

Preadolescents' Gender Typicality:
An Exploration of Multidimensionality

by

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ABSTRACT

The goal of this study was to explore the multidimensionality of gender typicality and its relation to preadolescents' psychological adjustment. With a sample of 378 6th grade students (52% male; *M* age = 11.44, *SD* = .56; 48% White), I examined how four specific dimensions of gender typicality (behavior, appearance, activities, and peer preference) predict children's global sense of typicality; whether children's global sense of gender typicality, behavior, appearance, activities, and peer preference are differentially predictive of self-esteem, social preference, and relationship efficacy; and whether examining typicality of the other gender is important to add to own-gender typicality. Regression analyses indicated that all four specific typicality dimensions contributed to preadolescents' overall sense of own- and other-gender typicality (except appearance for own-gender typicality). Generally, all domains of gender typicality were related to the four adjustment outcomes. Own-gender typicality related more strongly to self-esteem, social preference, and own-gender relationship efficacy than did other-gender typicality; other-gender typicality was more strongly related to other-gender relationship efficacy. Relations between typicality and adjustment were stronger for gender-based relationship efficacy than for self-esteem or social preference. Although some differences existed, relations between typicality and adjustment were generally similar across typicality domains. Results implicate the need to measure other-gender typicality in addition to own-gender typicality. Additional contributions and suggestions for future research are discussed.

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CHAPTER 1

INTRODUCTION

Gender is a central element of preadolescents' identity. Gender typicality, or "feeling that one is a typical example of one's gender category," may be the most significant dimension of gender identity, as it has been linked to adjustment outcomes, such as self-worth, peer acceptance, and life satisfaction (Egan & Perry, 2001, p. 455; Khuri, 2005). Most of the research in this area, however, has been conducted with a relatively abstract approach to gender typicality. I propose that a more nuanced method may provide additional insights into gender typicality and its link to adjustment. Specifically, I propose that it is important to consider both global and specific components of gender typicality. In this paper, I begin by discussing how previous research has linked gender typicality and adjustment. Next, I define the concept of the multidimensionality of gender, discuss its role in current conceptualizations of gender typicality, and describe how the use of multiple dimensions of typicality can further elucidate the relation between gender typicality and adjustment. Specifically, I address three research questions: Do specific domains of gender typicality consistently contribute to a global sense of typicality? Do different domains of gender typicality differentially predict psychosocial adjustment outcomes? Is other-gender typicality useful in addition to own-gender typicality when predicting adjustment outcomes?

Egan and Perry (2001) sought to identify multiple dimensions that would constitute one's gender identity. As such, they were among the first researchers to develop a conceptualization of gender identity that encompassed four dimensions: knowledge of membership in a gender category, gender compatibility (made up of gender

typicality and gender contentedness), felt pressure to conform to gender roles, and intergroup bias (see Figure 1). In addition to measuring several dimensions of gender identity, they were among the first to hypothesize that these dimensions may have unique contributions to individuals' psychological adjustment. They linked gender typicality to four adjustment indices: self-worth, social competence, and acceptance from both male and female peers. In these cases, feeling typical of one's gender was associated with better psychological outcomes.

Egan and Perry (2001) made important contributions to the study of gender identity, such as a departure from masculine—feminine identity terminology and the inclusion of multiple dimensions of identity. However, their work also left ample opportunity for further study, particularly with the concept of gender typicality. For example, I propose that a more detailed, multidimensional understanding of children's gender typicality may provide additional insights into the nature of gender typicality and its link to adjustment.

The Development of Gender Typicality

To achieve a sense of gender typicality, children must first develop some social-cognitive prerequisites. During early and middle childhood, children develop a sense of gender constancy, which is achieved by meeting three important cognitive milestones (Kohlberg, 1966; Slaby & Frey, 1975). First, around the age of 2 or 3 years, children can accurately identify the gender of themselves and others. Around age 4 or 5, children begin to recognize that gender is stable over time. It is not until around age 6 or 7 that children gain a full understanding of the permanence of gender across time and contexts. After gender constancy is achieved, children are more motivated to use gender to

organize cognitions about their social world (Ruble & Martin, 1998). Throughout childhood, gender is used as an important cognitive organizer for all gender-related information (Martin & Halverson, 1981). For example, children develop gender schemas, which allow children to organize information about traits and behaviors and determine what is appropriate for members of each gender (Bem, 1981; Martin & Halverson, 1981). Other cognitive advances also allow them to develop a sense of their global gender typicality (Yunger, Carver, & Perry, 2004). For example, children develop the ability to make social comparisons; an awareness of stable, abstract characteristics in the self; and the ability to imagine how the collective other regards the self; all of which allow them to determine whether their own characteristics align with what is typical of their gender (Kagan, 1964; Kohlberg, 1966; Yunger et al., 2004).

For this study, I was interested in assessing gender typicality in a preadolescent sample. By this age, preadolescents have gained the necessary cognitive skills to make the social comparisons appropriate for determining a somewhat stable sense of gender typicality (Egan & Perry, 2001). In addition, at this age, gender typicality may be especially relevant to adjustment, compared to younger children or older adolescents. For preadolescents, there remain lingering norms of gender segregation, which is associated with stronger gender typing (Martin & Fabes, 2001). This is combined with an increasing salience of romantic themes and heterosexual relationships, which encourages gender typicality for both girls and boys so that they fulfill their respective roles (Thorne & Luria, 2001). Thus, I explored the relation of gender typicality and adjustment for preadolescents.

Conceptualizations of Gender Typicality

Being vs. feeling gender typical. When discussing gender typicality and its relation to psychosocial adjustment, it is important to conceptually distinguish between *being* gender typical and *feeling* gender typical. Being gender typical or atypical reflects the evaluation of an outside observer determining whether someone is behaving in a way that is typical for that person's gender. For example, in a clinical sample of children with gender identity disorder, Zucker and Bradley (1995) reported that these children displayed gender atypical appearance, play styles, and peer relations, as determined by observations and clinical assessments.

Alternatively, there are also measures of gender typicality that assess how typical children and preadolescents *feel* of their gender. These are, more generally, measured with children's self-report. For example, the current predominantly used measure of gender typicality (Egan & Perry, 2001) asks children about the degree to which they feel they are like other children of the same gender: "Some girls don't feel they're just like all the other girls their age, but other girls do feel they're just like all the other girls their age" and "Some girls think they are a good example of being a girl, but other girls don't think they are a good example of being a girl" are example items from this scale. In this case, gender atypicality would be determined by a child not feeling that they are typical of their own gender.

Egan and Perry (2001) argued that it is the individual's higher-order regard of the self as gender typical that is most important for affecting adjustment. In fact, when they examined both felt gender typicality and (self-reports of) strength of sex-typed attributes – such as male- or female-typed activities, agentic or communal traits, and preference for male or female peers – they found that felt gender typicality predicted adjustment, even

when controlling for the level of actual gender typing. For this reason, I assessed preadolescents' self-perceptions (*feelings*) of typicality and their relation to adjustment.

Measuring gender typicality. In addition to the conceptual distinction between being and feeling gender typical, it is important to know how gender typicality is being measured and the conceptual implications of using a particular measure. Currently, there are two approaches to measuring self-perceived gender typicality, each with somewhat different markers of what constitutes gender typicality. I briefly discuss how each approach defines and measures typicality to address the differences between them that are relevant to this study.

The first difference between these approaches is the gender group to which children compare their characteristics. Egan and Perry (2001) suggest that it is most important to consider how typical a person feels in comparison to their *own* gender group. Thus, the measure they created assesses how typical a child feels of their own gender group, and this is the construct they hypothesized would be most related to adjustment outcomes. However, another measure of gender typicality implicates the importance of typicality to the *other* gender group as well as the own gender group. This conceptualization more closely corresponds with the idea that masculinity and femininity are two orthogonal dimensions; it is possible to be similar to your own gender, the other gender, both genders, or neither (Martin, Andrews, England, Zosuls, & Ruble, under review). If this is the case, we need to expand the definition of gender typicality to include typicality of either gender and not necessarily the same gender of the child. This could have implications for typicality's relation to adjustment in that even if a child is not typical of their own gender, they could be typical of the other gender and receive the

same benefits of group membership they would with their own. In addition, being similar to both genders, similar to the idea of androgyny, would mean that children feel typical of both groups, potentially being even more psychologically protective than being typical of your own gender. In this case, the group of children most at risk for poor adjustment would be the group who feel similar to neither gender, likely due in part to their lack of a sense of belonging. For this study, I used this second measure, to assess preadolescents' typicality of both the own and other gender groups.

Another key difference between these two approaches is the level of self-perception of typicality being measured. Both scales ask children how typical they feel of their gender in several domains (e.g., global sense of typicality, activities, appearance, skills). Egan and Perry (2001) would then use the mean of these scores to indicate a higher-order, overall sense of gender typicality and use that value to predict adjustment outcomes. However, for this study, I separated the domains using items from the Martin et al. (under review) scale to determine whether these lower-order, domain-specific self-perceptions of typicality affect preadolescents' adjustment differently. Analyzing the domains separately is important in determining whether it is empirically useful to examine gender typicality at this level of detail, particularly for studying its relation to psychosocial adjustment, which is described below.

The Psychological Importance of Children's Gender Typicality

A sense of gender typicality can be an influential social reference tool that shapes preadolescents' view of themselves and others. For example, in addition to self-worth, social competence, and peer acceptance (Egan & Perry, 2001), gender typicality has been associated with several psychosocial adjustment outcomes, including self-esteem,

popularity, interpersonal trust, and life satisfaction (DiDonato & Berenbaum, 2013; Jewell & Brown, 2014; Khuri, 2005). Similarly, children who feel atypical of their gender exhibit poorer adjustment outcomes. For example, children who feel gender atypical are at risk for developing lower self-esteem, self-worth, social competence, and peer acceptance, and greater internalizing and externalizing problems and relationship difficulties, than their gender typical peers (Carver, Younger, & Perry, 2003; Cohen-Kettenis, Owen, Kaijser, Bradley, & Zucker, 2003; Younger et al., 2004; Zucker & Bradley, 1995).

Why does typicality affect adjustment? A few different explanations have been provided for the link between gender typicality and adjustment. One explanation from social identity theory research pertains to group membership. For example, being part of any sort of group, including a gender group, can provide benefits such as belief validation, goal achievement, a sense of belonging and social connectedness, and better adjustment outcomes, such as improved self-worth (Brewer & Silver, 2000; Cialdini & Richardson, 1980; Knowles & Gardner, 2008; Swann, Milton, & Polzer, 2000; Tajfel & Turner, 1979). In fact, that was the simple but important conclusion made by DiDonato and Berenbaum (2013) when they explored the connection between gender typicality and adjustment: being part of a group leads to better adjustment. In their study with a college student sample, they found that communality or social closeness was an important mediator of the relation between group typicality and adjustment. This suggests that the psychological benefits of being gender typical are not specific to the study of gender but are merely indicative of being typical of any social group. By the same token, children who feel atypical of their gender could have poorer adjustment because of a perceived

lack of this communality or social support.

Social identity research can also provide possible explanations for the link between gender atypicality and adjustment. For example, when children evaluate their gender typicality to determine whether they appropriately represent their gender group, they may suffer psychological discomfort or despair if they do not meet the appropriate standards (Egan & Perry, 2001; Younger et al., 2004). This could be because they feel a personal shortcoming, such as feeling inadequate as a group member (Kohlberg, 1969; Tajfel, 1982), or because of the anticipation of social repercussions such as ostracism or a denial of privileges or protection by the group (Bugental & Goodnow, 1998; Caporael & Brewer, 1991).

Thus, the link between gender typicality and adjustment is often discussed with the understanding that gender *atypicality* leads to poor adjustment and that the importance of feeling gender typical revolves around avoiding those negative outcomes. However, there are also theoretical explanations for the connection between gender atypicality and poor adjustment that call into question the implied inherent negativity of atypicality. One such explanation stems from the minority stress model (Lehavot & Simoni, 2011; Meyer, 1995, 2003). Although this model has been generally applied to the study of sexuality, it can also be used to examine gender atypicality. Meyer (1995) explained that minority status in social situations does not, in itself, lead to poor mental health; instead, stressors such as rejection, prejudice, or discrimination that result from being in the social minority contribute to minority individuals' poorer psychological health than their non-minority peers. For example, because institutional heteronormativity oppresses LGBT and gender non-conforming youth, the lack of social

acceptance and the presence of social oppression can lead to poor mental health (DePalma & Atkinson, 2010; Lehavot & Simoni, 2011). Thus, there is the possibility that it is not simply being or feeling gender atypical that causes poor adjustment outcomes but the lack of acceptance from peers or the larger social environment.

What is Multidimensionality?

In addition to the overall relation between gender typicality and adjustment, there is another layer of complexity of gender typicality that is important to explore. Specifically, there are multiple dimensions of gender typicality that could differentially affect adjustment. Thus, in this section, I will explain multidimensionality and its relevance to the current study.

The idea of the multidimensionality of gender is complex and represents different concepts at increasingly detailed levels of analysis. One definition of multidimensionality refers to the domains of variables that are necessary to measure to accurately represent a person's gender typicality. Gender typicality can be divided into multiple domains, such as activities and interests, personal-social attributes, and social relationships (see Table 1; Huston, 1983). It is possible that an individual's degree of gender typicality is not necessarily congruent across all domains; a person can be gender-typed in some domains while not in others. For example, a girl can prefer wearing dresses and pink clothes (gender-typical) and also prefer playing football and racing trucks (not gender-typical). Indeed, when this possibility was tested empirically in an adult sample, identification with instrumental and expressive traits was not necessarily correlated with the "appropriate" masculine or feminine activity preferences or occupational stereotypes (Spence & Hall, 1996). Further inquiry is needed to more fully

explore the domains of typicality in preadolescents as well as the potential effects of typicality on adjustment. Thus, I addressed this definition of multidimensionality in the present study by separately measuring five gender typicality domains: global typicality, as well as typicality of behavior, appearance, activities, and peer preference.

Another definition of multidimensionality refers to the number and orthogonality of gender identities. In the past, theorists conceptualized gender as a bipolar, unidimensional spectrum ranging from masculinity to femininity (see Constantinople, 1973, for review; see Figure 2). From this perspective, strongly identifying with one pole of the dimension necessitates the lack of identifying with the other: feeling masculine necessitates not feeling feminine. Alternately, there is the possibility that gender identities are orthogonal. People can identify strongly or mildly with either gender group, and the strength of one identification is independent of the other (Bem, 1974; Martin et al., under review). A person could feel very much like a boy and a girl, could feel more like one than the other, or could feel like neither. In this study, I explored this aspect of multidimensionality by examining preadolescents' other-gender typicality in addition to their own-gender typicality.

The Relevance of Gender Multidimensionality to Adjustment

Although research has established and replicated the connection between gender typicality and adjustment, this has been done with typicality measures that assess only overall typicality (see Figure 1, Row 3). Although the multiple dimensions shown in Row 4 may be measured to obtain the overall typicality score, scores on these dimensions are averaged, and any adjustment outcomes are predicted from this mean. I proposed that it may also be important to differentiate these dimensions of typicality, as they may affect

children's adjustment in different ways. Specifically, I used separate dimension scores, rather than an average, to predict children's adjustment. Analyzing it in this way would establish the dimensions of typicality most important for psychosocial adjustment, as well as the level of detail necessary when studying this link.

In her description of the multidimensionality of gender, Huston (1982) described different developmental pathways and trajectories for different aspects of gender typing. For example, children learn socially appropriate characteristics for each gender group regarding appearance, occupations, and activities earlier than they determine appropriate personal-social attributes or social behavior. This developmental progression logically leads to the possibility that each domain of gender typing can be differentially predictive of adjustment outcomes. When Spence and Hall (1996) sought to empirically inform this issue, they found that gender-typed domains such as instrumental or expressive characteristics, preference for masculine or feminine activities, and endorsement of gender-based occupational stereotypes, are not necessarily related, providing support for the multidimensional argument.

One possible explanation for a differential link between dimensions of gender typicality and adjustment stems from developmental intergroup theory. Bigler and Liben (2006) suggested that the most perceptually salient characteristics are the ones by which we are categorized and are therefore the basis of prejudice and stereotypes. For example, because of the easy perceptual identification of gender and society's constant use of gender as an important categorical tool, children learn about stereotypical distinctions and develop biases toward people based on their gender. By applying the lens of multidimensionality to this phenomenon, I propose that it is possible for salient

dimensions of gender typicality to become social categorical tools. Because perceptual salience stems from being visually apparent and having social importance assigned to them, it is likely that the external aspects of gender expression are the domains most associated with social outcomes. Indeed, when studying the social difficulties of LGBT adolescents with counter-stereotypical gender expression, atypicality of gender expression (e.g., appearance, mannerisms) is more important to their peers in how they treat these adolescents, rather than their internal sense of sexuality or gender identity (Horn, 2007). Furthermore, I expect that these more salient features could also differentially relate to adjustment outcomes, especially to those with a social origin. This was described as a possibility by Yunger et al. (2004), when they suggested that a child's low internal sense of gender typicality could lead to symptoms of internalized distress but that if their gender atypicality is visible to other children, they may be more prone to social difficulties. Alternately, it is possible that, if children are aware of the social importance of certain domains of gender typicality, they may internalize distress if they feel atypical in any domain. Therefore, it is important to explore the potential differences in adjustment outcomes based on multiple dimensions of children's gender typicality.

In addition, it is possible that this relation of typicality domains to adjustment could vary by gender. First, boys are subject to more social pressure to adhere to gender norms than girls (Blakemore, 2003). Thus, atypicality could relate to adjustment more negatively for boys than for girls. In addition, atypicality in one domain could be worse for boys' adjustment, whereas atypicality in another domain is most important for girls'. Indeed, it is most socially harmful for boys to *appear* gender atypical, whereas it is worse for girls to *act like* boys (Blakemore, 2003). Thus, I explored whether gender differences

existed in the relation between domains of typicality and adjustment.

Studying Multidimensionality

What domains contribute to global gender typicality? Because gender typicality is important for preadolescents' adjustment, it is important to understand how they evaluate their level of gender typicality. That is, what characteristics about the self do they choose to compare to their own (or the other) gender group? It is currently unclear which of the multiple domains of gender typing contribute to individuals' global sense of gender typicality. Perhaps certain domains, such as activities or appearance, are important typicality indicators, whereas other domains like peer preference may not be. To determine which domains of gender typing preadolescents consider when evaluating their global sense of gender typicality, I explored the contributions of four domains their global gender typicality.

It is also possible that there are gender differences in the relative importance of certain domains. For example, when children provided descriptions of stereotypical girls and boys, girls were more commonly described by their appearance, whereas boys were described by their traits and activities (Miller, Lurye, Zosuls, & Ruble, 2009). In addition, girls were more likely to describe children by their appearance than were boys, suggesting a gender difference in the accessibility of stereotypes in certain domains. This tendency for girls to describe children based on appearance, or the tendency to describe boys' activities may be related to cognitions about their own gender typicality as well. Thus, I explored whether the patterns of which domains contribute to a global sense of gender typicality vary by gender.

Which adjustment indicators should be examined? The focus of this study is

to explore the multidimensionality of gender by determining how different domains of gender typing may differentially relate to adjustment and whether the dimension of other-gender typicality is an empirically important addition to own-gender typicality. Thus, I attempted to replicate established links of gender typicality and adjustment, adding new information about the multidimensionality of gender. Because it was a landmark study for these constructs, I used the basic framework of Egan and Perry's (2001) analysis of the relation between gender typicality and adjustment and examine it through a multidimensional lens. They examined typicality in relation to self-worth, peer acceptance, and self-perceived social competence. For the current study, I measured preadolescents' self-esteem, social preference, and relationship efficacy. Including self-esteem and social preference maintains the similarity to the original study. In addition, I expanded the definition of adjustment to include newer areas of gender-related research. Specifically, rather than measuring general social competence, I explored the relation of gender typicality to a gender-based relationship efficacy, which can be defined as the ability to understand, communicate with, and interact with own- and other-gender peers (Zosuls, Field, Martin, Andrews, & England, 2014). Because expectancies for interacting with peers vary with peer gender (Zosuls et al., 2014), it is important to explore gender-specific differences in relationship efficacy as a marker of social competence, as well as whether these are associated with domains of gender typicality. That is, it is possible to feel efficacious interacting with peers of one gender but perhaps not the other. Thus, I explored the relation of the domains of typicality, as well as the distinction between own- and other-gender typicality, to relationship efficacy for interacting with the own and other gender. That is, does typicality in certain domains or with the own gender relate to

relationship efficacy with the own gender? Does it also relate to efficacy for interacting with the other gender? Does other-gender typicality relate to own- or other-gender relationship efficacy? One recent study found that other-gender typicality was related to other-gender relationship efficacy (Martin et al., under review). I attempted to replicate this finding, as well as determine whether any domains of typicality were more or less strongly related to other-gender relationship efficacy.

The Present Study

The purpose of the present study was to explore the multidimensionality of gender typicality and its relation to preadolescents' psychosocial adjustment.

Research goal 1. First, I explored which domains of gender typicality contribute to preadolescents' global gender typicality. Thus, I examined how four specific dimensions of gender typicality (behavior, appearance, activities, and peer preference) predicted preadolescents' global sense of typicality. In addition, I explored whether there were gender differences in how these domains contributed to global typicality. Because of the exploratory nature of this research question, I proposed no a priori hypotheses.

Research goal 2. Second, I explored whether different domains of either own- or other-gender typicality differentially affect adjustment (global, behavior, appearance, activities, and peer preference). Generally, I expected that all domains of typicality would be positively related to self-esteem, social preference, and gender-based relationship efficacy. However, although it is possible that more visually salient domains may be more strongly related, I made no specific predictions about the differential relations of specific domains with these adjustment outcomes.

Research goal 3. Third, I assessed how other-gender typicality contributes to

adjustment. I tested this in two ways: by exploring whether other-gender typicality predicted adjustment over and above own-gender typicality, and whether there were interactions between own- and other-gender typicality in predicting adjustment. For this first test, because of the lack of previous research using other-gender typicality, I formed no hypotheses about whether other-gender typicality would predict self-esteem, social preference, or own-gender relationship efficacy over and above own-gender typicality. However, I expected that other-gender typicality would be positively related to relationship efficacy with the other gender.

I was also interested in exploring whether own- and other-gender typicality interacted in the prediction of adjustment. Because most research established connections between own-gender typicality and adjustment, I considered other-gender typicality as a possible moderator in the relation between own-gender typicality and self-esteem, social preference, and relationship efficacy for the own gender. However, because other-gender typicality is more strongly related to other-gender relationship efficacy (Martin et al., under review), I explored whether own-gender typicality moderated the relation between other-gender typicality and relationship efficacy with the other gender.

CHAPTER 2

METHOD

Participants and Procedure

Participants were 378 6th grade students (52% male; M age = 11.44, SD = .56) of diverse ethnic backgrounds (48% White, 22% Other [including bi- and multi-ethnic], 16% Latino, 6% Asian, 4% Native American, 4% Black, <1% Pacific Islander). Students were recruited from four elementary schools in a large city in the southwestern United States. After receiving passive consent from parents and assent from students, the participation rate was 96%. The research team visited classrooms and administered a paper survey to all assenting students. Surveys included measures assessing students' peer relationships and their gender-related attitudes and beliefs. Students completed surveys on their own but could ask the research assistants for help if they needed it. It took approximately 60 minutes for students to complete the packets. They were given a small gift for participating.

Measures

Gender typicality. Students responded to questions asking about their perceived similarity to their own and the other gender group (Martin et al., under review). There were five items corresponding to the multiple dimensions of gender typing. Items include a global measure of similarity, "How similar do you feel to [boys/girls]," and 4 specific items: "How much do you act like [boys/girls]," "How much do you look like [boys/girls]," "How much do you like to do the same things as [boys/girls]," "How much do you like to spend time with [boys/girls]." Responses were recorded on a Likert scale from 0 (*not at all*) to 4 (*a lot*). Higher scores indicated greater gender typicality. All

participants responded to the five items twice, once asking about similarity to girls and once about similarity to boys. Responses were then recoded into own- and other-gender scores. Because analysis will be conducted at the item level, no scale reliabilities were computed.

Self-esteem. Participants completed the Rosenberg Self-Esteem questionnaire (Rosenberg, 1965). Items included “I am satisfied with myself.” Responses were recorded on a 4-point Likert scale from 0 (*strongly disagree*) to 3 (*strongly agree*), with higher scores representing greater self-esteem. Reliability for this scale was acceptable, $\alpha = .86$.

Social preference. Students completed a peer nomination section to assess how accepted, or preferred, they were by their peers. Items included “Name up to 3 students from your class that you like the most” and “...like the least.” Social preference scores for each student were then calculated by subtracting the number of times they were nominated for the “like least” item from the number of “like most” nominations (Coie, Dodge, & Coppotelli, 1982; Peery, 1979). These scores were then standardized by classroom to account for differing class size.

Gender-based relationship efficacy. Students’ relationship efficacy for interacting with own- and other-gender peers was also assessed (Zosuls et al., 2014). Items included “How much do you know how to talk to [girls/boys]?” Responses were recorded on a 5-point Likert scale from 0 (*not at all*) to 4 (*a lot*). Students responded to all items for relationship efficacy with girls and with boys, and responses were recoded into own- and other-gender scores. Reliabilities were good for both scales, α (own-gender) = .88; α (other-gender) = .89.

Analytic Plan

First, I conducted preliminary analyses to assess the normality, skewness, and kurtosis of the data. I present the means and standard deviations of each measure, along with any significant gender differences in these means, as determined by comparing boys and girls with independent-samples *t* tests. Finally, I computed correlations for all key variables.

Research Goal 1. To examine whether four domains of gender typicality consistently contribute to children's global sense of typicality, I conducted a hierarchical linear regression, with the global typicality item as the dependent variable. Gender was entered in the first step. Then, I entered the four typicality domain variables (behavior, appearance, activities, and peer preference) as predictors in the second step. Because I was interested in finding whether there were gender differences in how these domains related to global typicality, I included gender interactions with each typicality item in the third step.

Research Goals 2 and 3. To determine whether the multiple dimensions of gender typicality differentially affect adjustment, I conducted a hierarchical linear regression for each outcome (self-esteem, social preference, and gender-based relationship efficacy). In addition, because the five items corresponding to the typicality domains were moderately correlated, they were included in separate models. This resulted in twenty regression models. I addressed the third research question, which was to determine whether other-gender typicality is related to adjustment, by including other-gender typicality items in these models as well. For all models, gender was entered in the first step. In the second step, I included the own- and other-gender typicality items for

the appropriate domain (i.e., own- and other-gender global typicality in one model, own- and other-gender behavior typicality in another, etc.). The third step included all two-way interactions among these variables: gender by own-gender typicality, gender by other-gender typicality, and own- by other-gender typicality. The fourth and final step included the three-way interaction of gender, own-gender typicality, and other-gender typicality for the appropriate domain. Any significant interactions were explored using Aiken and West's (1991) recommended procedures.

CHAPTER 3

RESULTS

Descriptive Statistics

Means and standard deviations of study variables are displayed in Table 2. Generally, boys reported greater own-gender typicality, and girls reported greater other-gender typicality. For the adjustment outcomes, boys reported greater self-esteem and GBRE-own, girls had higher social preference scores, and there were no gender differences in reported GBRE-other. Mean scores for some measures were closer to the extremes than the midpoint of the scale. In particular, own-gender appearance and GBRE-own scores were quite high; other-gender behavior and appearance scores were quite low. However, after examining the skewness and kurtosis of all variables, I determined that only the other-gender appearance item was positively skewed. I subsequently performed a square-root transformation on this item to account for the lack of normality. Table 3 displays the correlations of all study variables. Own-gender typicality items were moderately correlated, as were other-gender typicality items, and most typicality items were related to each of the adjustment outcomes.

Research Goal 1

To address the first research goal, which was to determine which domains of typicality were most strongly related to global gender typicality, I conducted two hierarchical linear regressions. The first model predicted own-gender typicality; the second predicted other-gender typicality. The initial model structure was as follows: gender was entered in step 1; in step 2, all four items corresponding to the specific domains of gender typing (behavior, appearance, activities, and peer preference) were

entered as predictors. Because I was also interested in determining whether there were gender differences in the domains that related to global typicality, initial models also included gender interactions. Thus, in step 3, I entered interaction terms for each typicality item with gender; and the corresponding global typicality item (own-gender or other-gender) was the dependent variable. For example, for the model predicting own-gender typicality, the third step included interaction terms for gender with own-gender behavior typicality, with own-gender appearance, with own-gender activities, and own-gender peer preference. After conducting these analyses, no gender interactions were significant. Therefore, final models included only the four typicality domain items as predictors. To assess the relative contributions of each domain to global typicality, we compared the regression coefficients as well as the squared part correlations of the predictors in each model.

Own-gender typicality. The overall model including all four gender typing domains was significant, $F(4, 363) = 76.91, p < .001, R^2 = .46$, such that higher typicality on specific domains was associated with a greater sense of global gender typicality. Examining each predictor separately, we found that the behavior, activities, and peer preference items contributed to global typicality (β s = .26, .20, and .30, respectively; all p s < .001), whereas the appearance item did not ($\beta = .07, ns$). By comparing the regression coefficients for each item, we can see that spending time with own-gender peers is related to higher global sense of gender typicality, followed by own-gender behaviors, activities, and appearance. Similarly, peer preference accounted for 6% of the variance in perceived global typicality (partialling out the effects of typicality in other domains), behavior for 3%, activities for 2%, and appearance for <1%.

Other-gender typicality. The overall model showed that the four specific domains of gender typing were related to global other-gender typicality, $F(4, 358) = 48.49, p < .001, R^2 = .35$. All four items significantly contributed to this relation. Engaging in the same activities as other-gender peers was most strongly related to global other-gender typicality, followed by behavior, peer preference, and appearance (β s = .28, .23, .15, and .12, respectively; all p s < .05). Other-gender activities accounted for 4% of the variance in global typicality (controlling for the effects of other domains of typicality), behavior for 3%, peer preference for 2%, and appearance for 1%.

Research Goals 2 and 3

To address the second research goal, which was to determine whether the five domains of gender typicality were differentially related to adjustment outcomes, I conducted a series of hierarchical linear regressions. Separate models were run for each outcome (self-esteem, social preference, and relationship efficacy with the own and other gender). In addition, because the typicality items are moderately correlated, we conducted separate analyses for each typicality domain (global, behavior, appearance, activities, and peer preference) predicting each outcome, resulting in twenty regression models. I also addressed the third research goal, examining whether other-gender typicality is also important in predicting adjustment, by including other-gender typicality items in these models. To examine the contributions of own- and other-gender typicality to adjustment separately by domain, I included corresponding own- and other-gender typicality items in the same model (i.e., one model including global own-gender typicality and global other-gender typicality; a separate model including own-gender typical behavior and other-gender typical behavior, etc.). I examined whether other-

gender typicality predicted adjustment over and above own-gender typicality and whether there were interactions between own- and other-gender typicality.

All initial regression models shared the same structure. In the first step, I controlled for gender. In the second step, I entered the corresponding pair of typicality items. The third step included all two-way interactions (gender with own- and other-gender typicality, and own- with other-gender typicality). The fourth and final step included the three-way interaction of gender with own- and other-gender typicality. Because of the focus of the research questions, gender, own-gender typicality, and other-gender typicality were always included in the final regression models. Otherwise, only significant interactions were included in the final models (see Tables 3-6 for summaries of all final models). Any significant interactions between own- and other-gender typicality were explored using Aiken and West's (1991) procedures. Own-gender typicality was held constant at one standard deviation above and below the centered mean. Slopes of the simple regression lines at these values were then calculated and tested accordingly. Because most of the established links between gender typicality and adjustment refer to own-gender typicality, I expected that own-gender typicality would likely be the stronger predictor of adjustment (compared to other-gender typicality). Thus, when predicting self-esteem, social preference, and GBRE-own, I conceptualized other-gender typicality as the moderator for own- by other-gender typicality interactions and interpreted results accordingly. However, because Martin et al. (under review) found that other-gender typicality more strongly related to GBRE-other, own-gender typicality was considered the moderator for interactions in the models predicting GBRE-other.

Because of the correlations among the typicality domain items and the decision to

conduct separate analyses for each domain, I considered making an alpha adjustment to correct for Type I error. However, because the goal of the current study is to be theoretically exploratory, rather than to draw robust statistical conclusions, I made the decision to not sacrifice statistical power by making an alpha adjustment. Thus, all findings were determined to be significant at $p < .05$.

Self-esteem. Five separate models were run predicting self-esteem from each of the five typicality domains (see Table 4). Overall, there were gender differences in levels of self-esteem, with boys reporting higher self-esteem than girls (see Table 2 for *M*s and *SD*s). However, no gender interactions were present for any typicality domain, nor an interaction between own- and other-gender typicality. In addition, other-gender typicality did not significantly relate to self-esteem for any domain. However, global own-gender typicality, as well as typicality of behavior, activities, and peer preference was positively related to self-esteem. Thus, only typicality of appearance was unrelated to this outcome. In addition, the strength of the relationship between gender typicality and self-esteem varied somewhat by domain (β s ranged from .17 to .29).

Social preference. We analyzed five models predicting social preference from the five gender typicality domains (see Table 5). Overall, girls had higher social preference scores (i.e., were more preferred by their peers) than were boys. In addition, examining domains separately resulted in different final models for global typicality than for the four specific domains of typicality. For global typicality, the fourth model was significant. In that model, own-gender typicality, the own- by other-gender interaction, and the gender by own- by other-gender typicality interaction was significant. Own-gender typicality was positively related to social preference, as was the own-other

interaction. However, these were subsumed by the gender by own- by other-gender typicality interaction. Testing this interaction showed that the own- by other-gender typicality interaction was significant only for girls and not for boys. For girls, the positive relation between own-gender global typicality and social preference was significant only when other-gender global typicality was high, $\beta = .03$, $t(173) = 3.83$, $p < .001$; there was no relation between own-gender typicality and social preference when other-gender typicality was low, $\beta = .00$, $t(173) = .32$, *ns* (see Figure 3).

For the four specific typicality domains, only own-gender typicality was positively related to social preference (β s = .13 to .19). Other-gender typicality did not relate to social preference.

GBRE-own. Five separate models predicted relationship efficacy with own-gender peers (see Table 6). Overall, boys reported higher GBRE-own than did girls. In addition, I found differing relationships with GBRE-own across typicality domains. For global typicality, the third model was significant. In that model, own-gender typicality was positively related to GBRE-own. However, this effect was subsumed by the significant own- by other-gender interaction and the gender by own-gender typicality interaction. Exploring the gender by own-gender typicality interaction showed that own-gender typicality was positively related to GBRE-own scores, and this pattern was stronger for girls ($\beta = .50$) than for boys ($\beta = .42$), although both were significant $F(2, 170) = 29.13$, $p < .001$, and $F(2, 188) = 19.69$, $p < .001$ (not shown in figure). When the own- by other-gender global typicality interaction was explored, the positive relation between own-gender typicality and GBRE-own was significant at both low, $\beta = .38$, $t(363) = 9.09$, $p < .001$, and high, $\beta = .27$, $t(363) = 7.51$, $p < .001$, levels of other-gender

typicality; however, the relation between own-gender global typicality and GBRE-own was stronger when other-gender global typicality was low (see Figure 4).

For the behavior domain, the third model was significant. In that model, own-gender typicality was positively related to GBRE-own; however, this effect was involved in the own- by other-gender typicality interaction. Further testing indicated that the positive relation between own-gender behavior typicality and GBRE-own was significant at both low, $\beta = .36, t(365) = 8.23, p < .001$, and high, $\beta = .24, t(365) = 7.39, p < .001$, levels of other-gender typicality (see Figure 5), but the slope was larger for low levels of other-gender typicality.

In the appearance domain, the third model was significant. In that model, own-gender typicality was positively related to GBRE-own; however, this effect was subsumed by the own- by other-gender typicality interaction. Probing this interaction showed that the positive relation of own-gender appearance typicality and GBRE-own was significant at both low, $\beta = .28, t(364) = 5.88, p < .001$, and high, $\beta = .11, t(364) = 3.44, p < .001$, levels of other-gender typicality, but was stronger when other-gender appearance typicality was low (see Figure 6).

For typicality of activities and peer preference, no interactions were present. For both these domains, own-gender typicality was positively related to GBRE-own. There was no significant relationship between other-gender typicality and GBRE-own.

GBRE-Other. We ran five separate models predicting GBRE-other from the five typicality domains (see Table 7). Overall, there were no gender differences in levels of GBRE-other. However, there were differences in the relationships between the five domains of typicality and GBRE-other. For global typicality, own-gender typicality,

other-gender typicality, and the own- by other-gender typicality interaction were significant. Exploring this interaction showed that the positive relation between other-gender global typicality and GBRE-other is significant when own-gender typicality is low, $\beta = .26$, $t(362) = 4.71$, $p < .001$, but not when own-gender typicality is high, $\beta = .07$, $t(362) = 1.06$, *ns* (see Figure 7).

For the four specific domains of gender typing, there were no interactions. Both own- and other-gender typicality of behavior and of activities were positively related to GBRE-other. For appearance, only own-gender typicality was positively related to GBRE-other. For peer preference, only other-gender typicality was positively related to GBRE-other.

CHAPTER 4

DISCUSSION

In this study, I sought to explore the multidimensionality of gender typicality and its relation to preadolescents' psychological adjustment. To accomplish these goals, I measured five domains of gender typing, as well as typicality of the own and the other gender. Specifically, I examined how four specific dimensions of gender typicality (behavior, appearance, activities, and peer preference) predict children's global sense of typicality; whether children's global sense of gender typicality, behavior, appearance, activities, and peer preference are differentially predictive of self-esteem, social preference, and relationship efficacy; and whether examining other-gender typicality adds predictive ability over own-gender typicality or moderates the relation between own-gender typicality and adjustment.

For each of the research goals, I discuss the findings along with theoretical implications and suggestions for future research. Then I present limitations, future directions, and overall conclusions. Because of the complexity of the second and third research goals, I discuss patterns in these results by the domain of typicality, by the distinction between own- and other-gender typicality, and by the outcome being measured.

Research Goal 1: Which Domains Predict Global Typicality?

The first research goal was to determine which domains of gender typing most strongly contributed to preadolescents' overall evaluation of their gender typicality. I found that all four specific domains – behavior, appearance, activities, and peer preference – contribute to a global sense of typicality (except that appearance similarity

does not contribute to own-gender typicality). These results suggest that preadolescents think about these domains when deciding on their global gender typicality and that they are aware of their typicality in each of these domains. These findings are consistent with others showing that typicality is related to gender-typed activities and interests, as well as to communal or agentic personality characteristics (Egan & Perry, 2001). However, it is also interesting that appearance did not contribute to own-gender typicality. Perhaps preadolescents view any appearance as a normative variation within their own gender; alternately, it is possible that, because behavior, activities, and peer preference are more important contributors to global typicality, appearance simply becomes irrelevant. Because we established the connection between global typicality and the specific domains, we now have a better understanding of how gender typing contributes to children's gender identity. However, there was variance in global typicality unaccounted for by the other four typicality domains; thus, there is some aspect of the essence of preadolescents' evaluation of their gender typicality that is yet to be captured by current measurement. Thus, researchers should measure each of the domains included in this study, as well as discover these other key aspects of global typicality, to fully understand children's gender typicality.

However, despite now having a better understanding of gender typicality, there are complexities still to explore. When discussing the development of a sense of gender typicality, Spence (1993; Spence & Buckner, 1996) described a complex calculus of assigning weights of importance to particular domains based on a person's own skills, interests or beliefs about gender roles. Each domain is assigned a certain weight by each person, influenced by what they have determined to be most important and essential

characteristics of their gender. If a child is lacking of the appropriate level in any “important” domain, they may decrease the weight of that domain and compensate with another to maintain a high level of typicality. Alternately, they could continue to weigh this domain as important and determine that they are lacking in this domain, resulting in a lowered assessment of gender typicality. In the future, it would be interesting to use a person-centered approach to explore whether there are individual differences in these patterns; that is, are there different profiles with varying levels of importance for each domain. For example, these profiles could vary based on skill or self-efficacy in a certain gender-typed domain, such as math. If a boy is skilled in math, a male-typed domain, he may believe math achievement to be an important domain for gender typicality and feel gender typical. If he were not very good at math, he could compensate for this lack of skill by assigning more weight to his talent for soccer, another boy-typical activity, and determine that he is still a typical boy. Alternately, he could continue to weigh this domain as important and determine that he is lacking in this domain, resulting in a lowered assessment of gender typicality. The reasons individuals either compensate with other typicality domains or maintain the same ones, even if they feel atypical, is worth future investigation. Thus, more exploration is needed to understand the intricacies of individuals’ components of gender typicality.

Research Goal 2: Do Domains Differentially Relate to Adjustment?

The second research goal was to determine whether the domains of gender typing were differentially predictive of adjustment. Although there were slightly different patterns of prediction across the five typicality domains, generally the same predictors were significant in the final steps of all models. For example, gender and own-gender

typicality were significant in the final models predicting social preference from behavior, appearance, activities, and peer preference. However, some differences were also present. The most pronounced difference was that the global domain, or preadolescents' global sense of gender typicality, was the strongest predictor of self-esteem, social preference, and relationship efficacy with the own gender. Thus, although it is important to conceptually consider potential differences in domains, they may not be distinct enough constructs to clearly differentially affect adjustment. However, further research is needed to determine whether more detailed measures of these typicality domains would provide different results. For example, perhaps measuring the specific components that comprise each typicality domain would grant us more accurate measurement that would, in turn, allow us to more clearly differentiate the constructs and observe greater predictive ability. Alternately, the prediction patterns for typicality domains could be different if we explored other adjustment outcomes that vary by source (social or individual), perceptibility (internal or external), or reporter (self-report or peer-report).

Research Goal 3: Does Other-Gender Typicality Relate to Adjustment?

The third research goal was to determine whether both own- and other-gender typicality is important, especially when predicting adjustment outcomes. I explored whether other-gender typicality predicted over and above own-gender typicality and whether other-gender typicality moderated the relation between own-gender typicality and adjustment. The results suggest that, although it is important to measure both own- and other-gender typicality when assessing the link to adjustment, own-gender typicality seems to be more important. The current prevalent view of gender typicality is that the own-gender group, rather than the other-gender group, is more important for social

comparison and that it is thus more important to consider for adjustment outcomes (Egan & Perry, 2001). The results support this: own-gender typicality was the strongest predictor of self-esteem, social preference, and relationship efficacy for interacting with the own-gender. In addition, of 20 regression models predicting adjustment from own- and other-gender typicality, own-gender typicality was a significant predictor for 18 of them; other-gender typicality was significant for four of them.

Other-gender typicality was still important to explore. Measuring other-gender typicality was especially important for predicting relationship efficacy for interacting with the other gender. Generally, feeling typical of the other gender was related to feeling more efficacious when interacting with other-gender peers. This is likely because of a sense of belonging with that group and feeling comfortable with the activities and preferences of that group. It is also beneficial to examine own- and other-gender typicality together to observe the importance of the interaction between them. In the present study, other-gender typicality was most strongly related to GBRE-other when own-gender typicality was low. In addition, own-gender typicality was positively related to adjustment, regardless of the degree of other-gender typicality; however, own-gender typicality was most strongly related to adjustment when other-gender typicality was low. Overall, the results suggest that own-gender typicality is more important for preadolescents' adjustment, at least for self-esteem, social preference, and own-gender relationship efficacy, which is consistent with previous research (Egan & Perry, 2001); however, it is still important to measure other-gender typicality because it provides additional information and grants a more detailed understanding of children's gender identity.

Differences in Prediction by Adjustment Outcome

The importance of measuring own- and other-gender typicality and differentiating the domains of typicality also varied based on the outcome being measured. For example, only own-gender typicality was a significant predictor of self-esteem; previous studies also established the link between typicality and self-esteem when only own-gender typicality was measured (e.g., Egan & Perry, 2001; Yunger et al., 2004). Because belonging and social closeness are important in the link between gender typicality and self-esteem (DiDonato & Berenbaum, 2013; Knowles & Gardner, 2008), it is important to consider the reference group for social comparison for the current sample. Generally, many children identify most strongly with their own gender group (Martin et al., under review); thus, the likely reference group for the majority of this sample was their own gender. Because the analysis was conducted with the sample as a whole, this majority is likely carrying the effect of predicting self-esteem from gender typicality. Thus, for the current sample, own-gender typicality was the strongest predictor of self-esteem. It is possible that children who do not feel highly own-gender typical may use the other-gender group for reference, rather than their own, because of a lack of identification with their own gender. For example, a child who feels highly typical of the other gender but not their own because they feel they belong more to that group; alternately, a child who feels typical of both groups may be able to feel belongingness from either group and thus use either group for comparison based on the situation. Thus, it would be interesting to separate children into the same, cross, both, and low typologies of gender typicality (Martin et al., under review), to determine whether self-esteem varies because of this potential difference in reference group. In addition, as this was the only internal,

psychological adjustment measure included in this study, it would be interesting to determine whether own-gender typicality was also more important than other-gender typicality for predicting other similar self-reported internal outcomes such as depression, anxiety, or self-confidence.

For social preference, I had hypothesized that, because this was a peer-report measure rather than self-report, the relation between typicality and social preference may differ for the external, social, or more visually salient domains compared to the internal global domain. Because peers are unable to know how typical a person feels of their gender, they must rely on external cues to create their own judgments of their gender typicality; it is these judgments, in turn, that affect their social interactions with that peer, including how much they like that peer. However, the expectation that external, visible domains of typicality would be more predictive of this social outcome than the internal, global domain was not supported by the results. Instead, the global domain accounted for more variance in social preference than did any of the other four domains. This finding is consistent with previous research that established that adolescents who felt gender typical were more popular (i.e., received more positive sociometric nominations) than gender atypical adolescents (Jewell & Brown, 2014). It may be that the global domain captures the essential gender typicality of an individual well because it reflects each of the other domains. That is, we know from the first research question that each domain contributes to the global typicality score, so that any one domain, such as appearance or another external domain, is unlikely to represent identity as well as the global domain. Furthermore, one's global sense of typicality might be comprised of more domains than we assessed in this study. Future research on this topic is needed.

In the future, it would be interesting to explore whether the effect of typicality on social preference varies by the gender of the peer respondent. For example, because boys are expected to be more gender typical than girls (Blakemore, 2003), it is possible that they prefer these same qualities in their peers. Thus, additional exploration of these findings in which social preference is calculated separately by each gender is needed to assess this hypothesis. In addition, the relation between a preadolescent's gender typicality and how preferred they are by their peers could vary based on the gender typicality of the peers. Because people tend to group with others similar to themselves (McPherson, Smith-Lovin, & Cook, 2001), it is possible that gender typical preadolescents prefer more typical peers and that gender atypical peers prefer atypical peers.

Generally, gender typicality was more strongly related to gender-based relationship efficacy than to self-esteem or social preference. This was true for both own- and other-gender typicality, predicting both own- and other-gender relationship efficacy. In addition, relationship efficacy was strongly related to all five domains of typicality. It is possible there was a stronger association of typicality with relationship efficacy because it is a gender-specific measure, and it may detect more nuances in the relation of social identity and social interactions based on this important social category. In general, own-gender typicality predicted greater own-gender relationship efficacy and other-gender typicality predicted greater other-gender relationship efficacy. However, in some cases, own-gender typicality also predicted other-gender relationship efficacy. This relation could stem from gendered expectations for social interactions; perhaps feeling own-gender typical allows familiarity with their expected social roles in interactions and,

therefore, greater feelings of efficacy when interacting with the other gender (Thorne & Luria, 2001).

Limitations and Future Directions

It is important to note that the link between gender typicality and adjustment is likely to be a contextual process that is dependent on many environmental characteristics. First, it is possible that what is important for gender roles varies by culture or region, and that these differences could affect the link to adjustment. Perhaps there are different domains of typicality important for some groups; alternately, it is possible that the same domains represent typicality but that the ways in which typicality is manifested varies between groups. In addition, perhaps there are important contextual moderators for this relation. For example, the role of the social environment is critical for providing a nurturing and accepting environment for atypical children or an unhealthy, rejecting one. If gender atypical children interact with others who are understanding and accepting of diversity in gender expression, they no longer exhibit the poor psychological outcomes other gender atypical children are at risk for (Ryan, Petraw, & Bednar, 2013). Alternately, if gender atypical children are in an environment where they feel great pressure to conform to gender norms, they are at risk for poor adjustment (Meyer, 1995, 2003; Yunger et al., 2004). Thus, because this is a contextual phenomenon that may not affect all preadolescents in the same way, it is important to understand the limitations in generalizability. The current sample was from the southwestern US, and it is possible that the relations we see for gender typicality may be different in other contexts.

In addition, there were limits in the ability to measure details of gender typicality. The current measure consisted of only one item per domain of gender typing. Thus, the

distinction of the constructs of each domain was unable to be statistically tested. In the future, more indicators per proposed gender typing construct should be included. Thus, more research is needed on establishing sufficiently detailed measures of own- and other-gender typicality.

Conclusion

In this study, I explored the importance of the multidimensionality of gender – by examining multiple domains of gender typing and the orthogonality of own- and other-gender identities. The results have implications for both theory and measurement of gender research. Based on the current findings, it is important to examine both own- and other-gender typicality when studying adjustment outcomes, especially for gender-specific measures such as GBRE. However, own-gender typicality remains more important for predicting adjustment. In addition, although domains of gender typing do not differentially relate to adjustment, it is important to measure multiple domains of gender typing to have the broadest and most accurate representation of gender typicality. Furthermore, the greatest predictive ability was observed for our gender-specific outcome measure, implicating the need for developing other gender-specific measures of social cognitions. Researchers should thus incorporate the complexity of gender identity into the conceptualization and measurement of future studies.

REFERENCES

- Aiken, L. S., & West, S. G. (1991). *Multiple regression: Testing and interpreting interactions*. Newbury Park: Sage.
- Bem, S. L. (1974). The measurement of psychological androgyny. *Journal of Consulting and Clinical Psychology, 42*, 155-162. doi: 10.1037/h0036215
- Bem, S. L. (1981). Gender schema theory: A cognitive account of sex typing. *Psychological Review, 88*, 354-364. doi: 10.1037//0033-295x.88.4.354
- Bigler, R. S., & Liben, L. S. (2006). A developmental intergroup theory of social stereotypes and prejudice. In R. V. Kail (Ed.), *Advances in child development and behavior, Vol. 34* (pp. 39-89). San Diego, CA: Elsevier Academic Press. doi: 10.1016/s0065-2407(06)80004-2
- Blakemore, J. E. O. (2003). Children's beliefs about violating gender norms: Boys shouldn't look like girls, and girls shouldn't act like boys. *Sex Roles, 48*, 411-419.
- Brewer, M. B., & Silver, M. D. (2000). Group distinctiveness, social identification, and collective mobilization. In S. Stryker, T. J. Owens, & R. W. White (Eds.), *Self, identity, and social movements* (pp. 153-171). Minneapolis: University of Minnesota Press.
- Bugental, D. B., & Goodnow, J. G. (1998). Socialization processes. In N. Eisenberg (Vol. Ed.), *Handbook of child psychology: Vol. 3., Social, emotional, and personality development* (pp. 389-462). New York: Wiley.
- Caporael, L. R., & Brewer, M. B. (1991). Reviving evolutionary psychology: Biology meets society. *Journal of Social Issues, 47*, 187-195. doi: 10.1111/j.1540-4560.1991.tb01830.x
- Carver, P. R., Yunger, J. L., & Perry, D. G. (2003). Gender identity and adjustment in middle childhood. *Sex Roles, 49*, 95-109. doi: 10.1023/a:1024423012063
- Cialdini, R. B., & Richardson, K. D. (1980). Two indirect tactics of image management: Basking and blasting. *Journal of Personality and Social Psychology, 39*, 406-415. doi: 10.1037//0022-3514.39.3.406
- Cohen-Kettenis, P. T., Owen, A., Kaijser, V. G., Bradley, S. J., & Zucker, K. J. (2003). Demographic characteristics, social competence, and behavior problems in children with gender identity disorder: A cross-national, cross-clinic comparative analysis. *Journal of Abnormal Child Psychology, 31*, 41-53. doi: 10.1023/a:1021769215342
- Coie, J. D., Dodge, K. A., & Coppotelli, H. (1982). Dimensions and types of social status: A cross-age perspective. *Developmental Psychology, 18*, 557-570. doi:

10.1037//0012-1649.18.4.557

- Constantinople, A. (1973). Masculinity-femininity: An exception to a famous dictum? *Psychological Bulletin*, *80*, 389-407. doi: 10.1037/h0035334
- DePalma, R., & Atkinson, E. (2010). The nature of institutional heteronormativity in primary schools and practice-based responses. *Teaching and Teacher Education*, *26*, 1669-1676. doi: 10.1016/j.tate.2010.06.018
- DiDonato, M. D., & Berenbaum, S. A. (2013). Predictors and consequences of gender typicality: The mediating role of communality. *Archives of Sexual Behavior*, *42*, 429-436. doi: 10.1007/s10508-012-9955-1
- Egan, S. K., & Perry, D. G. (2001). Gender identity: A multidimensional analysis with implications for psychosocial adjustment. *Developmental Psychology*, *4*, 451-463. doi: 10.1037//0012-1649.37.4.451
- Horn, S. S. (2007). Adolescents' acceptance of same-sex peers based on sexual orientation and gender expression. *Journal of Youth and Adolescence*, *36*, 363-371. doi: 10.1007/s10964-006-9111-0.
- Huston, A. C. (1982). *Sex typing and socialization*. Paper presented at the Annual Meeting of the American Psychological Association (90th, Washington, D. C., August 23-27, 1982).
- Huston, A. C. (1983). Sex typing. In P. H. Mussen (Ed.), *Handbook of child psychology: Vol. 4. Socialization, personality, and social development*. New York: Wiley.
- Jewell, J. A. (2014). Relations among gender typicality, peer relations, and mental health during early adolescence. *Social Development*, *23*, 137-156. doi: 10.1111/sode.12042
- Kagan, J. (1964). Acquisition and significance of sex-typing and sex-role identity. In M. L. Hoffman & L. W. Hoffman (Eds.), *Review of child development research, Vol. 1*. New York: Russell Sage Foundation.
- Khuri, J. (2005). *The consequences of early gender-typicality: Findings in a female sample* (Doctoral dissertation). Retrieved from Psycinfo June 11, 2014.
- Knowles, M. L., & Gardner, W. L. (2008). Benefits of membership: The activation and amplification of group identities in response to social rejection. *Personality and Social Psychology Bulletin*, *34*, 1200-1213. doi: 10.1177/0146167208320062
- Kohlberg, L. (1966). A cognitive-developmental analysis of children's sex-role concepts and attitudes. In E. Maccoby (Ed.), *The development of sex differences*. Stanford, CA: Stanford University Press.

- Kohlberg, L. (1969). Stage and sequence: The cognitive-developmental approach to socialization. In D. A. Goslin (Ed.), *Handbook of socialization theory and research*. Chicago: Rand McNally.
- Lehavot, K., & Simoni, J. M. (2011). The impact of minority stress on mental health and substance use among sexual minority women. *Journal of Consulting and Clinical Psychology, 79*, 159-170. doi: 10.1037/a0022839
- Martin, C. L., Andrews, N. C. Z., England, D. E., Zosuls, K., & Ruble, D. N. (under review). A dual identity approach for conceptualizing and measuring children's gender identity. Manuscript submitted to *Child Development*.
- Martin, C. L., & Fabes, R. A. (2001). The stability and consequences of young children's same-sex peer interactions. *Developmental Psychology, 37*, 431-446. doi: 10.1037//0012-1649.37.3.431
- Martin, C. L., & Halverson, C. F. (1981). A schematic processing model of sex typing and stereotyping in children. *Child Development, 52*, 1119-1134. doi: 10.2307/1129498
- Meyer, I. H. (1995). Minority stress and mental health in gay men. *Journal of Health and Social Behavior, 36*, 38-56. doi: 10.2307/2137286
- Meyer, I. H. (2003). Prejudice, social stress, and mental health in lesbian, gay, and bisexual populations: Conceptual issues and research evidence. *Psychological Bulletin, 129*, 674-697. doi: 10.1037/0033-2909.129.5.674
- Miller, C. F., Lurye, L. E., Zosuls, K. M., & Ruble, D. N. (2009). Accessibility of gender stereotype domains: Developmental and gender differences in children. *Sex Roles, 60*, 870-881. doi: 10.1007/s11199-009-9584-x
- Peery, J. C. (1979). Popular, amiable, isolated, rejected: A re-conceptualization of sociometric status in preschool children. *Child Development, 50*, 1231-1234. doi: 10.2307/1129356
- Rosenberg, M. (1965). *Society and the adolescent self-image*. Princeton, NJ: Princeton University Press.
- Ruble, D. N., & Martin, C. L. (1998). Gender development. In N. Eisenberg (Vol. Ed.), *Handbook of child psychology: Vol. 3., Social, emotional, and personality development* (pp. 933-1016). New York: Wiley.
- Ryan, C. L., Patraw, J. M., & Bednar, M. (2013). Discussing princess boys and pregnant men: Teaching about gender diversity and transgender experiences within an elementary school curriculum. *Journal of LGBT Youth, 10*, 83-105. doi: 10.1080/19361653.2012.718540.

- Slaby, R. G., & Frey, K. S. (1975). Development of gender constancy and selective attention to same-sex models. *Child Development, 46*, 849-856. doi: 10.2307/1128389
- Smith, T. E., & Leaper, C. (2005). Self-perceived gender typicality and the peer context during adolescence. *Journal of Research on Adolescence, 16*, 91-103. doi: 10.1111/j.1532-7795.2006.00123.x
- Spence, J. T. (1993). Gender-related traits and gender ideology: Evidence for a multifactorial theory. *Journal of Personality and Social Psychology, 64*, 624-635. doi: 10.1037//0022-3514.64.4.624
- Spence, J. T., & Buckner, C. (1995). Masculinity and femininity: Defining the undefinable. In P. J. Kalbfleisch & M. J. Cody (Eds.), *Gender, power, and communication in human relationships*. Hillsdale, NJ: Lawrence Erlbaum.
- Spence, J. T., & Hall, S. K. (1996). Children's gender-related self-perceptions, activity preferences, and occupational stereotypes: A test of three models of gender constructs. *Sex Roles, 35*, 659-691. doi: 10.1007/bf01544086
- Swann, W. B., Jr., Milton, L., & Polzer, J. (2000). Creating a niche or falling in lines: Identity negotiation and small group effectiveness. *Journal of Personality and Social Psychology, 79*, 238-250. doi: 10.1037//0022-3514.79.2.238
- Tajfel, H. (Ed.). (1982). *Social identity and intergroup relations*. Cambridge: Cambridge University Press.
- Tajfel, H., & Turner, J. C. (1979). An integrative theory of intergroup conflict. In W. G. Austin & S. Worchel (Eds.), *The social psychology of intergroup relations* (pp. 33-48). Pacific Grove, CA: Brooks/Cole.
- Thorne, B., & Luria, Z. (2001). Sexuality and gender in children's daily worlds. In J. M. Henslin (Ed.), *Down to Earth sociology: Introductory readings* (pp. 156-167). New York: Free Press.
- Yunger, J. L., Carver, P. R., & Perry, D. G. (2004). Does gender identity influence children's psychological well-being? *Developmental Psychology, 40*, 572-582. doi: 10.1037/0012-1649.40.4.572
- Zosuls, K. M., Field, R. D., Martin, C. L., Andrews, N. C., & England, D. E. (2014). Gender-based relationship efficacy: Children's self-perceptions in intergroup contexts. *Child Development, 85*, 1663-1676. doi: 10.1111/cdev.12209.
- Zucker, K. J., & Bradley, S. J. (1995). *Gender identity disorder and psychosexual problems in children and adolescents*. New York: Guilford.

Table 1

Matrix of Gender Typing

| Content Area | A. Concepts or Beliefs | B. Identity or Self-Perception | C. Preferences | D. Behavioral Enactment, Adoption |
|--|--|--|--|--|
| 1. Biological/Categorical Sex | A1. Gender labeling and constancy | B1. Inner sense of maleness or femaleness, or self-perception of masculinity or femininity | C1. Wish to be male or female | D1. Displaying bodily attributes of one's gender (e.g., clothing, body type, hair) |
| 2. Activities and interests: Toys, play activities, occupations, household roles, tasks | A2. Knowledge of gender stereotypes or concepts about toys, activities, etc. | B2. Self-perception of interests. | C2. Preference for toys, games, activities | D2. Engaging in play, activities, occupations, or achievement tasks that are gender typed |
| 3. Personal-social attributes: Personality traits, social behaviors, and abilities | A3. Concepts about gender stereotypes of personality or role-appropriate social behavior | B3. Perception of own traits and abilities (e.g., on self-rating questionnaires) | C3. Preference or wish to have certain attributes | D3. Displaying gender-typed traits (e.g., aggression, dependence) and abilities (e.g., math) |
| 4. Gender-based social relationships: Sex of peers, friends, lovers, preferred parent, models | A4. Concepts about norms for gender-based relations | B4. Self-perception of own patterns of friendships, relationships, or sexual orientation | C4. Preference for friends, parents, and models, or judgments of popularity based on sex or gender | D4. Engaging in social activity with others on the basis of sex or gender (e.g., same-sex peer play) |
| 5. Styles and symbols: Gestures, speech patterns (e.g., tempo), play styles, fantasy | A5. Awareness of gender-related symbols or styles | B5. Self-perception of nonverbal, stylistic characteristics | C5. Preference for stylistic or symbolic objects or personal characteristics | D5. manifesting gender-typed verbal and nonverbal behavior or fantasy |
| 6. Gender-related values | A6. Knowledge of greater value attached to one sex or gender role than the other | B6. Biased self-perceptions associated with group identification | C6. In-group/out-group biases, prejudice, attitudes toward egalitarian roles | D6. In-group/out-group discrimination |

Table 2

Means and Standard Deviations of Study Variables

| | <i>M(SD)</i> | | | <i>t</i> | <i>d</i> |
|-----------------------|--------------|------------|------------|--------------------|----------|
| | Total sample | Girls | Boys | | |
| Global own | 2.74(1.23) | 2.62(1.24) | 2.84(1.22) | -1.71 ⁺ | -0.18 |
| Behavior own | 3.03(1.21) | 2.61(1.31) | 3.42(0.97) | -6.81 ^c | -0.70 |
| Appearance own | 3.30(1.20) | 3.15(1.30) | 3.44(1.08) | -2.38 ^a | -0.24 |
| Activities own | 2.85(1.24) | 2.47(1.26) | 3.19(1.12) | -5.86 ^c | -0.60 |
| Peer preference own | 3.04(1.12) | 3.06(1.19) | 3.02(1.07) | 0.31 | 0.04 |
| Global other | 1.13(1.15) | 1.40(1.20) | 0.89(1.04) | 4.42 ^c | 0.45 |
| Behavior other | 0.75(1.08) | 1.17(1.15) | 0.38(0.86) | 7.57 ^c | 0.78 |
| Appearance other | 0.40(0.92) | 0.53(1.01) | 0.29(0.82) | 2.52 ^a | 0.26 |
| Activities other | 1.14(1.14) | 1.69(1.12) | 0.64(0.91) | 9.90 ^c | 1.03 |
| Peer preference other | 1.62(1.09) | 1.74(1.11) | 1.52(1.07) | 1.95 ⁺ | 0.20 |
| Self-esteem | 2.21(0.60) | 2.13(0.63) | 2.28(0.55) | -2.50 ^a | -0.25 |
| Social preference | 0.03(0.11) | 0.05(0.10) | 0.01(0.12) | 3.26 ^b | 0.36 |
| GBRE-own | 3.40(0.68) | 3.29(0.76) | 3.50(0.58) | -2.99 ^b | -0.31 |
| GBRE-other | 2.51(0.94) | 2.55(0.91) | 2.48(0.96) | 0.63 | 0.07 |

Notes. ⁺ $p < .10$, ^a $p < .05$, ^b $p < .01$, ^c $p < .001$. Range for self-esteem scores is 0 to 3; range for social preference is -1 to 1; range for all other scales is 0 to 4. Own = own-gender typicality; Other = other-gender typicality; GBRE-own = relationship efficacy for own gender; GBRE-other = relationship efficacy for other gender.

Table 3

Correlations Among Study Variables

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 |
|-------------------------|---|------------------|------------------|------------------|------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|------------------|-------------------|------------------|
| 1. Global own | - | .58 ^b | .43 ^b | .57 ^b | .55 ^b | -.09 | -.24 ^b | -.26 ^b | -.12 ^a | .05 | .30 ^b | .17 ^b | .47 ^b | .21 ^b |
| 2. Behavior own | | - | .56 ^b | .71 ^b | .47 ^b | -.26 ^b | -.50 ^b | -.47 ^b | -.41 ^b | -.11 ^a | .24 ^b | .10 | .45 ^b | .12 ^a |
| 3. Appearance own | | | - | .47 ^b | .38 ^b | -.27 ^b | -.38 ^b | -.52 ^b | -.21 ^b | .00 | .12 ^a | .16 ^b | .26 ^b | .11 ^a |
| 4. Activities own | | | | - | .52 ^b | -.24 ^b | -.45 ^b | -.38 ^b | -.34 ^b | -.09 | .25 ^b | .10 | .46 ^b | .09 |
| 5. Peer preference own | | | | | - | -.11 ^a | -.26 ^b | -.34 ^b | -.14 ^b | -.02 | .16 ^b | .13 ^b | .40 ^b | .04 |
| 6. Global oth | | | | | | - | .50 ^b | .39 ^b | .52 ^b | .33 ^a | -.05 | .03 | -.02 | .20 ^b |
| 7. Behavior oth | | | | | | | - | .56 ^b | .62 ^b | .25 ^b | -.10 ^a | .04 | -.14 ^b | .13 ^a |
| 8. Appearance oth | | | | | | | | - | .37 ^b | .17 ^b | -.10 | -.07 | -.06 | .01 |
| 9. Activities oth | | | | | | | | | - | .37 ^b | -.14 ^b | .03 | -.14 ^b | .18 ^b |
| 10. Peer preference oth | | | | | | | | | | - | -.07 | .00 | .01 | .40 ^b |
| 11. Self-esteem | | | | | | | | | | | - | .19 ^b | .43 ^b | .29 ^b |
| 12. Soc pref | | | | | | | | | | | | - | .11 ^a | .10 |
| 13. GBRE-own | | | | | | | | | | | | | - | .43 ^b |
| 14. GBRE-oth | | | | | | | | | | | | | | - |

Notes. ^a $p < .05$, ^b $p < .01$. Global own refers to global similarity item rated for own gender; Behavior own = own-gender typicality of behavior; Appearance own = own-gender typicality of appearance; Activities own = own-gender typicality of activities; Peer preference own = own-gender typicality of peer preference; Global oth = global other-gender typicality; Behavior oth = other-gender typicality of behavior; Appearance oth = other-gender typicality of appearance; Activities oth = other-gender typicality of activities; Peer preference oth = other-gender typicality of peer preference; Soc pref = social preference; GBRE-own = relationship efficacy for own gender; GBRE-oth = relationship efficacy for other gender.

Table 4

Summary of Models Testing Each Gender Typicality Item as Predictors of Self-Esteem

| Variables | Gender Typicality Domains | | | | | | | | | | | | | | |
|-----------------------|---------------------------|-----------|------------------|----------|-----------|------------------|------------|-----------|------------------|------------|-----------|------------------|-----------------|-----------|------------------|
| | Global | | | Behavior | | | Appearance | | | Activities | | | Peer preference | | |
| | <i>b</i> | <i>SE</i> | β | <i>b</i> | <i>SE</i> | β | <i>b</i> | <i>SE</i> | β | <i>b</i> | <i>SE</i> | β | <i>b</i> | <i>SE</i> | β |
| Model 1 | | | | | | | | | | | | | | | |
| Gender | .17 | .06 | .15 ^b | .16 | .06 | .14 ^b | .17 | .06 | .15 ^b | .17 | .06 | .15 ^b | .17 | .06 | .14 ^b |
| <i>R</i> ² | | | .02 ^b | | | .02 ^b | | | .02 ^b | | | .02 ^b | | | .02 ^b |
| Model 2 | | | | | | | | | | | | | | | |
| Gender | .14 | .06 | .12 ^a | .09 | .07 | .07 | .15 | .06 | .13 ^a | .08 | .07 | .07 | .17 | .06 | .14 ^b |
| Own | .14 | .02 | .29 ^c | .12 | .03 | .24 ^c | .04 | .03 | .07 | .10 | .03 | .22 ^c | .09 | .03 | .17 ^b |
| Other | .00 | .03 | .01 | .02 | .03 | .04 | -.07 | .06 | -.06 | -.02 | .03 | -.03 | -.03 | .03 | -.05 |
| <i>R</i> ² | | | .10 ^c | | | .06 ^c | | | .04 | | | .07 ^c | | | .05 ^c |
| ΔR^2 | | | .08 ^c | | | .04 ^c | | | .01 ⁺ | | | .05 ^c | | | .03 ^b |

Note. ⁺ $p < .10$ ^a $p < .05$, ^b $p < .01$, ^c $p < .001$. Own = Own-gender typicality; Other = Other-gender typicality.

Table 5

Summary of Models Testing Each Gender Typicality Item as Predictors of Social Preference

| Variables | Gender Typicality Domains | | | | | | | | | | | | | | |
|------------------------------------|---------------------------|-----------|-------------------|----------|-----------|-------------------|------------|-----------|-------------------|------------|-----------|-------------------|-----------------|-----------|-------------------|
| | Global | | | Behavior | | | Appearance | | | Activities | | | Peer preference | | |
| | <i>b</i> | <i>SE</i> | β | <i>b</i> | <i>SE</i> | β | <i>b</i> | <i>SE</i> | β | <i>b</i> | <i>SE</i> | β | <i>b</i> | <i>SE</i> | β |
| Model 1 | | | | | | | | | | | | | | | |
| Gender | -.04 | .01 | -.16 | -.04 | .01 | -.16 ^b | -.04 | .01 | -.16 ^b | -.04 | .01 | -.16 ^b | -.04 | .01 | -.16 ^b |
| <i>R</i> ² | | | .03 ^b | | | .03 ^b | | | .03 ^b | | | .03 ^b | | | .03 ^b |
| Model 2 | | | | | | | | | | | | | | | |
| Gender | -.04 | .01 | -.17 ^b | -.05 | .01 | -.20 ^c | -.04 | .01 | -.18 ^c | -.05 | .01 | -.21 ^c | -.04 | .01 | -.16 ^b |
| Own | .02 | .01 | .19 ^c | .02 | .01 | .19 ^b | .02 | .01 | .17 ^b | .02 | .01 | .16 ^b | .01 | .01 | .13 ^b |
| Other | .00 | .01 | .01 | .01 | .01 | .06 | .00 | .01 | -.02 | .00 | .01 | -.01 | .00 | .01 | -.01 |
| <i>R</i> ² | | | .06 ^c | | | .05 ^c | | | .06 ^c | | | .05 ^c | | | .04 ^b |
| ΔR^2 | | | .04 ^b | | | .03 ^b | | | .03 ^b | | | .02 ^a | | | .02 ^a |
| Model 3 | | | | | | | | | | | | | | | |
| Gender | -.04 | .01 | -.17 ^b | | | | | | | | | | | | |
| Own | .02 | .01 | .20 ^b | | | | | | | | | | | | |
| Other | -.01 | .01 | -.07 | | | | | | | | | | | | |
| Own \times Other | .00 | .00 | .02 | | | | | | | | | | | | |
| Gender \times Own | .00 | .01 | -.01 | | | | | | | | | | | | |
| Gender \times Other | .02 | .01 | .12 ⁺ | | | | | | | | | | | | |
| <i>R</i> ² | | | .07 ^c | | | | | | | | | | | | |
| ΔR^2 | | | .01 | | | | | | | | | | | | |
| Model 4 | | | | | | | | | | | | | | | |
| Gender | -.04 | .01 | -.18 ^c | | | | | | | | | | | | |
| Own | .02 | .01 | .17 ^a | | | | | | | | | | | | |
| Other | -.01 | .01 | -.06 | | | | | | | | | | | | |
| Own \times Other | .01 | .01 | .14 ⁺ | | | | | | | | | | | | |
| Gender \times Own | .00 | .01 | .01 | | | | | | | | | | | | |
| Gender \times Other | .01 | .01 | .09 | | | | | | | | | | | | |
| Gender \times Own \times Other | -.02 | .01 | -.17 ^a | | | | | | | | | | | | |
| <i>R</i> ² | | | .08 ^c | | | | | | | | | | | | |
| ΔR^2 | | | .01 ^a | | | | | | | | | | | | |

Note. ⁺ $p < .10$, ^a $p < .05$, ^b $p < .01$, ^c $p < .001$. Own = Own-gender typicality; Other = Other-gender typicality.

Table 6

Summary of Models Testing Each Gender Typicality Item as Predictors of GBRE-Own

| Variables | Gender Typicality Domains | | | | | | | | | | | | | | |
|-----------------------|---------------------------|-----------|-------------------|----------|-----------|-------------------|------------|-----------|-------------------|------------|-----------|------------------|-----------------|-----------|------------------|
| | Global | | | Behavior | | | Appearance | | | Activities | | | Peer preference | | |
| | <i>b</i> | <i>SE</i> | β | <i>b</i> | <i>SE</i> | β | <i>b</i> | <i>SE</i> | β | <i>b</i> | <i>SE</i> | β | <i>b</i> | <i>SE</i> | β |
| Model 1 | | | | | | | | | | | | | | | |
| Gender | .22 | .07 | .16 ^b | .20 | .07 | .15 ^b | .22 | .07 | .16 ^b | .23 | .07 | .17 ^b | .21 | .07 | .15 ^b |
| <i>R</i> ² | | | .03 ^b | | | .02 ^b | | | .03 ^b | | | .03 ^b | | | .02 ^b |
| Model 2 | | | | | | | | | | | | | | | |
| Gender | .17 | .07 | .12 ^b | .03 | .07 | .02 | .18 | .07 | .13 ^a | .05 | .07 | .04 | .22 | .07 | .16 ^c |
| Own | .26 | .03 | .46 ^c | .28 | .03 | .51 ^c | .16 | .03 | .27 ^c | .26 | .03 | .47 ^c | .24 | .03 | .40 ^c |
| Other | .03 | .03 | .05 | .08 | .03 | .13 ^a | .07 | .07 | .06 | .03 | .03 | .04 | .02 | .03 | .04 |
| <i>R</i> ² | | | .23 ^c | | | .21 ^c | | | .08 ^c | | | .22 ^c | | | .19 ^c |
| ΔR^2 | | | .21 ^c | | | .19 ^c | | | .06 ^c | | | .19 ^c | | | .16 ^c |
| Model 3 | | | | | | | | | | | | | | | |
| Gender | .15 | .07 | .11 ^a | .00 | .07 | .00 | .16 | .07 | .12 ^a | | | | | | |
| Own | .33 | .04 | .59 ^c | .30 | .03 | .54 ^c | .20 | .04 | .34 ^c | | | | | | |
| Other | .01 | .03 | .02 | .04 | .04 | .06 | -.05 | .08 | -.04 | | | | | | |
| Own \times Other | -.05 | .02 | -.12 ^a | -.06 | .02 | -.15 ^b | -.14 | .04 | -.23 ^c | | | | | | |
| Gender \times Own | -.12 | .05 | -.16 ^a | | | | | | | | | | | | |
| <i>R</i> ² | | | .26 ^c | | | .23 ^c | | | .11 ^c | | | | | | |
| ΔR^2 | | | .02 ^b | | | .02 ^b | | | .03 ^c | | | | | | |

Note. ^a $p < .05$, ^b $p < .01$, ^c $p < .001$. Own = Own-gender typicality; Other = Other-gender typicality.

Table 7

Summary of Models Testing Each Gender Typicality Item as Predictors of GBRE-Other

| Variables | Gender Typicality Domains | | | | | | | | | | | | | | | |
|-----------------------|---------------------------|-----------|-------------------|----------|-----------|------------------|------------|-----------|------------------|------------|-----------|------------------|-----------------|-----------|------------------|--|
| | Global | | | Behavior | | | Appearance | | | Activities | | | Peer preference | | | |
| | <i>b</i> | <i>SE</i> | β | <i>b</i> | <i>SE</i> | β | <i>b</i> | <i>SE</i> | β | <i>b</i> | <i>SE</i> | β | <i>b</i> | <i>SE</i> | β | |
| Model 1 | | | | | | | | | | | | | | | | |
| Gender | -.05 | .10 | -.03 | -.07 | .10 | -.04 | -.06 | .10 | -.03 | -.06 | .10 | -.03 | -.05 | .10 | -.03 | |
| <i>R</i> ² | | | .00 | | | .00 | | | .00 | | | .00 | | | .00 | |
| Model 2 | | | | | | | | | | | | | | | | |
| Gender | .00 | .10 | .00 | -.05 | .10 | -.03 | -.08 | .10 | -.04 | .06 | .11 | .03 | .02 | .10 | .01 | |
| Own | .17 | .04 | .23 ^c | .20 | .05 | .26 ^c | .13 | .05 | .17 ^b | .13 | .04 | .17 ^b | .05 | .04 | .06 | |
| Other | .18 | .04 | .22 ^c | .23 | .05 | .26 ^c | .15 | .10 | .09 | .21 | .05 | .26 ^c | .34 | .04 | .40 ^c | |
| <i>R</i> ² | | | .09 ^c | | | .07 ^c | | | .02 ⁺ | | | .06 ^c | | | .16 ^c | |
| ΔR^2 | | | .09 ^c | | | .07 ^c | | | .02 ^a | | | .06 ^c | | | .16 ^c | |
| Model 3 | | | | | | | | | | | | | | | | |
| Gender | -.02 | .10 | -.01 | | | | | | | | | | | | | |
| Own | .19 | .04 | .25 ^c | | | | | | | | | | | | | |
| Other | .16 | .04 | .20 ^c | | | | | | | | | | | | | |
| Own \times Other | -.08 | .03 | -.14 ^b | | | | | | | | | | | | | |
| <i>R</i> ² | | | .11 ^c | | | | | | | | | | | | | |
| ΔR^2 | | | .02 ^b | | | | | | | | | | | | | |

Note. ⁺ $p < .10$, ^a $p < .05$, ^b $p < .01$, ^c $p < .001$. Own = Own-gender typicality; Other = Other-gender typicality.

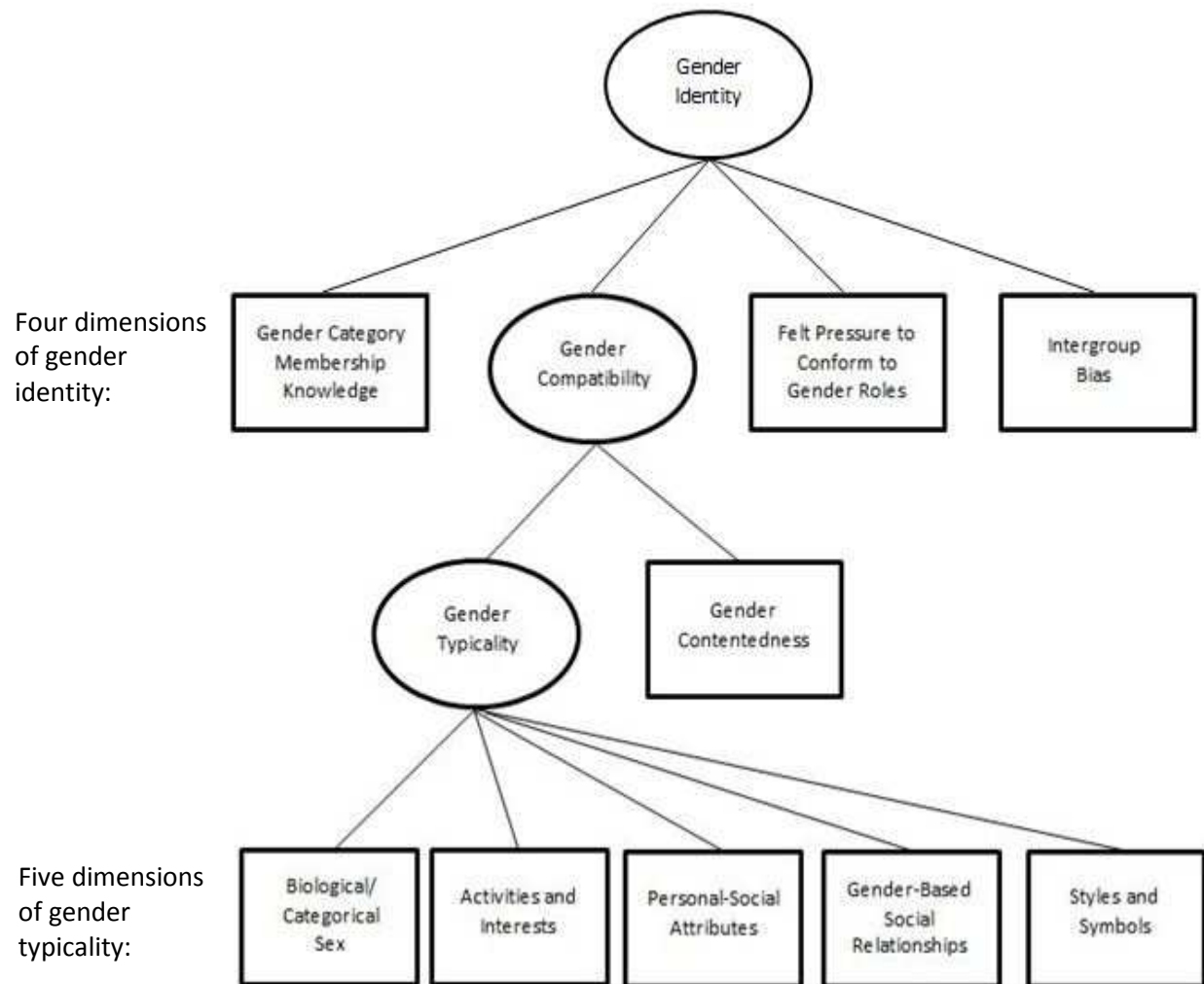


Figure 1. Multiple dimensions of gender identity.

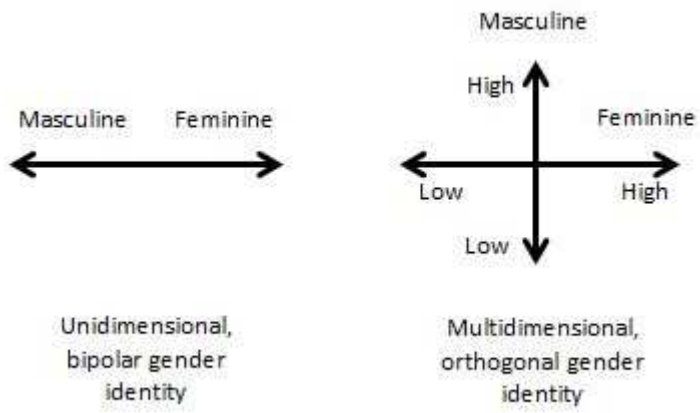


Figure 2. Conceptualizations of gender identity.

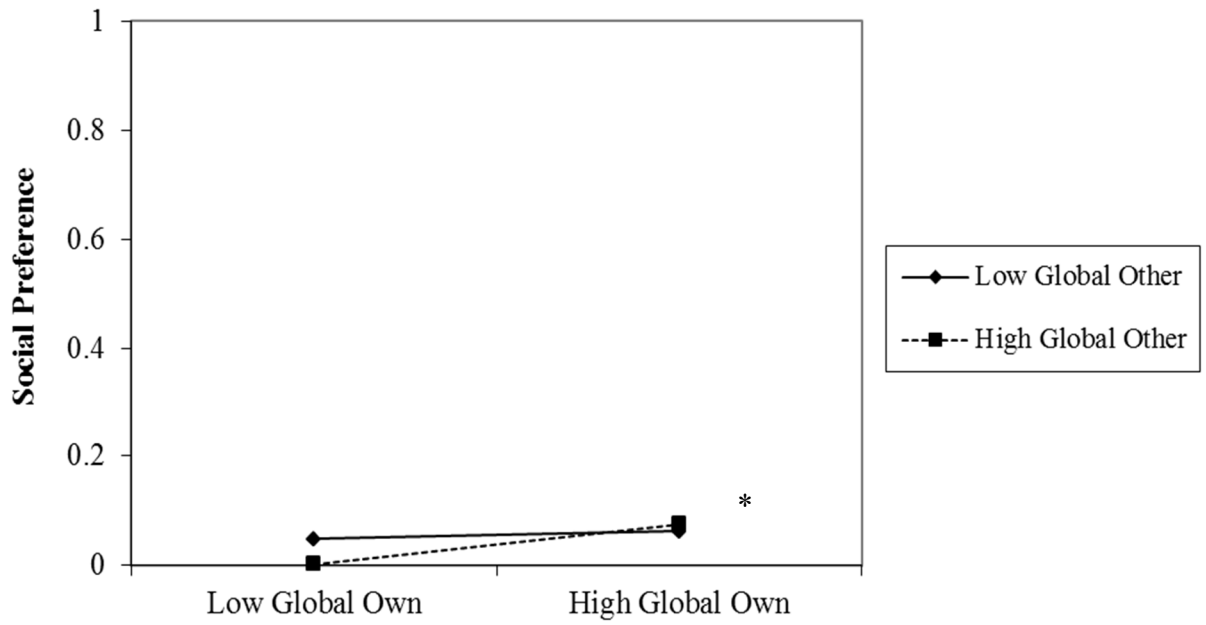


Figure 3. Girls' Own- by Other-Gender Global Typicality Interaction for Social Preference. * $p < .05$. Global Own = Own-gender global typicality. Global Other = Other-gender global typicality. This interaction was only significant for girls.

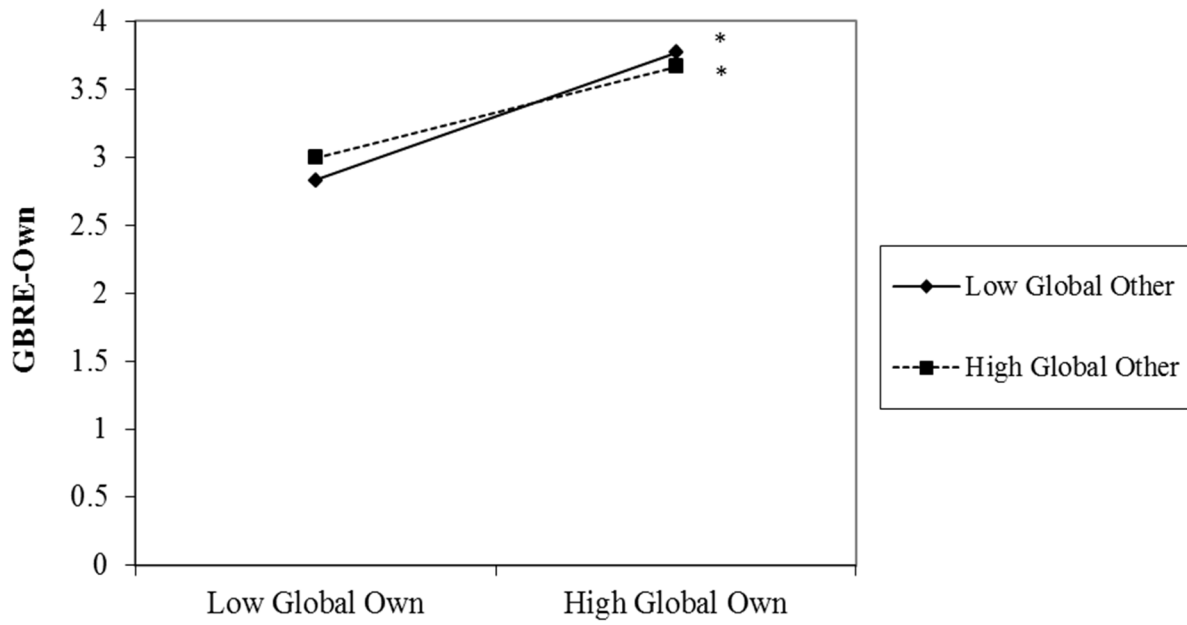


Figure 4. Own- by Other-Gender Global Typicality Interaction for GBRE-Own. * $p < .05$.
 Global Own = Own-gender global typicality. Global Other = Other-gender global typicality.

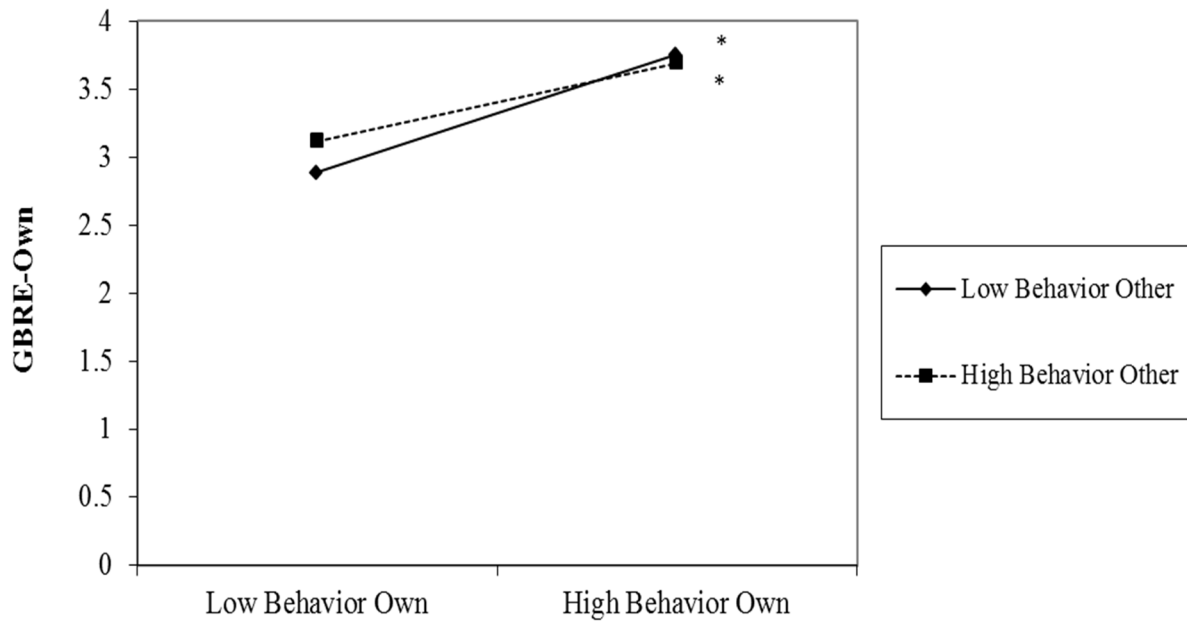


Figure 5. Own- by Other-Gender Behavior Typicality Interaction for GBRE-Own. * $p < .05$. Behavior Own = Own-gender typicality of behavior. Behavior Other = Other-gender typicality of behavior.

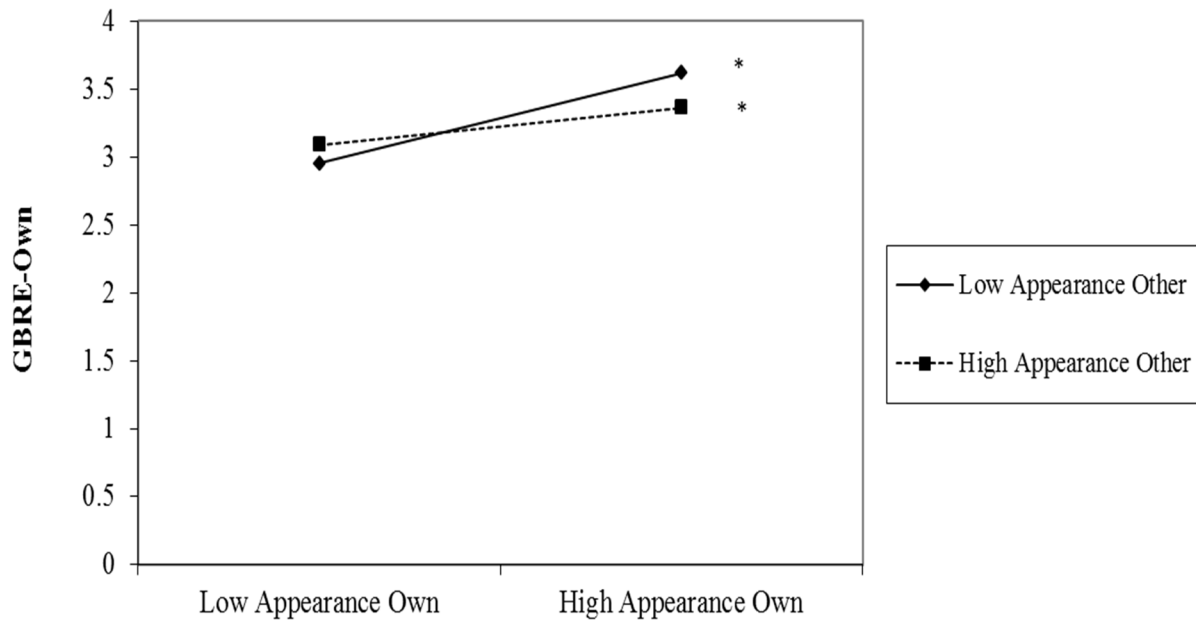


Figure 6. Own- by Other-Gender Appearance Typicality Interaction for GBRE-Own. * $p < .05$. Appearance Own = Own-gender typicality of appearance. Appearance Other = Other-gender typicality of appearance.

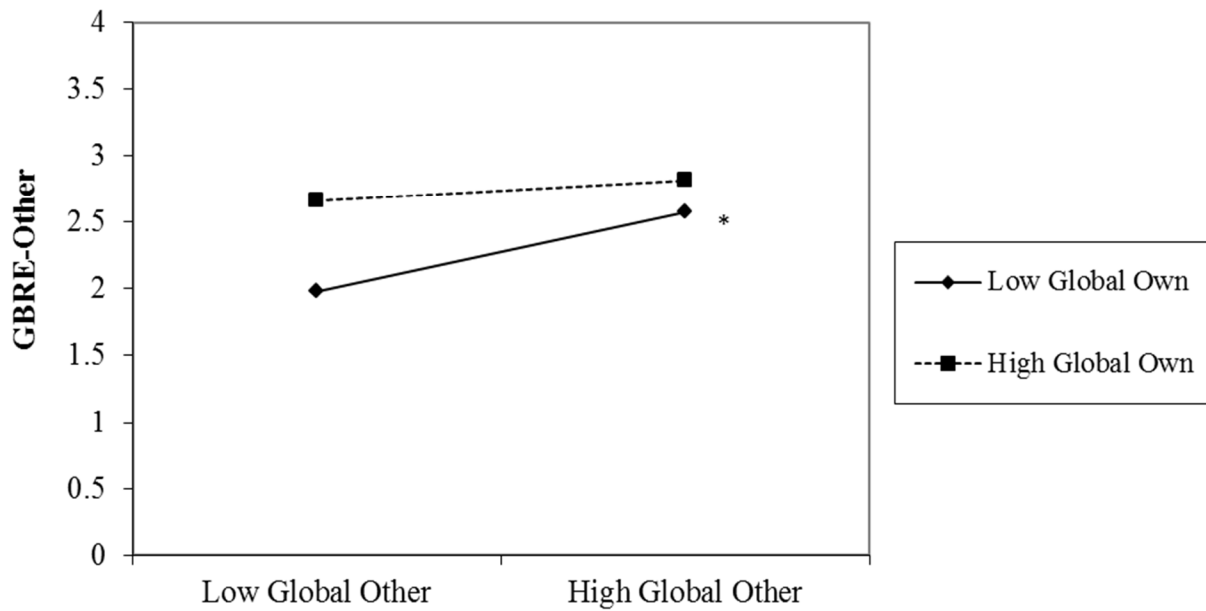


Figure 7. Own- by Other-Gender Global Typicality Interaction for GBRE-Other. * $p < .05$.
 Global Own = Own-gender global typicality. Global Other = Other-gender global typicality.

To: Kristina Zosuls

From: Mark Roosa, Chair 
Soc Beh IRB

Date: 12/03/2012

Committee Action: Expedited Approval

Approval Date: 12/03/2012

Review Type: Expedited F7

IRB Protocol #: 1210008445

Study Title: CARE Early Adolescent Project

Expiration Date: 12/02/2013

The above-referenced protocol was approved following expedited review by the Institutional Review Board.

It is the Principal Investigator's responsibility to obtain review and continued approval before the expiration date. You may not continue any research activity beyond the expiration date without approval by the Institutional Review Board.

Adverse Reactions: If any untoward incidents or severe reactions should develop as a result of this study, you are required to notify the Soc Beh IRB immediately. If necessary a member of the IRB will be assigned to look into the matter. If the problem is serious, approval may be withdrawn pending IRB review.

Amendments: If you wish to change any aspect of this study, such as the procedures, the consent forms, or the investigators, please communicate your requested changes to the Soc Beh IRB. The new procedure is not to be initiated until the IRB approval has been given.

Please retain a copy of this letter with your approved protocol.



To: Kristina Zosuls

From: *for* Mark Roosa, Chair *MR*
Soc Beh IRB

Date: 09/09/2013

Committee Action: **Amendment to Approved Protocol**

Approval Date: 09/09/2013

Review Type: Expedited F7

IRB Protocol #: 1210008445

Study Title: CARE Early Adolescent Project

Expiration Date: 12/02/2013

The amendment to the above-referenced protocol has been APPROVED following Expedited Review by the Institutional Review Board. This approval does not replace any departmental or other approvals that may be required. It is the Principal Investigator's responsibility to obtain review and continued approval of ongoing research before the expiration noted above. Please allow sufficient time for reapproval. Research activity of any sort may not continue beyond the expiration date without committee approval. Failure to receive approval for continuation before the expiration date will result in the automatic suspension of the approval of this protocol on the expiration date. Information collected following suspension is unapproved research and cannot be reported or published as research data. If you do not wish continued approval, please notify the Committee of the study termination.

This approval by the Soc Beh IRB does not replace or supersede any departmental or oversight committee review that may be required by institutional policy.

Adverse Reactions: If any untoward incidents or severe reactions should develop as a result of this study, you are required to notify the Soc Beh IRB immediately. If necessary a member of the IRB will be assigned to look into the matter. If the problem is serious, approval may be withdrawn pending IRB review.

Amendments: If you wish to change any aspect of this study, such as the procedures, the consent forms, or the investigators, please communicate your requested changes to the Soc Beh IRB. The new procedure is not to be initiated until the IRB approval has been given.

Please retain a copy of this letter with your approved protocol.