The first goal was to see if the Condry and Condry (1976) gender label study could be conceptually replicated by using video clips of young children with stronger emotional reactions than those found in past replication attempts. The second goal was to test whether lack of adherence to traditional sex roles might predict a similar lack of gender stereotyping of young children. As described earlier, undifferentiated and cross-sex-typed orientations may be partially due to an individual's lack of susceptibility to, or endorsement of, gender stereotypes. In this study, the BSRI was used to determine participant sex roles. A conceptual replication of the Condry classic gender label study was used to assess whether sex role orientation influenced participant use of gender stereotyping. Each participant's sex role score and his or her responses to the conceptual replication of the Condry study were examined to see if the participant's sex role would predict the likelihood that he or she would gender stereotype when assessing a video clip of a baby crying.

Hypotheses

- Hypothesis 1: Participants who think that the baby is a boy will rate "him" angrier in response to a startling event than those who think the baby is a girl.

- Hypothesis 2: On the other hand, participants who think that the baby is a girl will rate "her" more afraid in response to a startling event than those who think the baby is a boy.

- Hypothesis 3a: Participant sex role will interact with the baby's gender labeling. Feminine, masculine, and androgynous participants should show response patterns consistent with Hypotheses 1 and 2.

- Hypothesis 3b: On the other hand, undifferentiated participants will be unaffected by the baby's gender label. That is, undifferentiated participants in the "boy" condition will rate the baby as angry similarly to those in the "girl" condition. Accordingly, fear ratings will *not* vary by gender label.

- Hypothesis 4a: Fear and anger ratings will vary between gender label conditions for congruent sex role (sex-typed) participants (males who score as masculine, and females who score as feminine), such that anger ratings will be higher for the "boy" label condition and fear ratings will be higher for the "girl" label condition.

- Hypothesis 4b: Fear and anger ratings will not vary between gender label conditions for noncongruent sex role (cross-sex-typed) participants (males who score as feminine, and females who score as masculine).

Structure of This Study

This study used a conceptual replication of the Condry and Condry (1976) gender label study. The original Condry study used video clips of a young baby reacting to various surprising or disturbing stimuli in an emotionally upset way. The original videos used in the Condry study are no longer available (Steuer et al., 2010). In their replication of the Condry study, Steuer et al. reproduced the Condry videos according to the detailed description provided in Ricciuti and Poresky (1972), the source of the original Condry

stimulus videos. Steuer et al. used the same stimuli with their baby participant as was used in the Condry videos, which included a jack-in-the-box, a teddy bear, and a loud alarm buzzer. Although Steuer et al. recreated the technical aspects of the videos faithfully, the videos they created did not elicit strong or even moderate emotional responses from the baby. The weak emotional responses did not elicit scores high enough in anger or fear to attain gender stereotyped judgments from the participants. For this study, it was therefore necessary to conceptually recreate the original Condry and Condry videos. Because the basis of testing whether participants would apply gender stereotypes relied on a moderate to strong emotional reaction from the baby rather than on what stimuli was used to excite the baby, the stimuli used in the Condry study was not considered relevant for the current study.

Because new video clips were needed for the current study, it was completed in three phases:

1. Video preparation and preselection. Twenty video clips were prepared as possible candidates for the study. Volunteers participated in an informal preselection process that narrowed the number of videos that would be considered for the study.

2. Video selection. A video selection phase was run to select the ideal video clip from the prepared clips that were chosen by the volunteer group in the preselection process. The ideal video clip would have a baby with ambiguous gender presentation and whose emotional reaction to stimuli would be strong

enough in anger or fear to attain gender stereotyped judgments from the study participants.

3. Main study. The main study was run using the video clips selected as ideal from the video selection phase. The main study tested whether participant sex roles (as defined by the BSRI) predicted whether participants would apply gender stereotypes to the baby shown in the video clip.

Video Preparation and Preselection

Method

Materials and video preparation. The primary researcher collected video clips of various babies reacting with anger and/or fear to a surprising stimulus. The video clips were gathered from videos found on the online video host YouTube.com, where free, noncommercial use of posted content was within the site's Terms of Service, requiring no signed release. The video clips were edited down to discrete episodes of emotional response lasting from 10 to 20 s each. In the video clips, the baby's clothing was gender neutral and there were no audio portions in which the baby's gender was identified or implied. All clips were rendered to black and white to minimize lighting and environment inconsistencies that might affect participant perceptions, and to remove any colors that participants might associate with a specific gender. Twenty video clips were prepared, named EC01 (emotional baby 01) through EC20.

Preselection participants. Eleven associates of the primary researcher volunteered to help narrow the number of videos to be used in the video selection phase. Participant demographics and other characteristics were not considered or collected for

this phase because the preselection process was meant only to validate the primary

researcher's perception that the babies in the prepared videos had strong enough emotions

and ambiguous enough gender. Consensus among the volunteers was used to eliminate

any video clips that did not adequately meet the criteria for the study.

Preselection process. In the preselection process, two criteria were used in

determining which video clips to consider for the video selection phase: (a) whether the

baby was perceived to be expressing fear and/or anger, and (b) whether the baby's gender

was perceived to be ambiguous.

The twenty videos were posted to the online survey website, SurveyMonkey.com.

The eleven associates of the primary researcher were given the URL to the preselection

survey and were asked to view all 20 videos and identify each baby's emotion and

gender. The video clips were displayed individually on separate pages. Each page

included two sets of options:

- a set for identifying the baby's emotion, which included three options labeled

  Scared, *Angry*, and *Not angry or scared*; and

- a set for identifying the baby's gender, which included three options labeled *Girl*,

  Boy, and *Can't tell*.

For the emotion options, volunteers were asked to select all that apply. For the gender

options, volunteers were asked to select only one.

Analysis of preselection results. Volunteers' selections for the baby's emotions

were considered first. Only those videos where volunteers selected *Scared*, *Angry*, or

both were considered. Videos in which *Not angry or scared* was selected were eliminated. This criterion eliminated nine of the video clips.

For the remaining 11 videos, a chi-square test was run on the three gender options for each video clip to test for consensus between the volunteers' perceptions of each baby's gender. A low chi square for the *Boy* or *Girl* option indicated that volunteers varied on the choices, not reaching consensus. Conversely, a high chi square for the *Can't tell* option indicated that volunteers agreed that the baby's gender was not apparent. The ideal video clip would lack consensus on whether the baby was a boy or a girl or would have consensus that the baby's gender could not be determined.

Eight video clips were chosen for the video selection phase: the four with the lowest chi square ($X^2 \leq .18$) for the *Boy* or *Girl* options and the four with the highest chi square for the *Can't tell* option.

Video Selection Phase

The goal of the video selection phase was to find a single video clip in which the baby's emotional reaction scored the highest mean on both fear and anger and the most central mean on perceived gender.

Method

Video selection materials. The eight video clips chosen from the preselection process were used in the video selection phase. An online survey page was set up on SurveyMonkey.com where the chosen videos were posted for the video selection phase. Each video web page displayed a single video clip at the top with two rating sections directly beneath the video. The first section was used by participants to rate the strength

of the baby's emotions. It included two scales labeled *Anger* and *Fear*. Each scale

ranged from 0 (*Emotion Absent)* to 6 (*Strongest Possible*). A sentence above the scales

asked participants to indicate the degree of each emotion they saw in the video.

Under the emotions rating section was a gender rating section used by participants

to rate the gender of the baby. This section included a single 7-point Likert scale that

ranged from 0 (*Boy*) to 4 (*Can't tell*) to 7 (*Girl*). A sentence above the scale asked

participants whether they thought the baby in the video was a girl or a boy. At the

bottom of each video page (except the last) was a "Next" button. At the bottom of the

last page was a "Done" button.

Video selection participants. A total of 55 participants were recruited to view

and rate the prepared video clips. Participants were recruited from the SJSU Psychology

Research Pool using Sona Systems, an online participant recruitment system for SJSU

students who participate in psychology research for course credit. The participant sample

was comprised of 63.6% females and 36.4% males; ages ranged from 19 to 30 (*M* =

20.25, *SD* = 2.00). Of these, 40% were Asian, 30.9% White, 18.2% Hispanic, 7.3%

reported as **"Other,"** 1.8% were Pacific Islander, and 1.8% were African American.

Video selection procedure. Participants logged on to the Sona Systems website

to view and sign up for available SJSU psychology studies. After signing up, participants

were given a link to the online survey hosted on SurveyMonkey.com. After arriving at

the survey page, each participant read and agreed to informed consent (Appendix A) and

filled out a demographic information form (Appendix B). Next, every participant saw

each of the eight video pages presented in random order and rated each baby's emotion and gender using the provided rating scales (Appendix C).

Analysis of video ratings. For the hypotheses in this study to be adequately tested, participants in the main study must have rated the dependent variables (DVs) fear and anger as moderate to strong in order to measure any difference between the fear and anger ratings when participants thought the baby was a girl versus a boy. Therefore, clips from the video selection phase with the highest mean intensity in both fear and anger were considered for the main study.

In the main study, the baby in the video clip would be assigned a gender label of *Jane* for some participants and *John* for other participants, so the baby's gender had to be ambiguous enough for participants to perceive the baby as either a girl or a boy. Therefore, the secondary consideration for video clip selection was gender ambiguity.

The analysis of the emotions ratings revealed that four of the video clips had moderate fear means: EC06, EC07, EC12, and EC20 scored above the theoretical scale midpoint of 3. Of these, only EC20 had a moderate anger mean. It is possible that the anger mean scores experienced a floor effect since the emotion perceived could be rated as 0 (*Emotion Absent*).

In the analysis of the gender rating, the ideal clip would have a score close to 4 (*Can't tell*) or have an average of 4 due to a mix of scores (1 = *Girl* and 7 = *Boy*). Of the eight video clips, EC06, EC07, and EC12 best met the criteria for gender ambiguity. Table 1 shows the anger and fear mean scores and the gender mean scores for each video clip that participants rated.

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Table 1

Mean Scores for Fear, Anger, and Gender Perceived
(Video Selection Phase)

Video	Fear	Anger	Gender perceived
EC02	3.91 (1.52)	.96 (1.47)	6.30 (1.35)
EC04	2.91 (2.05)	2.77 (1.92)	2.89 (2.06)
EC06	**5.07** (1.41)	.59 (1.17)	**4.74** (1.99)
EC07	**4.94** (1.42)	1.20 (1.78)	**4.61** (2.17)
EC08	2.87 (1.96)	.96 (1.47)	2.47 (1.74)
EC12	**4.41** (1.64)	2.11 (2.02)	**3.35** (1.84)
EC18	.91 (1.31)	1.56 (1.93)	5.33 (1.82)
EC20	**3.74** (1.67)	**3.50** (1.89)	5.74 (1.66)

Note. M (*SD*)
Fear and anger range: 0 (*Emotion Absent*), 3 (*Moderately Strong*), 6 (*Strongest Possible*)
Gender perceived range: 1 (*Girl*), 4 (*Can't Tell*), 7 (*Boy*)
Boldface mean values indicate closest to ideal average scores. Boldface video names indicate videos chosen for the main study**.**

When comparing the ideal ratings for emotions and gender, there was no one video

for which participants rated the baby as having moderate to strong emotion for both fear

and anger as well as having ambiguous gender. Of the three with good gender ambiguity,

EC06 was eliminated as a candidate for the main study because it had an anger mean that

was too far below the moderate point. Although EC20 lacked good gender ambiguity

(5.74 out of 7 leaning towards *Boy*), it did have good emotional intensity on both anger

and fear and therefore was selected for the main study. Because no video had ideal

ratings for both emotion and gender, two other videos with the closest to ideal ratings

were also selected for use in the main study so that a comparison could be made among

the three to ensure consistency in strength and direction of emotion ratings. The three

chosen video clips (EC07, EC12, and EC20) comprised three different video conditions. Each clip was shown to a different participant sample in the main study, with each sample viewing only one clip.

Main Study

The main study used the conceptual replication of the Condry and Condry (1976) gender label study to discover whether people who do not adhere to gender (sex role) stereotypes, as evidenced by their BSRI scores, were also less likely to impose gender stereotypes on others. Not adhering to gender stereotypes is defined as being either undifferentiated (scoring as neither masculine nor feminine) or cross-sex-typed (being a female who scores as masculine or a male who scores as feminine).

Along with the BSRI, participants were asked to complete the Big Five Inventory (BFI) to divert them from realizing that the study was assessing their gender. The BFI data were also examined to explore possible relationships between personality traits, sex role orientation, and the likelihood of applying gender stereotypes.

Method

Participant sample and demographic data. A total of 401 participants were recruited from the SJSU Psychology Research Pool, via Sona Systems, as done for the video selection phase; notices posted to online volunteer bulletin boards such as Craigslist.com; and a snowball referral sampling of working adults outside the college community who were contacted via email and the social networking sites Facebook, LinkedIn, and Craigslist.com. Data from participants who did not complete all parts of the study up to and including the BSRI were eliminated ($n = 40$). Completing the BFI

and gender manipulation validity check were optional because the BFI was included only as a distractor and because the gender manipulation check was presented after the BFI. Enough participants (*N* = *351)* completed the gender manipulation check to be able to assess the validity of the gender manipulation.

Data from a total of 361 participants were included in the analysis. The qualified sample was comprised of 73.7% females and 26.3% males from throughout the United States who ranged in age from 18 to 91 (*M* = 28.92, *SD* = 13.73). Participants were divided into three samplings, where each sample viewed only one of the videos. The demographics of the three groups differed, probably because of the snowball sampling employed. Age demographic data for the sample are presented in Table 2a, and all other demographics are presented in Table 2b.

Table 2a

Age Mean, SD, Range, Median, and Mode for All Participants

Statistic	EC07 (*n* = 117)	EC12 (*n* = 125)	EC20 (*n* = 119)	Merged (*N* = 361)
M	26.77	26.13	33.72	28.92
SD	14.61	10.47	14.53	13.73
Median	20	20	28	21
Mode	19	19	21	19
Range	19 – 91	18 – 60	18 – 72	18 – 91

Table 2b

Demographic Variables for All Participants

Demographic	EC07 (*n* = 117)		EC12 (*n* = 125)		EC20 (*n* = 119)		Merged (*N* = 361)	
	N	*%*	*N*	*%*	*N*	*%*	*N*	*%*
Sex								
Male	33	28.7	33	26.4	29	24.4	95	26.3
Female	84	71.8	92	73.6	91	75.6	266	73.7
Ethnicity								
Black/African American	10	8.3	5	3.9	7	5.9	22	6.1
Asian	46	38.3	34	26.8	16	13.1	93	25.8
Hispanic or Latino(a)	17	14.2	19	15	19	15.6	55	15.2
Am. Indian or Alaska Native	1	.8	-		2	1.7	3	.8
Native Hi. or Pacific Islander	5	4.2	5	3.9	3	2.5	13	3.6
White/European	47	39.2	64	50.4	76	63.9	185	51.2
Other race	1	1.7	5	3.9	5	4.2	10	2.8
Education								
Less than BA degree	13	10.7	19	15	38	31.9	69	19.1
Currently attending college	71	59.5	59	46.5	30	25.2	157	43.5
BA degree	23	19.8	24	18.9	32	26.9	83	23
Graduate degree	12	10	21	16.6	19	15.9	52	14.4

Note. "Merged" is all three video conditions combined.

Materials. The three video clips from the video selection phase that were determined to be most ideal for the study were used in the main study (videos EC07, EC12, and EC20). A new online survey website was set up on SurveyMonkey.com. The survey consisted of five parts, which were presented in this order: (a) demographics questionnaire with an experience with young children scale (Appendix B), (b) one of the video clips with scales for rating the baby's emotions (Appendix F), (c) the BSRI (Appendix D), (d) the BFI (Appendix E), and (e) a validity check of the gender manipulation (Appendix G).

Psychometric measures. The survey pages for the three video conditions presented the exact same measures in the exact same order. The three measures were the experience with young children scale, the BSRI, and the BFI.

Experience with young children scale. The experience with young children scale was replicated from the original Experience with Young Children Scale used in the Condry and Condry (1976) study. The measure consists of a 7-point Likert scale with low and high anchors ranging from 0 (*no contact with children*) to 7 (*extensive contact with children*).

Bem Sex Role Inventory. The BSRI is a measure of stereotypic sex-role personality characteristics (Bem, 1981). It contains 60 items: 20 masculine (e.g., self-reliant, athletic), 20 feminine (e.g., yielding, compassionate), and 20 gender-neutral (e.g., helpful, moody) (see Appendix D for a complete list of the BSRI items). The gender-neutral items are distracters for preventing participants from guessing the purpose of the BSRI. Participants rated how well each item described themselves on a seven-point Likert scale ranging from 1 (*Seldom*) to 7 (*Always*). The BSRI scores categorized participant sex roles as masculine, feminine, androgynous, or undifferentiated.

The internal consistency of the BSRI measure is high. In her study, Bem (1981) reported a Cronbach's alpha reliability of .86 for the masculine scale and .80 for the feminine scale. Bem showed test-retest reliability that ranged from .90 to .93 after a four-week follow-up. The Cronbach's alpha for the combined participant sample in this study is .88 for masculine and .84 for feminine. Factor analysis found the BSRI to be a valid measure for "distinguishing gender-schematic from gender-aschematic individuals"

(Schmitt & Millard, 1988, p. 581). The factor analysis showed that the BSRI has external

validity for measuring the bipolar scales of both masculine and feminine sex roles and

androgynous and undifferentiated sex roles. Table 3 contains all alpha levels from this

study's participant sample for the BSRI masculine and feminine characteristics that make

up the respective factorial dimensions.

Table 3

Cronbach's Alpha for the BSRI Across Video Conditions

Factorial Dimension	Merged	EC07	EC12	EC20
Masculine	0.88	0.87	0.88	0.89
Feminine	0.84	0.83	0.84	0.87

Note. "Merged" is all three video conditions combined.

Big Five Inventory. The BFI measures basic personality traits on five

dimensions: (a) openness, (b) conscientiousness, (c) extroversion, (d) agreeableness, and

(e) neuroticism (John & Srivastava, 1999). Participants rated 44 statements (such as

"Can be tense" and "Likes to cooperate with others") with how strongly they agreed or

disagreed that each statement described themselves (see Appendix E for a complete list

of the BFI statements). The rating was on a 5-point Likert scale ranging from 1 (*disagree*

strongly) to 5 (*agree strongly*). The BFI has been shown to have Cronbach's alpha

reliability ranging from .75 to .90, with an average above .80 (John & Srivastava, 1999).

The BFI also has high convergence with other scales that measure the basic five traits of

human personality, such as the NEO Personality Inventory (John & Srivastava, 1999).

The BFI was calculated using the technique found in John, Naumann, and Soto (2008).

First, the 16 items that are reversed scored were recoded so that there were only positive

unidirectional scores. Next, scale scores were calculated for each of the big five scales

by summing items into their appropriate scale. Because the alphas were similar across

the three participant groups, there was no need to separate the groups for analysis of the

BFI. Table 4 contains the alpha levels from this study's participant sample for the five

BFI factorial dimensions.

Table 4

Cronbach's Alpha for the BFI Across Video Conditions

Factorial Dimension	Merged	EC07	EC12	EC20
Openness	0.79	0.75	0.79	0.78
Consciousness	0.80	0.82	0.80	0.80
Extroversion	0.85	0.86	0.85	0.83
Agreeableness	0.78	0.75	0.79	0.78
Neuroticism	0.85	0.83	0.85	0.86

Note. "Merged" is all three video conditions combined.

Procedure. Respondents recruited from the SJSU Psychology Research Pool

through Sona Systems logged on to the Sona Systems website to view and sign up for

available SJSU psychology studies. After signing up, they were given a link to the main

study survey site hosted on SurveyMonkey.com. Respondents recruited through email

and from Craigslist.com, Facebook, and LinkedIn postings were provided a link in those

postings directly to the survey site on SurveyMonkey.com. All respondents who were 18

or older were allowed to participate.

Informed consent, demographics, and experience with young children scale.

After arriving at the survey site, each participant agreed to informed consent and filled

out a demographics questionnaire. The same informed consent form (see Appendix B)

and demographics questionnaire (see Appendix C) used for the video selection phase were used for the main study. The demographics questionnaire again included the high low experience with young children scale replicated from the original Experience with Young Children Scale used by Condry and Condry (1976). The measure consists of a 7-point Likert scale with low and high anchors ranging from 0 (*no contact with children*) to 7 (*extensive contact with children*).

  Conceptual replication of the Condry and Condry videos. After completing the demographics page, participants navigated to the next page that showed one of the three video clips, which was between 10 and 20 s long. This page was titled *Emotions of Very Young Children.* At the top of the page was a statement identifying the baby's gender with either *This is John* or *This is Jane.* This gender label statement was randomized online by SurveyMonkey.com so that about half the participants were shown the *Jane* statement and the other half were shown the *John* statement. Located directly under the gender label statement was the video clip, and directly under that was the emotional rating scale. The emotional rating scale ranged from 0 to 10 with anchors for 0 (*Emotion absent*), 5 (*Moderately Strong*), and 10 (*Strongest Possible*). At the bottom of the page was the statement, "Please type the name of the baby seen in this video here : _____ (As seen on the top of this page)." Participants were required to enter some text in order to continue with the survey. These entries were used to ensure that the participants noticed the gender label. (See Appendix F for a mock-up of the survey page.)

  BSRI and BFI. After completing the items on the video page, participants completed the BSRI questionnaire on the next two pages (see Appendix D for the

questionnaire). All 60 BSRI questions were shown to all participants and the question order was the same as that found in the classic paper and pencil instrument, with the scale to the right of each item. When participants completed the BSRI, they navigated to another page where they were asked to complete the BFI questionnaire (shown in Appendix E).

Gender manipulation check. The last page that participants accessed was the gender manipulation check page. At the top of this page was a still image of the baby taken from the video that participants had viewed. Under the still image was a single 7-point Likert scale ranging from 0 (*Girl*) to 4 (*Can't tell*) to 7 (*Boy*). A sentence above the scale asked participants whether they thought the baby in the picture was a boy or a girl. The participants rated the baby's gender using the provided scale (Appendix G).

Results

Before testing the hypotheses, decisions were made about (a) whether the BSRI responses from the three participant groups could be merged for scoring the BSRI, (b) what method to use to score the BSRI, and (c) whether it was sound to combine the emotional scale responses from the three participant groups when considering the mean scores of the DVs fear and anger.

Merging Responses for Scoring the BSRI

If the BSRI masculine and feminine scores from which the sex roles are derived were not significantly different between the three participant groups, then the responses from all groups could be merged for all measures of the sex role and sex-type congruity independent variables. To determine whether the BSRI masculine and feminine scores

varied between participant groups, two one-way analyses of variance (ANOVAs) were run on the groups' responses: one by the BSRI masculine means and one by the BSRI feminine means. The ANOVAs revealed that the difference between the three groups was not significant for masculine, $F(2,358) = .02$, $p = .98$, nor for feminine, $F(2,358) = 1.10$, $p = .33$. Therefore, the responses were merged for scoring the BSRI. Table 5 shows the masculine and feminine sample medians for each video condition and for the merged sample.

Table 5

Sample Medians for BSRI Scoring

Factorial Dimension	Merged	EC07	EC12	EC20
Masculine	4.65	4.60	4.65	4.65
Feminine	4.95	5.00	4.85	5.00
	$N = 361$	$n = 117$	$n = 125$	$n = 119$

Note. "Merged" is for all three conditions combined.

Method of scoring the BSRI. The two possible methods of scoring the BSRI were Sandra Bem's median split method (Bem, 1977) and Bem's original t-ratio method. The median split method was chosen for this study because, unlike the t-ratio method, it provided the additional sex-role category of undifferentiated, which was required in order to test the first hypothesis of this study. The median split method is also the most common method used in other studies that utilize the BSRI (Hoffman & Borders, 2001). The median split method uses participant masculine and feminine scores to determine sex role by comparing them to the entire sample median score.

The BSRI masculine and feminine medians in this study differ from those found by Bem in her 1977 Stanford study. See Table 6 for a comparison of the masculine and feminine sample medians between this and Bem's 1977 study.

Table 6

Comparison of Sample Medians from Bem's 1977
Stanford Study and the Current Study

Bem (1977)		Current Study	
Masculine	Feminine	Masculine	Feminine
4.89	4.76	4.65	4.95

This difference between the Stanford and current sample may be due to change over time in sex stereotype association or to differences in demographics between the two groups. The Stanford study included 665 college students, 56% male and 44% female. In the current study, 73.68% of participants were female. This may explain why the sample median for masculine was lower in this study's sample than that found in the Bem study. Table 7 shows a comparison of the Bem sample to the current study sample broken down by sex role and sex.

Table 7

Percentage of Each Sex Role by Sex

Bem[a] sample $N = 660$					Merged[b] sample $N = 361$				
Sex role	Male	Female	Total	%	Sex role	Male	Female	Total	%
masc	133	47	180	27.27%	masc	22	21	43	11.91%
fem	60	85	145	21.97%	Fem	16	96	112	31.02%
andr	77	59	136	20.61%	andr	23	62	85	23.55%
undif	100	99	199	30.15%	undif	34	87	121	33.52%
Total	370	290	660		Total	95	266	361	
%	56.06%	43.94%			%	26.32%	73.68%		

Note. masc = masculine; fem = feminine; andr = androgynous; undif = undifferentiated.
[a] Bem Stanford study (Bem, 1977).
[b] "Merged" is all three video conditions combined.

Combining Samples for Evaluating Fear and Anger Means

The final preparation before analyzing the results against the hypotheses was determining whether the perception of the baby's fear and anger was similar enough across the three participant groups to combine the samples. Two one-way ANOVAs were run on the emotional scale responses from each video condition, one by the fear means and one by the anger means. The ANOVAs revealed that the three video conditions were significantly different on both fear, $F(2,358) = 21.74$, $p < .001$, and anger, $F(2, 358) = 9.66$, $p < .001$. Bearing in mind that the perception of fear and anger was statistically different for at least one of the three videos, the fear and anger means by video condition was then examined. This examination provided evidence that the mean DV scores were similar in strength and direction (as shown in Figure 2). Fear was higher and anger was lower in all three video conditions. Therefore, the samples were merged to test the hypotheses.
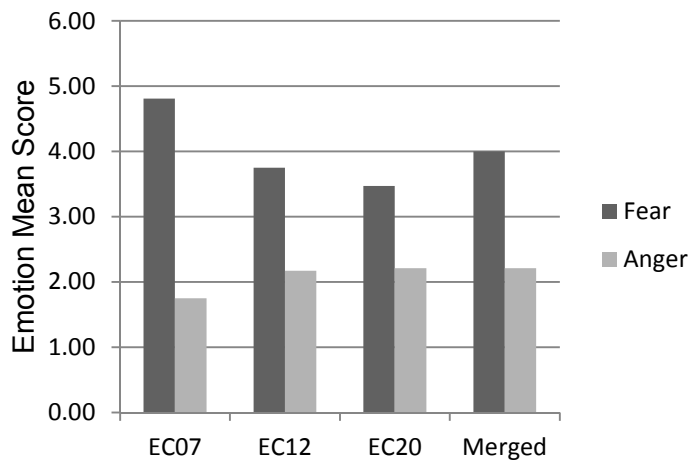
Figure 2. Fear and anger means by video condition.

Gender Manipulation Validity Check

All hypotheses tested in this study were dependent on the gender label variable working to manipulate the results of the fear and anger ratings. To help validate the results of the study, a validity check of the gender manipulation was conducted to support the assumption that participants truly believed the baby in the video was a boy or girl based on the gender label. This check asked participants to view a still photo of the same baby seen in the video and to rate that baby's gender on a 7-point Likert scale (shown in Appendix G). This was the last task participants were asked to perform. A one-way ANOVA by gender label was run on the participant responses. The ANOVA results were significant, $F(1,349) = 10.33$, $p = .001$, with means in each condition indicating the gender manipulation was successful**.**

Testing of the Hypotheses

The first three hypotheses were then tested using two-way ANOVAs, with gender label (Jane [girl] vs. John [boy]) and Sex Role Orientation (feminine, masculine,

undifferentiated, or androgynous) as the between-subjects factors and fear and anger as

the dependent variables. The fourth hypothesis was tested using two-way ANOVAs,

with gender label (Jane [girl] vs. John [boy]) and Sex Role Congruency (sex-typed vs.

cross-sex typed [males who score as feminine, and females who score as masculine]) as

the between-subjects factors and fear and anger as the dependent variables. For this

analysis androgynous and undifferentiated participants were excluded since they are

neither masculine nor feminine and therefore cannot be cross-sex-typed. Table 8

contains descriptive data of the mean emotional ratings for each sex role condition and of

the mean emotional ratings of all participants (total) by both dependent variables (fear

and anger).

Table 8

Fear and Anger Means by Sex Role and Gender Label Condition and by
Sex Role Congruency and Gender Label Condition

	Fear		Anger	
	John	Jane	John	Jane
Masc	3.37 (1.77)	3.48 (1.84)	2.00 (1.66)	1.66 (1.45)
Fem	3.88 (1.65)	4.25 (1.74)	2.07 (1.89)	2.10 (1.60)
Andr	4.24 (1.67)	4.77 (1.22)	2.68 (1.69)	2.30 (1.73)
Undif	3.69 (1.98)	4.02 (1.76)	2.24 (1.81)	2.20 (1.61)
Total	3.84 (1.78)	4.19 (1.68)	2.29 (1.77)	2.11 (1.62)
ST	3.66 (1.69)	4.07 (1.77)	2.18 (1.90)	2.23 (1.73)
xST	3.67 (1.71)	3.69 (1.89)	1.82 (1.59)	1.38 (0.98)

Note. Mean (*SD*).
"John" is the boy gender label and "Jane" is the girl gender label.
"Total" is the fear and anger means for all participants combined.
ST = Sex-typed (congruent), xST = Cross-sex-typed (noncongruent).
   Hypothesis 1. In Hypothesis 1, I predicted that participants who thought the baby

was a boy would rate "him" angrier in response to a startling event than those who

thought the baby was a girl. This did not occur. The main effect of gender label was not significant for anger, $F(1, 359) = 1.03$, $p = .31$.

Hypothesis 2. In Hypothesis 2, I predicted that participants who thought the baby was a girl would rate "her" more afraid in response to a startling event than those who thought the baby was a boy. This did not occur. The main effect of gender label was not significant for fear, $F(1, 359) = 3.67$, $p = .06$, although the results were trending in the expected direction, as shown in Figure 3.
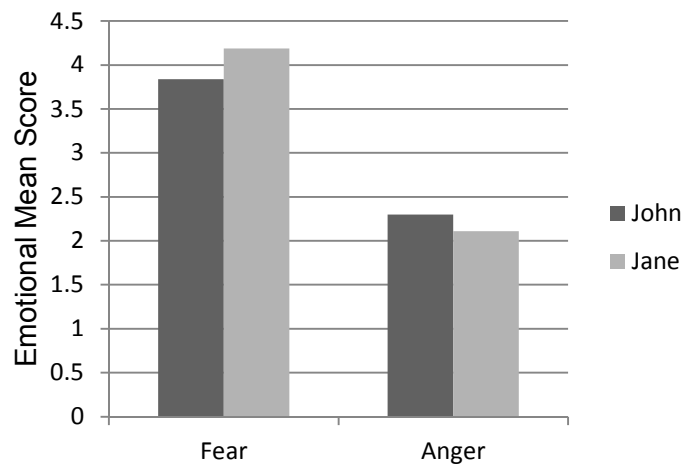
Figure 3. Mean emotion ratings by gender label.

The purpose of both Hypothesis 1 and 2 was to replicate the results found by Condry and Condry in their 1976 study, namely, to show that people will use gender stereotypes and see boys as more angry and girls as more fearful. Neither Hypothesis 1 nor Hypothesis 2 was supported. Although the mean scores were trending towards significant for fear, they were not close for anger.

Hypothesis 3a. In Hypothesis 3a, I predicted that sex role category would interact with the baby's gender labeling. Feminine, masculine, and androgynous participants would show response patterns consistent with Hypotheses 1 and 2.

Hypothesis 3b. On the other hand, in Hypothesis 3b I predicted that undifferentiated participants would not be affected by the baby's gender label. That is, undifferentiated participants would rate the baby's emotion in the "boy" condition similarly in the "girl" condition. Accordingly, fear and anger ratings would *not* vary by gender label for undifferentiated participants. However, the predictions of Hypotheses 3a and 3b were not upheld. The expected Sex Role X Gender Label interaction was not significant for anger nor for fear, F's < 1, ns.

One unexpected trend was that sex role significantly affected perceptions of fear, $F(3, 353) = 5.98, p < .01$. Post hoc comparisons using Sidak adjustments showed that androgynous individuals rated the baby—regardless of perceived sex—as significantly more fearful compared to all other sex role orientations. Inspection of the mean fear ratings suggested that androgynous people were affected by the gender labeling. A follow-up *t*-test focused on androgynous people showed a nonsignificant trend such that "Jane" was rated as more fearful than "John," $t(107) = 1.82, p = .07, d = 0.38$. Figures 4 and 5 show the difference in fear means and anger means by sex role and gender label condition.
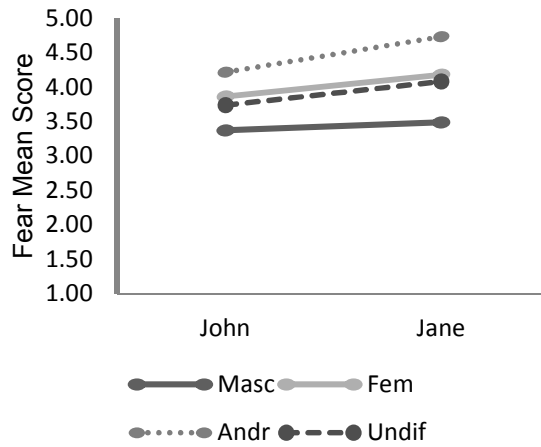
Figure 4. Fear means by sex role and gender label condition.
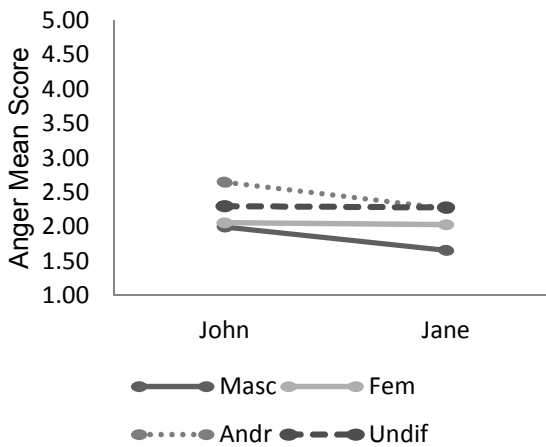
Figure 5. Anger means by sex role and gender label condition.

Hypothesis 4a. In Hypothesis 4a, I predicted that fear and anger ratings would vary between gender label conditions for congruent sex role (sex-typed) participants (males who score as masculine and females who score as feminine), such that anger ratings would be higher for the "boy" label condition and fear ratings would be higher for the "girl" label condition. These predictions were not supported as the Gender Label X Sex Role Congruency interaction was not significant for anger or fear, F's < 1, *ns*.

Hypothesis 4b. In Hypothesis 4b, I predicted that fear and anger ratings would not vary between gender label conditions for non-congruent sex role (cross-sex-typed) participants. This was the case, but the meaning of the findings was not clear given that no group was significantly affected by the gender label. In other words, this null finding would only be meaningful if Hypothesis 4a (significant differences as a function of congruent sex-role and gender label) had been supported. There was, however, a significant main effect for sex-role congruency by anger when the gender label was not considered. Sex-typed individuals rated the baby as more angry than non-sex-typed individuals, $F(1, 152) = 4.76, p < .05$. This difference was not significant for fear.

Analysis of the Experience with Young Children Scale

Condry and Condry (1976) compared participants' level of experience with children to their perceptions of the baby's emotional intensity (combined fear and anger ratings) and noted a difference between male and female participants. Specifically, the Condrys observed that males with high experience perceived a greater difference in emotional intensity between the boy label condition and girl label condition than did males with low experience with children, whereas the level of experience for female participants did not seem to impact their perceptions of emotional intensity.

To replicate the Condry data as closely as possible, the scores from the experience with children scale were first split at the median, creating a dichotomous variable of high or low experience. Of the 361 participants in this study, 288 (79.8%) had high experience with children and 73 (20.2%) had low experience with children. Next, an inspection was made of the perceived emotional intensity means by participant sex, level

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of experience with children, and the gender label condition. Table 9 shows the

comparison of the mean emotional intensity between the Condry 1976 study and this

study.

Table 9

Comparison Between Condry Sample Data (1976) and Current Sample Data (2014) on Experience with Children

Condry table using 1976 Condry data:					Condry table with data from this study:				
	Male		Female			Male		Female	
Label	Hi Exp	Lo Exp	Hi Exp	Lo Exp	Assigned Label	Hi Exp	Lo Exp	Hi Exp	Lo Exp
"Boy"	3.61	2.66	2.41	2.72	"John"	3.17	2.79	3.15	2.71
"Girl"	1.83	2.56	2.83	2.46	"Jane"	3.44	2.17	3.23	2.88

Note. Means are of combined fear and anger ratings.
Hi Exp = High Experience, Lo Exp = Low Experience

In the Condry 1976 study, the mean of the perceived emotional intensity for high

experience with children male participants in the boy condition was nearly twice that of

the girl condition, showing that high-experience men saw the emotion as being nearly

twice as strong when they thought the baby was a boy. In the present study, the high

experience males rated the emotional intensity in the John and Jane conditions similarly,

eliminating the difference seen in the Condry (1976) participants.

Experience with Children and Sex Role. To further explore the between-

subject differences in experience with children, the mean scores from the experience with

children ratings were compared between the four sex roles and between the sex role

congruity groups (sex-typed and cross-sex-typed). The self-report of experience with

children ranged from 1 (*No Contact*), to 7 (*Extensive Contact*). This range, rather than

the median split, was used to generate these figures. A look at the four sex roles showed

that feminine participants had the highest experience with children mean score (5.48, SD 1.46), androgynous participants the next highest (5.34, SD 1.48), then masculine participants (5.03, SD 1.82), and with the lowest experience with children mean, undifferentiated participants (4.38, SD 1.75). The experience with young children mean for sex-typed participants was 5.38 (1.59) and cross-sex-typed was 5.08 (1.75). Figure 6 shows a comparison of the means between sex roles, and Figure 7 shows a comparison of the means between the sex role congruity groups.
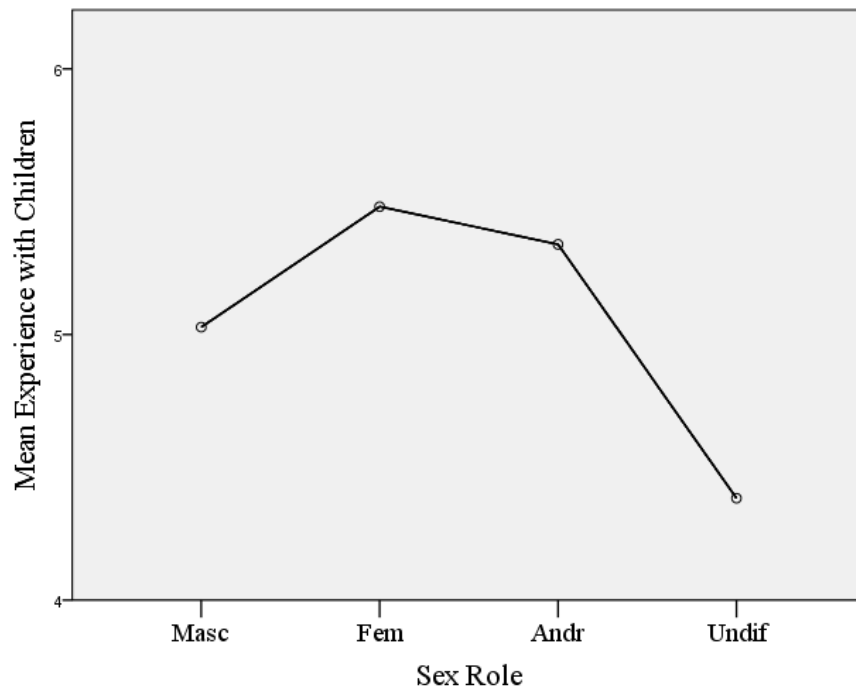
Figure 6. Experience with children by sex role.
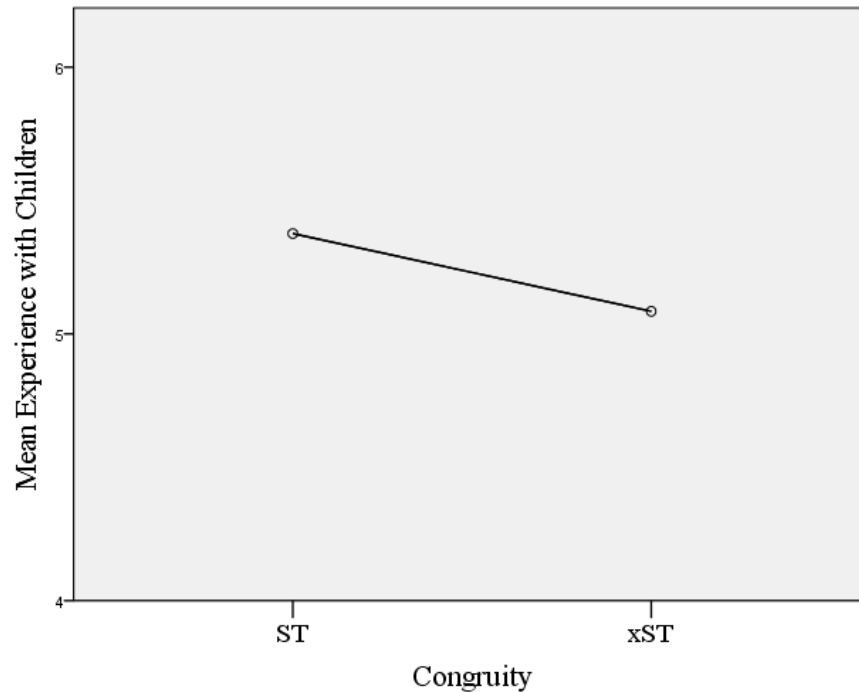
Figure 7. Experience with children by sex role congruity.

BSRI Gender Neutral Items

Sex Role was determined using the Bem Sex Role Inventory. All of the items used within the BSRI instrument are ideal stereotypes based on **"**social desirability**"** (Bem, 1974). If it is true that the items in the BSRI are all socially desirable, then it might follow that for individuals to say they are like many of the masculine or feminine items might in turn mean that they simply see themselves, or want to have others see them, as socially desirable. In addition to the 20 **"**masculine**"** and 20 **"**feminine**"** items, the BSRI also contains 20 gender-neutral traits (e.g., cheerful, loyal). These act as buffers to keep respondents from guessing the purpose of the BSRI (Bem, 1974). The gender-neutral items, like the other BSRI items, are scored on a 7-point Likert scale. To make comparisons between the gender neutral items and sex role, the neutral items collected

for this study were dichotomized at the median (3.5) to yield either a low or high score. Figure 8 shows the percent of high and low ratings on the neutral items for each of the four sex roles.

	Masc	Fem	Andr	Undif
Social desirability gender neutral - high	31	51	89	18
Social desirability gender neutral - low	41	30	20	81
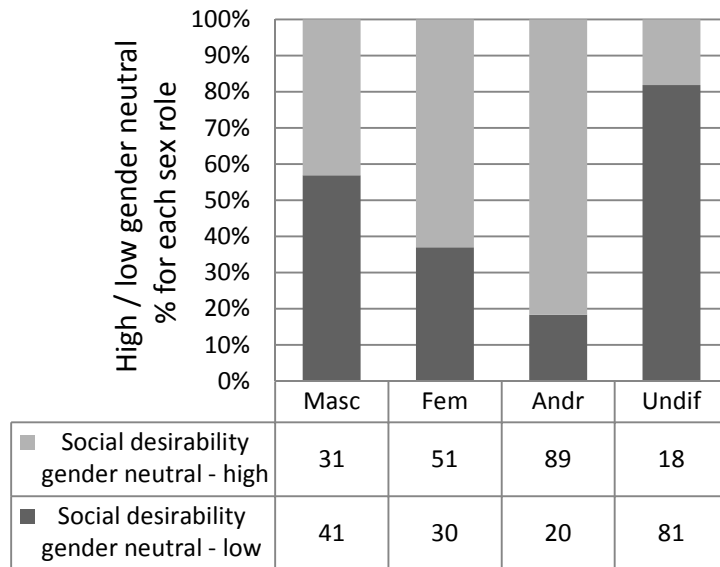
Figure 8. BSRI gender neutral items dichotomized to high or low by sex role.

Analysis of BFI Scores

Though not a focus of the present investigation, I also examined the relationship between BSRI categories and aspects of personality. The findings were generally consistent with those of other studies. For the BFI dimensions of openness, conscientiousness, and extroversion, androgynous participants scored the highest, masculine participants scored just a notch below androgynous participants, followed by feminine and then undifferentiated participants (see Figure 9). This suggests that the traits in these BFI dimensions are in line with the BSRI masculine sex-type items. Agreeableness is the one BFI dimension for which feminine participants scored highest,

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with androgynous participants just below, followed by masculine and then

undifferentiated participants. This suggests that the BFI agreeableness traits are in line

with the BSRI feminine sex-type items. For the BFI dimension of neuroticism,

undifferentiated participants scored the highest, followed by feminine, then masculine,

and then androgynous participants.
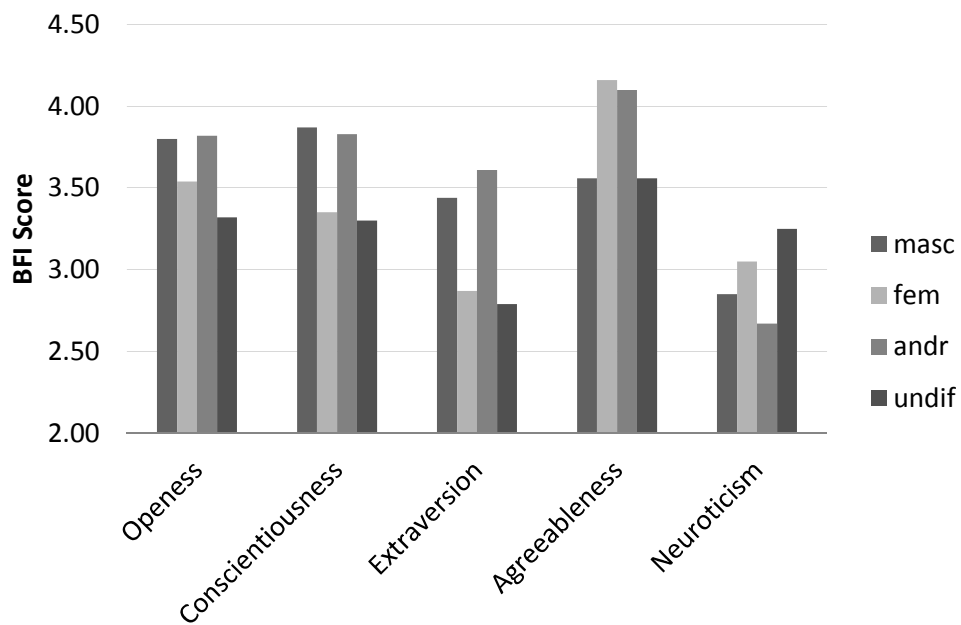
Figure 9. BFI mean scores by sex role.

Discussion

Gender Labeling, Sex Role, and Gender Stereotyping

The purpose of this study was to discover whether a person's sex role (how one views one's own adherence to sex stereotypes) can be used to predict whether that person will be less or more likely to stereotype others based on sex. Evidence of gender stereotyping was present if fear ratings were high for the girl label or anger ratings were high for the boy label. Conversely, evidence of gender stereotyping was not present if the difference between fear and anger ratings were flat, or if fear ratings were high for the boy label or anger ratings were high for the girl label.

For the first two hypotheses, I predicted that people would rate the baby as angrier if they thought it was boy rather than a girl (Hypothesis 1) and the baby more fearful if they thought it was a girl rather than a boy (Hypothesis 2). This attempt at reproducing the Condry and Condry (1976) results was not successful. There appears to have been a trend towards supporting the Condry results on the fear variable, but the results were not significant. Although the anger and fear ratings from the present study trended towards showing that gender stereotyping occurred, the findings were not strong. This may be due to the stimuli used in the study. Although great care was taken to select appropriate stimuli, the ratings for anger in particular were not strong enough to elicit evidence of gender stereotyping. Anger ratings were low in both the Jane and John conditions. If the baby's emotional reactions had been stronger, perhaps the difference between sex roles would have been more pronounced and would not have suffered this apparent floor effect.

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Past gender label studies have had inconsistent findings, where agreement with Condry and Condry (1976) occurred in some but not in others. Condry and Condry (1976) concluded that participants perceive a baby's emotional reactions differently based on the gender label, rating a **"boy"** higher in anger and **"girl"** higher in fear. But other studies did not show differences based on gender label alone (Maccoby, 1998). In her review of gender label studies, Maccoby reported that study results were less accurate if participants were not familiar with the baby and had limited experience with young children. In gender label studies, the situational context is typically remove and the fact that gender stereotypes accumulate over time is ignored. In the present study, all videos were of babies that the participants did not know and did not see in any other context. Condry and Condry (1976) showed longer videos than those in this study and showed several videos of the same baby having various emotional reactions. This perhaps worked to give participants more context for the baby's emotions and provided contrast between the baby's happy, frightened, and angry responses. If the videos shown in the current study had been longer or had shown the same baby in various emotional states, the ratings may have produced different results.

For Hypotheses 3a and 3b, I predicted that participant sex role type would moderate the effects of the gender label on ratings of anger and fear. Specifically, men and women with the feminine, masculine, and androgynous sex roles would have response patterns consistent with those seen in Hypotheses 1 and 2 (Hypothesis 3a). However, participants with the undifferentiated sex role would not show the same stereotyped thinking (Hypothesis 3b). In other words, these participants would not be

influenced by the gender label in the same way as the other three sex roles. I predicted that the difference between fear and anger ratings would be flat for undifferentiated people. Again, there was a minor trend for fear ratings, which suggests that a larger sample size or improved stimulus videos might have generated the desired results, but there were no significant main effects for sex role and gender label.

Concerning people with an undifferentiated sex role, one might assume that not identifying with gender stereotypes would make someone less likely to apply gender stereotypes to others, but the results of this study do not support that assumption. The results do not even show a trend towards this direction; undifferentiated participant fear and anger ratings were similar to those of feminine participants. Undifferentiated participants were not less likely than other sex role groups to apply gender stereotypes to the baby in the video.

Although no prediction was made for androgynous people, some interesting results were found. On the fear dependent variable in particular, I found that androgynous people were affected by the gender label, and the trend indicated that androgynous people used gender stereotypes. Androgynous participants rated the baby as significantly more fearful in both gender label conditions than other participants. Furthermore, they tended to rate "Jane" as more fearful than "John." This seems to suggest that androgynous participants were more affected by gender stereotypes.

It is interesting to note that the BFI scores of undifferentiated participants were the lowest for openness, conscientiousness, extraversion, and agreeableness and the highest for neuroticism (see Figure 9 in the results section). Coupled with their low

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scores on the BSRI (in which all characteristics are considered positive), this suggests

that neuroticism is somehow related to seeing oneself as lacking positive gendered traits

or perhaps positive traits in general. This confirms the findings of Bem (1977), Johnson,

McNair, Vojick, Congdon, Monacelli, & Lamont (2006), and Spence, Helmreich, &

Stapp (1974), among others, who have found undifferentiated people to have adjustment

problems, including low self-esteem. It is possible that accepting gender stereotypes as

valid yet not identifying with a gender stereotype might contribute to a sense of not

belonging and lead to neuroticism. This also might be evidence of the negative effects of

gender stereotyping. If gender stereotypes are imposed on children who identify with

neither the masculine nor feminine sex role, one might expect them to grow up feeling

like they don't belong. Why being undifferentiated correlates with neuroticism remains a

subject for future study. Conversely, androgynous participants rated themselves highest

on the first four BFI dimensions of openness, conscientiousness, extraversion, and

agreeableness but lowest on neuroticism. This also confirms the results found in the

several studies cited above that not only are undifferentiated types troubled, but

androgynous types are well-adjusted.

Male and female participants perceived the intensity of emotion differently. Males

rated fear lower than females in both Jane and John conditions, but males rated anger

higher in both conditions than did females. This could indicate that males are more

sensitive to feelings they perceive to be anger, whereas females are more sensitive to

feelings they perceive to be fear. This in turn might be evidence of a possible effect of

gender stereotyping: If girls are expected to express fear instead of anger, they might

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grow up to be more sensitive to feelings of fear or to perceive fear in other girls, and

likewise for boys and anger. This implication may be supported by the fact that

androgynous participants, who identify with both the masculine and feminine stereotypes,

rated both anger and fear higher than all other sex role groups.

Gender Labeling, Sex Role-Congruency, and Gender Stereotyping

When considering a person's sex in addition to sex role, there is again a slight trend

towards support for Hypotheses 4a and 4b but a lack of significant findings. Hypothesis

4a predicted gender-stereotype use by those with a congruent sex role, and Hypothesis 4b

predicted a lack of gender stereotype use by those who were cross-sex-typed, but neither

found support.

One limitation of the study with respect to cross-sex type analyses is that, despite

the fairly large sample size of the overall study, the sample size of cross-sex-typed

participants was relatively small. The BSRI revealed that 152 of the 351 participants

who completed the study scored as either masculine or feminine. Of those, only 59

participants were cross-sex-typed. Of those 59, 46 were female and 13 were male.

Testing a much larger sample would have increased the power of the statistical tests.

This weakness could be addressed in future research by increasing the sample size or by

utilizing more targeted sampling techniques in order to capture more cross-sex-typed

participants. Being cross-sex-typed may be a good predictor that a person will not judge

a baby's behavior based on the baby's sex but on other criteria instead, but additional

studies are needed to support this hypothesis.

Experience with Children and Gender Stereotyping

When comparing participants' level of experience with young children to their perceptions of the baby's emotional intensity (combining fear and anger ratings), this study varied somewhat from the Condry and Condry (1976) study. The greatest difference between the Condry data and the data in this study was in the perception of emotional intensity from high-experience males. In the Condry study, high-experience men saw the emotion as being much stronger when they thought the baby was a boy. In the present study, the ratings for emotional intensity for high-experience males were similar between the John and Jane conditions. The Condrys speculated that the level of experience with children had an impact on male participant perceptions, but since the present study does not show that difference, it might be concluded that time or some difference between the Condry sample (1976) and the sample in this study has erased the difference in perceptions. The Condrys did not speculate as to why high-experience males rated emotions for the boy condition as stronger, but one possibility is that experience with children in the mid-70s was a greater contributing factor than it is now. In future research that uses the Condry and Condry (1976) gender label paradigm, the data from the replication of the Condry and Condry (1976) Experience with Young Children scale in the present study could be leveraged to validate or update the original Condry and Condry (1976) findings or to further investigate the effect that experience with children has on people's perceptions of children's emotional responses.

BSRI and Social Desirability

Sex role in this study was determined using the Bem Sex Role Inventory. All of the items used within the BSRI instrument describe ideal stereotypes based on social desirability (Bem, 1974). If it is true that the items in the BSRI are all socially desirable, then it might follow that for individuals to say they are like many of the masculine or feminine items might in turn mean that they simply see themselves as socially desirable. As can be seen in Figure 8 in the above analysis section, androgynous types were much more likely to rate all items in the BSRI high, even those that are gender neutral. In contrast, undifferentiated types were more likely to rate all BSRI items lower than those of the other three types. Androgynous respondents rated themselves high on the neutral items, and conversely, undifferentiated respondents rated themselves as low on the gender neutral, socially desirable traits. The neutral item scores were in the same direction as the masculine and feminine items for both androgynous and undifferentiated types. The fact that androgynous people scored high in positive traits and undifferentiated people scored low in positive traits support the assumptions made in past research that being androgynous is related to positive outcomes and being undifferentiated is related to negative outcomes.

Sandra Bem argued early in her research on sex roles that androgynous types are high in traits that lead them to be successful in life. In her 1975 study, she provided evidence that those with high masculine and feminine scores had greater gender adaptability. In 1976, Bem, Martyna, and Watson supported the claim that androgynous types are better at expressing themselves than the other sex role types, and that

androgynous types are superior than all other sex role types in both instrumental and expressive domains. In her 1985 book, Ellen Piel Cook explored androgyny as an ideal model. In her conclusion, Cook stated that it is the masculine factor, more than the feminine factor, that most often correlates with positive functioning. However, because there are some ways in which the feminine sex role correlates with positive functioning, it follows that androgynous people would also be seen positively as they are high in both masculine and feminine positive traits. In a 1974 study, Bem found no correlation between the sex role items and the gender neutral items. Bem posited that this is evidence that androgynous types are not simply more likely to rate scale items high. This was not the finding in this study: Androgynous participants rated (on average) all three of the item types of the BSRI as high (masculine, feminine, and neutral). The androgynous participants in this study rated themselves higher on the socially desirable gender neutral items than did any other sex role. They also rated themselves lower than did all other sex role types on the BFI neuroticism dimension. Undifferentiated types, on the other hand, often score lower on items that connote positive functioning. That is supported in this study by undifferentiated types scoring low on the BSRI gender-neutral items and scoring higher on the BFI neuroticism dimension.

Care was taken to keep participants from knowing that the study was about gender stereotyping, but it is possible that the BSRI was familiar to some participants from the Psychology Research Pool because it has been around for nearly 40 years. However, more than half the participants in this study were from outside the college student research pool, strengthening the findings by including people already working in their

chosen fields or possibly retired. Anastasia and Miller (1998) showed that people who were more established in their careers were less likely to gender stereotype. The diversity of participants in this study enabled the representation of people more established in their gender identity, or at least more comfortable with their identity in general. Despite this strength of diversity, the method of recruiting a broader research pool might have provided a weakness: The snowball sampling was not truly random because it started at the researcher's inbox. Also, people who responded to the request for participation in the online bulletin board posts were self-selected rather than directly asked to participate, which possibly recruited only certain types of people; those who read the volunteer section of online bulletin boards and who had the self-motivated desire to **"**help a grad student."

In summary, the results of this study did not generate significant evidence that there is a relationship between sex-type and gender stereotyping. There was some trending that suggests that a larger sample size may have generated statistical significance. However, more research would need to be done to show any relationship between one's self-perception of gender role adherence and the use of gender stereotyping.

If giving children an equal chance to become what they will is important, then knowing what perpetuates behavioral constraints is a valuable goal. The constraints imposed by being expected to behave a certain way based on biological sex are a negative effect of gender stereotyping. This stereotyping leads to expectations that boys are angry at the same stimuli that would make girls afraid. This in turn can cause adults to reprimand boys and protect girls when in fact the boys and girls are expressing the

same emotional need. As previous research has shown, gender stereotyping impacts how well children perform academic tasks (Chatard, et al., 2007), with effects such as boys doing less well in language arts and girls doing less well in mathematics. Research has also shown that what we model to children impacts the way children think they should behave (Bussey & Bandura, 1999). This is not to say that role modeling is wrong; it is negative only when it constrains positive behavior such as developing healthy and productive interests. If we want children to develop to their full potential as they grow into adults, we must be conscious of what we model to them, which requires an awareness of our own gender stereotyped assumptions and views. The researcher hopes that this study contributes to the recognition that *how we view ourselves* (how we adhere to gender stereotypes) can inform and affect our relationships with children and cause us to enforce gender stereotypes when interacting with children. This recognition can help us take care not to limit children's potential, allowing boys and girls to develop their own identities and excel at the activities that interest them regardless of their sex.

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Appendix A

Informed Consent

San Jose State University Department of Psychology
Agreement to Participate in Research
Project Title: Emotions of Very Young Children
Principal Investigator: Jennifer L. Miller, Masters Candidate

1. You have been asked to participate in a research study investigating the basic dimensions of personality and how these correlate with how we predict a baby's future personality.

2. You will be asked to complete some personality questionnaires by indicating your level of agreement to some statements, and whether some other statements are like you or not. After you complete the questionnaires you will see some video clips of babies having emotional reactions to various stimuli. You will be asked to complete scales indicating your impression of the baby's reaction.

3. Your participation does not involve any physical risk to you. You will see some images of a baby crying, it is not anticipated that this will cause any emotional discomfort for you. No babies were physically uncomfortable making the images that you will be shown.

4. There are no discernible direct benefits expected from your participating in this research. You may find answering these personality items interesting and informative as an indirect benefit of your participation.

5. You have the alternative to choose not to participate in this research study.

6. Although the results of this study may be published, no information that could identify you will be included.

7. You will not be paid for your participation in this study.

8. Questions about this research may be directed to Dr. Clifton Oyamot: clifton.oyamot@sjsu.edu. Questions about your rights as a research subject may be directed to Dr. Ron Rogers SJSU Psychology Department Chair (408) 924-5652 DMH 157. Questions about a research subjects' rights, or research-related injury may be presented to Pamela Stacks, Ph.D., Associate Vice President, Graduate Studies and Research, at (408) 924-2427.

9. Your consent is being given voluntarily. You may refuse to participate in the entire study or in any part of the study. You have the right to not answer questions you do not wish to

answer. If you decide to participate in the study, you are free to withdraw at any time without any negative effect on your relations with San Jose State University.

10. I have read this form and it explains the research study to me. If I have additional questions, I have been told who to contact (item 8). I agree to participate in the research study described above.

   NOTE: Clicking the "Next" button on this page indicates agreement to participate in the study and will begin the study.

Appendix B

Demographic Information

Sex: Male Female Other (fill in)

In what year were you born? _____

What is the highest level of education you have completed?

Less than high school

High School

Associates degree

Currently attending undergraduate college

Bachelors degree

Currently attending graduate college

Masters or other professional degree not a PhD

PhD or other doctorate

In which of these departments does your highest college major best fit?
(Please select one – if there are more than one, select the one that you believe best suits you)

Athletics / Kinesthetics

Anthropology

Art, Music, Dance, or Theater

Biology/Life Sciences

Communication

Computer Science

Criminal Justice Administration

Engineering

Ethnic Studies

Geography & Earth Studies/Sciences

History

Humanities/Liberal Arts

Philosophy

Psychology

Political Science/Public Affairs & Administration

Sociology & Social Sciences

In which field do you plan to be, or are you currently, employed?
(Please select the one that most closely matches)

Agricultural / Natural Resources

Architecture / Construction

Arts / Audio-Video Technology / Communications

Athletics / Kinesiology

Business / Administration

Education / Training

Finance

Government / Public Administration

Health Science

Hospitality / Tourism

Human Services

Information Technology / High Tech / Computers

Law / Public Safety

Manufacturing

Marketing / Social Research

Science; Scientific Research / Technology / Engineering / Mathematics

Social Science; Psychology / Politics / Counseling / Economics / History

Transportation / Distribution / Logistics

Race (check all that apply)

Black or African American

American Indian or Alaska Native

Asian

Hispanic or Latino

Native Hawaiian or Pacific Islander

White/European

Other race (fill in)

Do you consider yourself to be one or more of the following (check all that apply):

Straight

Gay or lesbian

Bisexual

Transgender

Other (fill in) _____

Comfort with High Tech Tools (please select one)
Example of high tech tools: Computer, cell phone, smart phone, tablets, e-readers, GPS, etc.

I am very comfortable with high tech tools

I am somewhat comfortable with high tech tools

I am not comfortable or uncomfortable with high tech tools but I need to use some

I am uncomfortable with high tech tools but have to use some

I am uncomfortable with high tech tools and avoid using them

Experience with children

Ranging from 1 (no contact with young children) to 7 (extensive contact with young children) rate your experience with young children. Please circle one

No   Extensive

Contact   Contact

1   2   3   4   5   6   7

Survey Page for the Video Selection Phase

Play Video

Please indicate the degree of each emotion you see in this video. Check once in each row for each emotion.

	Emotion Absent		Moderately Strong			Strongest Possible	
Anger	0	1	2	3	4	5	6
Fear	0	1	2	3	4	5	6

Do you think the baby in the video above is a girl or a boy?
"**I think the baby in the above video looks like a…**"

1 = Girl		**4 = Can't Tell**			**7 = Boy**	
1	2	3	4	5	6	7

The BSRI List of Adjectives

Self-Reliant	Makes decisions easily
Yielding	Compassionate
Helpful	Sincere
Defends own beliefs	Self-Sufficient
Cheerful	Eager to soothe hurt feelings
Moody	Conceited
Independent	Dominant
Shy	Soft-Spoken
Conscientious	Likable
Athletic	Masculine
Affectionate	Warm
Theatrical	Solemn
Assertive	Willing to take a stand
Flatterable	Tender
Happy	Friendly
Strong personality	Aggressive
Loyal	Gullible
Unpredictable	Inefficient
Forceful	Acts as a leader
Feminine	Babylike
Reliable	Adaptable
Analytical	Individualistic
Sympathetic	Does not use harsh language
Jealous	Unsystematic
Has leadership abilities	Competitive
Sensitive to the needs of others	Loves children
Truthful	Tactful
Willing to take risks	Ambitious
Understanding	Gentle
Secretive	Conventional

Example of the Likert scale that was presented next to each adjective:

Please indicate how well each of these attributes listed below describes you
(1 = seldom exhibit this attribute, and 7 = almost always exhibit this attribute).

	Seldom						Always
Self-Reliant	1	2	3	4	5	6	7

The BFI List of Statements

Is talkative	Tends to be lazy
Tends to find fault with others	Is emotionally stable, not easily upset
Does a thorough job	Is inventive
Is depressed, blue	Has an assertive personality
Is original, comes up with new ideas	Can be cold and aloof
Is reserved	Perseveres until the task is finished
Is helpful and unselfish with others	Can be moody
Can be somewhat careless	Values artistic, aesthetic experiences
Is relaxed, handles stress well	Is sometimes shy, inhibited
Is curious about many different things	Is considerate and kind to almost everyone
Is full of energy	Does things efficiently
Starts quarrels with others	Remains calm in tense situations
Is a reliable worker	Prefers work that is routine
Can be tense	Is outgoing, sociable
Is ingenious, a deep thinker	Is sometimes rude to others
Generates a lot of enthusiasm	Makes plans and follows through with them
Has a forgiving nature	Gets nervous easily
Tends to be disorganized	Likes to reflect, play with ideas
Worries a lot	Has few artistic interests
Has an active imagination	Likes to cooperate with others
Tends to be quiet	Is easily distracted
Is generally trusting	Is sophisticated in art, music, or literature

Example:
   Here are a number of characteristics that may or may not apply to you. For example, do you agree that you are someone who likes to spend time with others? Please select a number next to each statement to indicate the extent to which you agree or disagree with that statement.

Please select a number next to each statement to indicate the extent to which you agree or disagree with that statement in describing yourself.

	Disagree strongly	Disagree a little	Neither agree nor disagree	Agree a little	Agree strongly
Is talkative	1	2	3	4	5

Survey Page for the Replication of the Condry (1976) Study

Emotions of Very Young Children

This is John (Jane)

Play Video

	Please circle to indicate how strong you think the emotion was in the clip that you just watched. Circle one for each of the emotions listed here.										
	Emotion Absent				Moderately Strong					Strongest Possible	
Anger	0	1	2	3	4	5	6	7	8	9	10
Fear	0	1	2	3	4	5	6	7	8	9	10

Please type the name of the baby seen in this video here: _____
(As seen on the top of this page).

Appendix G

Gender Manipulation Check

Please note: This is a mock-up and does not appear the same as the live page did.

Do you think the baby in the picture above is a boy or a girl? **"I think the baby in the above picture looks like a…"**		
1 = Girl	**4 = Can't Tell**	**7 = Boy**
1 2 3 4 5 6 7		