UNIVERSITY OF CALIFORNIA
SANTA CRUZ

**TESTING THE MODERATION OF GENDER-TYPED MEDIA EFFECTS IN
PRESCHOOL-AGED CHILDREN**

A dissertation submitted in partial satisfaction
of the requirements for the degree of

DOCTOR OF PHILOSOPHY

In

PSYCHOLOGY

By

Abigail S. Walsh

June 2022

This Dissertation of Abigail S. Walsh is approved:

_____
Distinguished Professor Campbell Leaper, Chair

_____
Professor Margarita Azmitia

_____
Associate Professor Adriana Manago

_____
Peter Biehl
Vice Provost and Dean of Graduate Studies

Table of Contents

List of Tables and Figures

Abstract

Testing the Moderation of Gender-Typed Media Effects in Preschool-Aged

Children

Abigail S. Walsh

Prior studies have found children's observation of gender-stereotyped media predicted their gender-typed attitudes. However, the average effects across studies have been small, which suggests the potential influence of moderators on stereotyped media effects. In a sample of 123 three- to six-year-old children (51% female, 70% White), the current study investigated several individual factors (perspective-taking, gender centrality, gender typicality, identification with gender counter-stereotypical characters) as potential moderators of media effects. An animated video was created that included equal numbers of characters depicting gender-stereotypical and counter-stereotypical activity preferences (regarding toys, peers, and appearance). Before and after watching the video, children completed measures of gender-typed attitudes about activities and acceptance of gender-nonconforming ingroup or outgroup peers. The results indicated that watching the video led to increases in children's egalitarian attitudes (but not acceptance of nonconforming peers). Furthermore, several of the individual variables moderated the impact of the video on children's egalitarian attitudes and acceptance of nonconforming peers. Exploratory analyses additionally revealed that the child's gender may further moderate the impact of some individual factors. In the discussion, I propose implications of the study's methodology for future research on media effects.

Acknowledgements

First and foremost, I would like to express my deepest gratitude to my advisor, Dr. Campbell Leaper, for his continued validation of my research ideas and insights and for encouraging me to pursue exciting new research. I am grateful for his support of this research project and his guidance through the process and in the writing of this dissertation. I appreciate his faith in my ability to take on a project with so many moving parts, and to complete the work in such an expedited timeline. Thank you for making me a stronger writer and researcher.

I would also like to express thanks to my committee members, Dr. Margarita Azmitia and Dr. Adriana Manago, for their encouragement, kind words, and thoughtful questions over the years. I have valued working with such strong researchers who empower me to develop my skills, while doing the dirty work together. I feel so blessed to be uplifted by women who see me as a true collaborator.

I want to thank all the participants who made this research study possible. Thank you to the teachers, administrators, and preschools who helped coordinate each scheduled visit and to the parents who gave of their own time for me to work with their children, all amidst a global pandemic. Without them I would have never finished my dissertation.

Gratitude to my friends and family who have been so supportive over the years. Thank you to the boys, Nate and Thatcher, for inspiring me with your curious, inquisitive, scientific minds – for reading all my papers over the years. To my parents who emboldened me to believe I could be anything I wanted to be, who pushed me to

work hard, kick ass, and take names. I am forever thankful to my partner, Ben, for his love and patience throughout this process. For every time I wanted to give up and he told me to keep going. Thank you for having my back, always.

Lastly, I want to thank the strong, beautiful, badass community of graduate students I have been so fortunate to experience. To the students who value collaboration over competition, I see you. To all the peers who not only talk the talk, but have walked the walk, I see you. To those who have prioritized their mental health over arbitrary productivity, I see you. To those who have fought to uphold justice, who have demanded respect for their research, pedagogy, and humanity, I see you. I will take with me every lesson I have learned in this process.

"You are braver than you believe, stronger than you seem, and smarter than you think." – Christopher Robin

Introduction

Research has shown that watching stereotyped television content can lead to increases in many children's gender-stereotyped attitudes (see Ward & Aubrey, 2017). However, these media effects do not always occur for all children (Valkenburg & Peter, 2013; Ward & Aubrey, 2017). It is possible that individual identity factors and the ability to think critically about stereotypes and identity may moderate some of these stereotyped media effects. The current study built on prior research by examining how individual factors may moderate the effect of watching gender-stereotyped and counter-stereotyped television content on children's gender attitudes.

In subsequent sections, I will review the background for the study. First, I review prior research on the impact of gender stereotypes in television on children. Second, I summarize developmental trends in children's own gender stereotyping and their implications for media effects. Finally, I propose how individual factors may moderate how children respond to gender-stereotypical and counter-stereotypical television content.

The Impact of Stereotyped Television

Media shape the ways we think about ourselves and others (Martins & Harrison, 2012; Ward, 2005). Television may be an especially influential form of media for young children (Rideout et al., 2003; Vandewater et al., 2007). More television content is available to children than ever before. There are entire platforms and channels (e.g., Disney Jr., Nick Jr., etc.) dedicated to programing for young children (McAllister & Giglio, 2005; Rideout et al., 2003; Vandewater et al., 2007).

Moreover, children are watching television content on multiple platforms and on multiple devices no matter where they are (Radesky et al., 2015; Ofcom, 2019). Considering children consume television and other media at high rates (Ofcom, 2019), it is important to investigate the effects of consuming stereotyped media content.

Television programs aimed at very young children tend to depict female and male characters in gender-stereotypical ways (Signorielli, 2012; Ward & Aubrey, 2017)—and these shows rarely feature nonbinary or gender-nonconforming characters (Walsh, 2020). First, there are large gaps in the average proportion of male and female characters represented in children's television programs. Male characters are commonly depicted between twice and five times as often as female characters (see Geena Davis Institute on Gender in Media, 2021). In addition, there are average gender differences in the behaviors that are depicted. Content analyses have revealed that male characters generally talked more, were more directive toward other's actions, and expressed more opinions relative to female characters (Aubrey & Harrison, 2004; Thompson & Zerbinos, 1995). Furthermore, male characters were also shown to be more dominant, powerful, and aggressive than female characters (Ahmed & Abdul Wahab, 2014; Leaper et al., 2002; Murnen et al., 2016; Thompson & Zerbinos, 1995). Female characters tended to be depicted as more nurturing and supportive than male characters (Barner, 1999; Leaper et al., 2002), and were more likely to be depicted with families (Coltrane & Messineo, 2000). Both female and male characters tend to be portrayed in stereotypical ways in the activities in which

they engage (Jones, 2011; Powell & Abel, 2002; Scharrer, 2013) and the clothes and accessories they are shown wearing (Ahmed & Abdul Wahab, 2014; Murnen et al., 2016; Powell & Abels, 2002).

Collectively, these average gender differences in speech and other social behaviors represents to children who has power and control in an interaction or a relationship (Leaper, 2014; Signorielli, 2012; Ward & Aubrey, 2017). Recent reviews have highlighted these persistent stereotyped representations and the influence they have on children's attitudes and behaviors (see Ward & Aubrey, 2017). Accordingly, this is the focus of the present research.

The impact of the media is explicitly addressed in cognitive theories of gender development. For example, social cognitive theory and gender schema theory explain how children learn through observing their environment (Bussey & Bandura, 1999; Liben & Signorella, 1980; Martin et al., 2002). Social cognitive theory and gender schema theory posit that children will interpret information presented to them about male and female characters in the media and incorporate them into their gender schemas (Bussey & Bandura, 1999; Liben & Signorella, 1980; Martin et al., 2002). In this regard, television characters and other forms of mass media can inform and reinforce what is considered desirable or undesirable for each gender (Jones, 2011; Myers, 2012). As children incorporate these representations into their gender schemas (Martin & Halverson, 1981), they form an understanding of what is appropriate for themselves and others.

In support of the premise of cognitive theories of gender development, research has found that children who watched stereotyped television content tended to endorse gender-stereotyped attitudes and beliefs (Oppliger, 2007; Ward & Aubrey, 2017). In addition, consuming gender-stereotyped television can impact children's behavior (Signorielli, 2012; Ward & Aubrey, 2017). A meta-analysis of experimental studies indicated an increase in exposure to gender-stereotyped content was associated with a significant average increase in both children's gender-typed attitudes and behavior (Oppliger, 2007). Longitudinal work has found that children who watched more Disney princess content engaged in more feminine-typed toy preferences and activities compared to peers who did not watch Disney princess content. These findings held for both girls and boys one year later (Coyne et al., 2016). Another study found that children who watched high rates of superhero content tended to engage in more masculine-typed behavior and more weapons play than their peers who did not watch superhero content (Baker & Raney, 2007). In summary, observing gender-stereotyped television content can shape children's developing gender-schematic understanding of what girls and boys can do and be. In turn, internalizing these schemas can limit their opportunities for exploration and expression (Ward & Aubrey, 2017).

Conversely, research has observed that watching explicitly counter-stereotyped media may lead to more flexible gender attitudes. For example, observing media with counter-stereotypical characters and content was positively related to children's endorsement of nontraditional gender attitudes and beliefs (Rosenwasser et

4

al., 1989; Pike & Jennings, 2005; Wroblewski & Huston, 1987). However, research has not yet explored how exposure to *both* stereotyped and counter-stereotyped content within one show or video may impact or encourage egalitarian attitudes. It is essential to investigate the way children incorporate stereotyped and counter-stereotyped messaging, as characters in shows are rarely depicted entirely as either stereotyped or counter-stereotyped. That is, both kinds of messages are present in most children's programming (see Walsh, 2021).

The proposed study examined how both stereotypical and counter stereotypical representations may be integrated into children's attributions of gender-typed activities and their acceptance of gender-nonconforming behavior. In the next section, I review some of the developmental patterns generally seen in children's gender stereotyping. At the same time, I note related implications for media influences on the formation of gender stereotypes.

Children's Stereotyping

Children may pay specific attention to the gender stereotypes commonly presented in media that are prevalent in and relevant to their lives. For example, preschool-aged children tend to be stereotyped in their own gender-typed toy and activity preferences (Cherney, & London, 2006; Martin et al., 2013), preference for same-gender play partners (Leaper, 1994, 2022; Martin & Fabes, 2001), and gender-typed appearance (Halim et al., 2018). These domains of gender stereotyping are often mirrored in representation within children's television.

Research has demonstrated gender differences in some aspects of gender-typing. For example, girls gender typing is often more flexible than that of boys (Halim et al., 2016) depending on age and stereotyped domain. Additionally, children form their judgements and evaluations of others based on this stereotyping. For example, children tend to devalue peers who violate norms related to gender stereotyping (e.g., toy play, appearance) (Blakemore, 2003). A recent experimental study demonstrated a positive correlation between preschool-aged children's stereotyping and their sanctions of gender-nonconforming behavior. Boys were especially likely to stereotype and were more likely to be sanctioned for defying gender norms (Skočajić et al., 2020). Due to children's own gender-schematic understanding of relevant domains of gender-typed behavior, stereotyped content related to them may be especially salient. Each of these is briefly discussed below.

Gender-typed Toy and Activity Play

One of the most robust ways that young children engage in gender-typing is through the activities in which they engage and the toys with which they play (Cherney, & London, 2006; Martin et al., 2013). Young children tend to gravitate toward toys and activities based on whether they are deemed appropriate for their own gender (e.g., dolls are for girls) (Martin & Rose, 1995; Weisgram et al., 2014), based on socialization and societal norms (Todd et al., 2017). Television and children's media tend to be representative of gender norms and can serve as a way to socialize children toward these gender stereotypes.

A recent study of preschool television found that gender stereotypes persist in television created for young viewers. This content analysis observed that television aimed at preschool children depicted male and female characters engaged in gender-typed activities (Walsh & Leaper, 2020). Analyses of the commercials that air during children's programming have also shown that children tend to be portrayed engaged in gender-typed play with gender-typed toys (Browne, 1998) and that watching these portrayals effects children's assignment of gender-typed toys as appropriate for each gender (Pike & Jennings, 2005).

Gender-typed Peer Preferences

Another way that preschool-aged children tend to engage in gender-typed behavior is in their preference for same-gender peers (Leaper, 1994, 2022). Most children typically express the consistent and stable preference for same-gender peers by the time they are three years old (Martin & Fabes, 2001), which may relate to gender-typed play including the types of toys and activates with which children engage (Globe et al., 2012; Martin et al., 2013). Many children also exhibit a preference for gender-conforming peers. Even though children may express that there is nothing wrong with gender-nonconforming behavior, they tend not to want to be associated with hypothetical gender-nonconforming peers (Carter & McCloskey, 1984).

One content analysis demonstrated that children's television advertisements tended to depict primarily same-gender peer engagement (Smith, 1994). Portrayals of peers in children's media may strengthen children's gender-typed engagement in play

and peer preferences. One recent study examined the role of both stereotypical and counter-stereotypical depictions of gender-typed toy preferences in children's magazine advertisements. Researchers found that children were more flexible in their toy and peer preferences after exposure to counter-stereotyped media content (Spinner et al., 2018). It may be expected that children exposed to counter-stereotypical portrayals in television content may experience similar flexibility.

Gender-typed Appearance

Starting at an early age, children begin to form gender stereotypes about appearance. By extension, they tend to dress in gender-stereotyped colors and patterns (Halim et al., 2018). Evidence further suggests this is important form of gender expression for young children, who tend to be particularly rigid about gender appearance and expression during the preschool years (Halim et al., 2014a). For example, girls tend to be attracted to feminine pink frilly dresses, whereas boys tend to avoid pink feminine items at all costs (Halim et al., 2014b).

These patterns in gender-typed appearance persist in children's media and pop culture. Content analyses have consistently shown that female characters are more likely than male characters to be concerned with their appearance and depicted in appearance-oriented themes and activities (e.g., doing their makeup) (Gerding & Signorielli, 2013; Murnen et al., 2016). Additionally, a content analysis of gender representations in preschool television found that both male and female characters were often portrayed wearing gender-typed colors and accessories (Walsh & Leaper, 2020). Observing these models in television characters may reinforce gender-

stereotyping around appearance for young children and may inform their gender-typed appearance preferences (e.g., preschool girls wearing Disney princess clothes) (Orenstein, 2011).   In sum, prior research suggest that stereotyped media may contribute to the gender-typing of children's preferences for play, peers, and appearance. However, these same studies indicate these effects were not universal for all children. Notably, little research has examined the role of moderators in these effects.

Considering Moderating Factors in Media Effects Research

In a meta-analysis of experimental studies (Oppliger, 2007), a significant average effect was indicated linking children's gender-stereotyped media content to stereotyped attitudes or behavior. However, the average effect size was small, which suggests the effect may occur more for some children than others (also see Valkenburg & Peter, 2013; Ward & Aubrey, 2017). It is therefore necessary to consider factors that may moderate the impact of stereotypes in children's media on the development of children's attitudes and behavior.

There may exist several individual factors that moderate these stereotyped media effects (Brown & Bigler, 2005; Walsh & Leaper, 2022). Some children may be differentially prone to integrating stereotyped or counter-stereotyped media content. As reviewed below and investigated in the present study, these include individual variations in children's perspective-taking, gender centrality, felt gender typicality, and identification with counter-stereotypical characters.

Perspective-Taking

Perspective-taking is about recognizing and understanding the thoughts and opinions of others (Selman, 1980). During the preschool years, children begin to recognize that other people have their own cognitions and perspectives (Flavell, 2004). However, at this age, children still tend to believe others' cognitions are in line with their own (Elfers, 2008). Preschool-aged children tend to have less-developed perspective-taking skills—and, as a result, they may not express as much empathy for other people, or television characters, as do older children (Elfers, 2008; Wilson & Cantor, 1985). At the same time, there are individual variations in perspective-taking at any given age (Selman, 1980).

Perspective-taking skills allow children to take the viewpoint of the characters who are different from themselves and may have different experiences to their own (Vezzali et al., 2015). Research suggests that children's ability to take the perspective of characters may increase with age (Wilson & Cantor, 1985) or their familiarity with those characters (Schofield & Kafer, 1985). The ability to relate to and understand the perspectives of characters may have outcomes in their own experiences with ingroup and outgroup members. Little work has examined the relationship between preschoolers' perspective-taking skills and stereotyped effects. However, prior studies with emerging adults found perspective-taking predicted lower intergroup biases and prejudice (Galinsy & Ku, 2004; Galinsky & Moskowitz, 2000; Vescio et al., 2003). One study specifically observed that participants who practiced perspective-taking with stereotypical others were more likely to engage in stereotyping (Skorinko &

Sinclair, 2013). By extension, I hypothesized that children with more perspective-taking skill would be more accepting of gender-nonconforming peers and more likely to endorse gender-egalitarian attitudes.

Gender Identity

Children start to recognize, label, and express their gender identity at a young age (Katz, 2003; Ruble et al., 2006; Zosuls et al., 2009). Once children form a gender identity, they are usually motivated to learn the cultural expectations associated with their gender ingroup (Martin et al., 2002). This includes increasingly showing interest in television programs aimed at their gender ingroup. Moreover, this process is bidirectional whereby their gender identity is strengthened through regularly observing gender-stereotyped television programs (Ward & Aubrey, 2017). Research has occasionally demonstrated differential outcomes of stereotyped media for boys and girls depending on the age of participants and the content of those stereotyped messages (Ward & Aubrey, 2017; Wille et al., 2018), which may be related to girls being more flexible in their thinking around gender (Halim et al., 2016). As such, it may be revealing to explore the way that gender possibly interacts with other moderating factors.

As explained next, I did hypothesize that two specific facets of gender identity would moderate gender media effects. As emphasized in multidimensional models of gender identity (e.g., Perry et al., 2019), particular facets of gender identity may matter in relation to media effects. Two facets examined in the present study and reviewed next are gender centrality and felt gender typicality.

Gender Centrality. Gender centrality refers to how important and central one's gender identity is to the self (Cameron, 2004; Sellers et al., 1998; Stryker & Serpe, 1994). When gender identity is more central to a person's self-concept it may affect how they perceive and respond to particular situations, which can include how they relate to stereotyped television content. For example, someone who identifies as a girl and feels that being a girl is a really important aspect of who they are, may be influenced by the stereotypes in children's media differentially from a girl who does not feel that being a girl is very important to her sense of self. In some research, having a strong central group identity was associated with higher perceptions of stereotyping and discrimination (Brown & Bigler, 2005). Children with strong gender identity centrality may be more susceptible to stereotypes about media characters that share the same identity as them. Alternatively, research with adolescents and emerging adults suggests that a strong central gender identity may act as a buffer against internalizing stereotypes in some circumstances (Schooler et al., 2004; Wong et al., 2003). It is necessary to conduct similar analyses for young children who may be consuming stereotyped media. Because the research literature has identified ambiguous results on the relationship between gender centrality and stereotyping, analyses for the moderating role of centrality will be exploratory.

Gender Typicality. Gender typicality refers to how similar children see themselves in terms of their ingroup membership (Perry et al., 2019). Felt typicality is related to children's self-esteem and sense of belonging. Research indicates that children and adolescents with low felt gender typicality were more likely to be

subjected to peer rejection or peer victimization (Abrams et al., 2014; Drury et al., 2013; Smith & Leaper, 2006; Zosuls et al., 2016). Analyses of children's television have noted similar ridicule and peer rejection aimed at characters who exhibit gender-nonconforming traits or behaviors (Jones, 2011; Myers, 2012). Children who are high in felt typicality may be more likely to hold gender-stereotypical attitudes views about activities (Kessels, 2005; Patterson, 2012). To that end, these children may favor gender-stereotypical activities and expect their peers to adhere to those norms (Patterson, 2012). In contrast, children with lower ingroup gender typicality may be more confident engaging in cross-gender-typed play and activities throughout childhood (Golombok et al., 2012).

In most studies, felt gender typicality has been measured only based on ingroup membership. However, in recent work, it was demonstrated that some children may experience felt typicality with both their gender ingroup and outgroup (Martin et al., 2017). Research with elementary school-aged children has demonstrated felt typicality with both the ingroup and outgroup can lead to reduced stereotyping and sexist beliefs (Martin et al., 2017; Pauletti et al., 2017). However, little research has examined dual typicality in preschoolers, nor has it examined both ingroup *and* outgroup gender typicality in relation to attitudes toward gender-nonconforming peers.

Some research with elementary students has observed that strong ingroup felt typicality was related to gender-typical expectations of ingroup members (Patterson, 2012) as well as to the rejection of nonconforming ingroup peers and preference for

13

outgroup members who conform to one's own ingroup norms (Abrams et al., 2008). If the strength of ingroup typicality is the mechanism for ingroup peer evaluations, it would follow that strength of outgroup typicality would be the mechanism for outgroup peer evaluations. In the present study, I separately considered how children see themselves as compared to *both* their ingroup and outgroup as potential moderators. This is a research question not previously investigated. It is expected that high *ingroup* typicality will be related to lower acceptance of gender-nonconforming behavior from *ingroup* peers and lower endorsement of egalitarian attitudes. Conversely, it is expected that high *outgroup* typicality will be related to lower acceptance of gender-nonconforming behavior from *outgroup* peers and higher endorsement of gender-egalitarian attitudes.

Identification with Counter-stereotypical Television Characters

Children tend to identify with models who are like themselves (Bandura, 2001; Reeves & Miller, 1978), especially when they are the same gender as the viewer or they model qualities similar or desirable to the viewer (Fisch, 2004; Hoffner, 1996). Identification with role models can lead to children adopting their qualities (Cohen, 2001). As children identify with television characters, they form a personal connection with those characters (Hoffner, 1996; Richert et al., 2009) and have the potential to adopt similar characteristics and preferences.

Research has established several gender-typed patterns related to identification with television characters. For example, boys tend to identify with male characters, while girls are more likely to identify with characters of either gender

(Hoffner, 1996; Hentges, 2020). Girls are also more likely than boys to identify with counter-stereotypical characters (Eisenstock, 1984; Hentges, 2020). Most of this previous work asks children to identify the character with whom they identify the most. However, little research has examined identification with counter-stereotypical characters of the same gender and the other gender in relation to media effects. The current study attempted to address this gap by measuring how children identify with all characters represented in the target animated program.

Some research has noted that stereotyped media effects may impact children differentially depending on their identification with stereotypical or counter-stereotypical characters who are members of their ingroup or outgroup, though this may be limited by quantitative analyses (Aladé et al., 2022). In a study with elementary and high school students, identifying with certain characters led to having more positive views of marginalized outgroup members (Vezzali et al., 2015). Work with adults has additionally found that identifying with characters from outgroup ethnic-minority or sexual-minority backgrounds predicted increased acceptance of those groups as well as reinforcing stereotyping of those groups (McLaughlin & Rodriguez, 2017; McLaughlin et al., 2018). Additionally, a review of the research has demonstrated that identification with counter-stereotypical characters can lead to less stereotyped attitudes (Olsson & Martiny, 2018). Specifically, one study with emerging adults found that identifying with a counter-stereotypical protagonist led to a decrease in stereotyping and prejudice (Dunn & McLaughlin, 2019). Thus, in line with research on older children and adults, it was expected that stronger identification

with counter-stereotypical outgroup characters would lead to more acceptance of gender-nonconforming behavior for ingroup and outgroup peers. Additionally, stronger identification with counter-stereotypical characters regardless of ingroup/outgroup membership would lead to more gender-egalitarian attitudes.

Current Study

The current study utilized a pretest-posttest experimental design to assess the role of several individual moderating factors on the effects of watching an animated program with gender-stereotypical and counter-stereotypical content. Four outcome measures were examined: (1) acceptance of gender-nonconforming ingroup peers, (2) acceptance of gender-nonconforming outgroup peers, (3) gender-egalitarian attitudes about activities presented in the video, and (4) gender-egalitarian attitudes about activities in general. Overall, I expected that watching the video would increase children's acceptance of gender nonconformity and endorsement of egalitarian attitudes. Furthermore, I investigated the potential moderating influences of individual factors on these effects. Specifically, I investigated if and how children's perspective-taking, gender centrality, gender typicality, or identification with counter-stereotypical characters moderated the impact of stereotyped and counter-stereotyped media on their gender attitudes.

To my knowledge, the animated program created for the study was unique in its inclusion of equal numbers of male and female characters that were gender-stereotyped and counter stereotyped, and whose representation paralleled one another in terms of behavior. In addition, little prior work on media effects with young

children has examined the influence of the moderators. Four sets of hypotheses were tested regarding the moderation of stereotyped media effects.

Hypothesis 1: Increasing acceptance of gender-nonconforming *ingroup* peers after watching the video stimulus will be moderated by (1a) higher perspective-taking skills, (1b) lower ingroup felt typicality, (1c) higher outgroup felt typicality, and (1d) stronger identification with counter-stereotypical outgroup characters.

Hypothesis 2: Increasing acceptance of gender-nonconforming *outgroup* peers after watching the video stimulus will be moderated by (2a) higher perspective-taking skills, (2b) higher ingroup felt typicality, (2c) lower outgroup felt typicality, and (2d) stronger identification with counter-stereotypical outgroup characters.

Hypothesis 3 and 4: Increasing endorsement of egalitarian attitudes about activities depicted in the video (Hypothesis 3) or in general (Hypothesis 4) after watching the video will be moderated by (a) higher perspective-taking skills, (b) lower ingroup felt typicality, (c) higher outgroup felt typicality, and (d) stronger identification with counter-stereotypical ingroup and outgroup members.

As explained earlier in the introduction, two kinds of exploratory analyses were carried out without advancing specific hypotheses. First, gender centrality was tested as a potential moderator. Second, the children's self-identified gender was considered a potential moderator of the other individual moderators. Although I expected that the hypothesized moderator effects would act similarly among girls and boys, I did test if there might be differences.

Method

Sample

The study was conducted using in-person and remote data collection. Although the procedure was initially administered to children in-person, a remote version using Zoom occurred later due to the Covid-19 pandemic.

In-person participants were recruited from preschools in New Jersey ($n = 64$). Preschool directors sent home consent forms and demographic questionnaires to parents of 3- to 5-year-old children. Children whose parents returned the consent form and questionnaire were invited to participate in in-person data collection. Preschools that participated in the in-person sample received a donation of $100 in appreciation of their assistance.

Remote participants were recruited through online parenting groups (e.g., Facebook) in California ($n = 64$). The age range for the remote sample was limited to 4- to 6-year-olds based on their ability to participate remotely over zoom. Participants in the remote sample were entered to win one of 13 $25 gift cards.

Across data collection methods, 128 children participated in the first visit. Of these, 5 children who participated in the first visit did not participate in the second visit, and they were not included in the final sample. Four children were removed from the in-person sample; these included one child who stopped attending school between the first and second visit; one child who experienced fatigue and elected to stop participation; and two children who were quarantining due to Covid-19 at the

time of the second visit. One child was removed from the remote sample due to Zoom

fatigue.

The final sample combined from the in-person ($n = 60$) and remote ($n = 63$)

groups included 123 children (51% girls), ages 3 to 6 years old ($M = 4.35$, $SD = .92$).

Parents reported children's age and ethnicity, parent education, and hours of

television watched by the participating child each week in the demographic survey.

Most participants were White (70%), or multiracial/multiethnic (21.1%). Parents in

this sample were highly educated with 87.2% reporting at least some college

education. Children in this sample watched an average of nine hours of television per

week. Demographic information for children from the in-person and the remote

modalities are summarized in Table 1.

Animated Program

Children watched an animated video program approximately four minutes

long, which was created by the author using an online program (animaker.com). The

video followed common preschool television format, including the presentation of

three acts or scenarios to the viewer and pseudo-interactive components where the

characters talk to the viewers (Carter et al., 2019). Specifically, characters in the

video went through aspects of a typical day at preschool: choosing toys to play with

during free play, choosing their lunch table, and playing dress-up. This video was

created to control the specific gender-stereotypical and counter-stereotypical content

presented to participants. The gender-stereotyped domains were based on previous

research regarding with young children (e.g., Ruble et al., 2006): toy preference

(dolls, tea sets, trucks, blocks), peer preference (having lunch with the girls or with the boys) and dress-up appearance (dressing as a nurse, princess, superhero, firefighter). Four different characters were selected from the available avatars in the animation program. Two of the characters (one boy and one girl) were presented as entirely stereotypical in these preferences and two of the characters (one boy and one girl) were presented as entirely counter-stereotypical in their preferences. This decision was made both for simplicity of design and because participants tend to only notice one dimension of stereotypicality in characters (Hentges, 2020). To ensure character appearance would not confound children's identification with characters, the characters portrayed as stereotyped or counter-stereotyped in their preferences were counterbalanced across four versions of the video. Participants were randomly assigned to watch one of these four versions during the second visit.

Measures

Liking of Video

After watching the video, participants were asked how much they liked the show with three options: *not at all*, *a little*, or *a lot* using images of cups ranging from empty to full. The three options were scored as 1, 2, 3, respectively. (When describing the rating scales below, a similar procedure was used.)

Perspective-Taking

The perspective-taking measure was adapted from previous work on perspective-taking in preschool-aged children (Flavell, 1968; Greenberg et al., 1977; Iannotti, 1985; Stewart & Marvin, 1984) and included 6 items for each of four

20

vignettes about other children. Participants were told they would be asked questions about what they thought *other* kids would like. They were provided a fact about the target child's preference (e.g., "Skyler doesn't like to get wet.") and asked forced choice questions about (1) what they thought that child would like to do (e.g., "Do you think Skyler would rather play in a puddle or read a book?"), (2) what they wanted to get the child for a gift (e.g., "Do you want to give Skyler a sprinkler or a puzzle as a present?"), and (3) if the target child would feel happy or sad after receiving a gift that matched or mismatched their preference (e.g., "Skyler got this yoyo for their birthday. Do you think they will be happy or sad to get this?").

Questions were accompanied by pictorial representations of each item option. Children were also asked to provide a rationale (e.g., "Why do you think that?") for each of their answers. Participants earned 1 point for answering each forced-choice question in line with the target child's preference and 1 point for providing an answer to each rationale question that aligned with the preference. Therefore, participants could have earned up to 6 points for each of the four target child vignettes.

Gender Identification

Gender self-identification was measured with one item that asked, "Are you a boy, a girl, or neither a girl or a boy?" If they respond with "neither a girl or a boy" they were asked to elaborate. The order of gender categories presented to children was counterbalanced based on parents' report of the child's gender.

Gender Centrality

Gender centrality was measured using one item. Participants were shown pictures of a boy and girl and told "Some people are boys, and some people are girls. Which one is most like you?" Researchers removed the picture that was in opposition to the child's answer and then asked the child, "How important is it that you are a boy/girl?" The participant answered on a scale from 1 = *not very important* to 3 = v*ery important* using images of cups ranging from empty to full.

Gender Typicality

Gender typicality was measured using a 4-item version of The Perceived Similarity to Gender Groups Measure (Martin et al., 2017). Questions were adapted to suit preschool-aged participants and incorporate the stereotypes being assessed. Participants were presented with stick figure drawings of boys/girls and were told they would be asked how much they were like other kids. Then participants were asked questions about each gender: (1) "How much are you like other boys/girls?" (2) "How much do you like to play with toys that most other boys/girls like to play with?" (3) "How much do you like to spend time with other boys/girls?" and (4) "How much do you like dressing like other boys/girls?" Children were asked first about the gender that matched, and second about the gender that mismatched, their own self-identification. Participants answered on a scale from 1 = *not very much* to 5 = *very much*, using images of cups ranging from empty to full.

Identification with Characters

Identification was measured by ranking the characters from the video. Participants were shown pictures of each of the characters who were present in the version of the program they were assigned to watch. They were asked "Which one of these kids is most like you?" After they made their selection, participants were asked "How much are they like you?" on a scale from 1 = *not at all like me* to 3 = *very much like* me using images of cups ranging from empty to full. Then the selected character was removed from the table. Participants continued the process of selecting characters and reporting similarity to themselves until all character options were exhausted. For the purposes of analysis, children's identification with the counter-stereotypical character of their ingroup and outgroup was examined.

Attitudes Toward Gender-Nonconforming Peers

Participants' attitudes about gender-nonconforming same-gender (ingroup) and other-gender (outgroup) peers were measured pre- and post-viewing with 2 items in response to vignettes. Participants were presented with two vignettes: one about a gender-nonconforming boy (John) the other about a gender-nonconforming girl (Jane). Children were shown a picture of a child depicting gender-nonconforming preferences. The researcher read a series of descriptive statements about this child based on the domains presented in the television stimulus. For example, "This is John. John is a boy. He is going to be a new kid in your class. John likes to play with dolls and tea sets. He mostly likes to play with the girls. John likes to wear pink dresses, paint his nails, and wear barrettes in his hair." After each vignette, children

were asked (1) "How much would you want to play with John/Jane?" and (2) "How much would you want to be John/Jane's friend?" Children were asked to respond on a 5-point scale from 1 = *not at all* to 5 = *very much* using images of cups ranging from empty to full. The order of presentation of the male and female gender-nonconforming vignette was counterbalanced across participants. For the present study, changes in attitudes toward gender-nonconforming ingroup peers and gender-nonconforming outgroup peers were separately assessed as dependent variables.

Gender-Egalitarian Attitudes About Activities

Participants' egalitarian attitudes were measured before and after watching the television stimulus. General gender-egalitarian attitudes were measured with the original 14-item Activities-AM subscale from the Preschool Occupations, Activities, Traits Scale (Liben & Bigler, 2002). The Activities-AM subscale asks who *should* participate in 14 activities (e.g., "Who should play with dolls?"). Participants could respond to each question by saying, or pointing to a picture, "boys," "girls," or "both boys and girls." Total number of egalitarian responses were tallied. Responses were considered egalitarian when participants answered, "both boys and girls". This constituted the measure of gender-egalitarian attitudes toward activities in general.

In addition, gender-egalitarian attitudes regarding activities depicted in the video were measured with all 10 items presented in the video (described above under Animated Program) in the same format as the POAT Activities-AM scale. This constituted the measure of gender-egalitarian attitudes toward activities depicted in the video.

Procedure

In-person Sample

Children whose parents returned a signed consent form and prescreening questionnaire were be interviewed in a familiar environment at their preschool (e.g., library, multipurpose room, etc.) during the school day. Teachers were consulted as to what time worked best for the child considering the daily schedule and curriculum plans. Children were asked for verbal assent before participating.

During the first visit, each participant was asked questions to assess perspective-taking, gender self-identification, gender centrality, and gender typicality. Next, participants were asked questions to assess attitudes about activities from the video, activities in general, acceptance of nonconforming peers.

During the second visit, each participant first watched the television stimulus. Participants then provided a rating for how much they enjoyed the video and completed the assessment for their identification with characters from the television stimulus. Next, participants were asked questions to assess attitudes about activities from the video, activities in general, and acceptance of nonconforming peers.

For each assessment, children were provided with physical cards of the pictures on the table in front of them. Each visit took approximately 15 minutes for participants to complete. The second visit took place approximately two months after the first visit, based on preschool availability.

Remote Sample

Children whose parents completed a consent form were invited to participate over a secure Zoom link. Parents were asked to hold the meeting in a quiet area of their home. Children were asked for verbal assent before participating. The procedure for the first and second visit were the same as in the in-person sample. For each assessment, children were provided with pictures on a PowerPoint via the shared Zoom screen. The second visit took place 1 to 2 weeks after the first visit based on parent and child availability.

Results

Preliminary Analyses: Comparison of In-Person and Remote Samples

To consider the appropriateness of combining the in-person and remote samples, comparison tests on the variables were conducted. The average age of the remote sample ($M = 4.89$, $SD = .82$) was significantly older than the in-person sample ($M = 3.78$, $SD = .63$), $t(115.53) = -8.43$, $p < .001$, $d = .73$. Therefore, ANCOVAs with age as a covariate were performed to test for possible sample differences in each of the moderator and dependent variables. Only one significant difference was indicated. In-person participants identified more strongly with the counter-stereotypical ingroup characters ($M = 2.62$, $SD = .61$) than did remote participants ($M = 1.94$, $SD = .78$), $F(1, 120) = 12.45$, $p < .001$, $d = .64$. Given that they were significantly different on only this one variable, the two samples were combined. Descriptive statistics and bivariate correlations among the variables for the combined sample are presented in Table 2.

Effect of Animated Program

Pairwise *t*-tests were conducted to establish the effect of watching both gender-stereotyped and counter-stereotyped content in the animated program by comparing the pre-test and post-test scores for each dependent variable. Specifically, the pairwise *t*-tests assessed the impact of the animated program on children's attitudes about (a) gender-nonconforming ingroup members, (b) gender-nonconforming outgroup members, (c) egalitarian attitudes on activities depicted in the video, and (d) egalitarian attitudes on activities in general.

T-test analyses revealed no effect of the animated program on children's attitudes about gender-nonconforming *ingroup* members, $t(122) = 1.44$, $p = .152$, nor on their attitudes about gender-nonconforming *outgroup* members, $t(122) = -1.22$, $p = .224$. However, pairwise *t*-tests did indicate significant increases in egalitarian attitudes about activities *depicted in the video*, $t(122) = -2.64$, $p = .009$, as well as egalitarian attitudes about activities *beyond the video*, $t(122) = -2.98$, $p = .003$ (see Table 3).

Moderator Analyses

To test the primary hypotheses, hierarchical regressions were conducted to assess the role of each proposed moderator and gender x moderator interactions on the pre-viewing/post-viewing difference scores for each of the four dependent variables: attitudes toward nonconforming ingroup peers, and attitudes toward nonconforming outgroup peers, egalitarian attitudes regarding activities depicted in video, and egalitarian attitudes regarding activities in general. In each regression

model, the moderators were entered in the first step (perspective-taking, gender centrality, ingroup/outgroup gender typicality, identification with ingroup/outgroup counter-stereotypical characters). In the second step, interactions between participants' self-identified gender and the moderators were entered. As described below, the latter step significantly added to the model in one of the four regression analyses.

Attitudes Toward Gender-Nonconforming Ingroup Members

The first step of the regression model with the moderators was significant, R^2 = .14, $F(6, 116) = 3.11$, $p = .007$. The second step with the interaction effects did not explain additional variance, $R^2 = .18$, $F(6, 110) = .97$, $p = .449$. A summary of the model is presented in Table 4.

As hypothesized, felt typicality with ingroup members moderated the change in attitudes, $\beta = -.24$, $p = .010$, such that more felt typicality with ingroup members led to less acceptance of gender-nonconforming *ingroup* members after watching the animated program. Additionally, as hypothesized, identification with the counter-stereotypical outgroup character moderated the change in attitudes, $\beta = .20$, $p = .028$, such that stronger identification with the counter-stereotypical outgroup character led to more acceptance of gender-nonconforming *ingroup* members after watching the animated program.

Attitudes Toward Gender-Nonconforming Outgroup Members

The first step with the moderators was significant, $R^2 = .14$, $F(6, 116) = 3.22$, $p = .006$. The second step including the interactions with gender did not explain

28

additional variance in the model, $R^2 = .20$, $F(6, 110) = 1.36$, $p = .236$. A summary of the model is presented in Table 5.

As expected, felt typicality with outgroup members moderated the change in attitudes, $\beta = -.34$, $p < .001$, such that more felt typicality with outgroup members led to less acceptance of gender-nonconforming *outgroup* members after watching the animated program.

Gender-Egalitarian Attitudes About Activities in Video

The first step of the regression model with the moderators was not significant, $R^2 = .07$, $F(6, 116) = 1.43$, $p = .209$. However, the inclusion of the interaction effects added to the model, $R^2 = .18$, $F(6, 110) = 2.49$, $p = .027$. The results for the regression model are summarized in Table 6.

Two significant moderator main effects were indicated in the first step of the model. First, as hypothesized, stronger identification with the counter-stereotypical ingroup characters led to more egalitarian attitudes about activities from the animated video, $\beta = .26$, $p = .015$. In addition, a significant main effect for gender ingroup typicality appeared in the first step of the model. $\beta = .23$, $p = .018$. Contrary to the hypothesis, higher felt typicality with ingroup members predicted increases in egalitarian attitudes about activities depicted in the video (see Table 6). However, this effect was further moderated by the child's gender in the second step, $\beta = -1.35$, $p = .003$. Follow-up tests revealed higher felt typicality with ingroup members led to increases in endorsement of egalitarian attitudes among boys, $\beta = .45$, $p < .001$, but not among girls, $\beta = -.04$, $p = .762$ (see Figure 1).

Finally, the Gender x Centrality interaction was marginally significant, β = .75, p = .059. Because the inclusion of gender centrality and gender interactions was exploratory, I conducted follow-up tests. Analyses revealed higher gender centrality led to significantly lower endorsement of egalitarian attitudes after watching the video for boys, β = -.26, p = .043, but not for girls, β = .03, p = .849 (see Figure 2). Because the inclusion of centrality in the model was exploratory, these results should be viewed with caution.

Gender-Egalitarian Attitudes About Activities in General

Neither the first step of the model, R^2 = .06, F(6, 116) = 1.31, p = .258, nor the second step, R^2 = .13, F(6, 110) = 1.42, p = .214, significantly contributed to the model predicting changes in overall gender-egalitarian attitudes about activities.

Discussion

Children have access to a remarkable amount of television content, much of which is stereotypical in its depiction of male and female characters (Ofcom, 2019; Ward & Aubrey, 2017). According to cognitive theories of gender, children incorporate these representations into their gender-schematic understanding of norms and behaviors (Bussey & Bandura, 1999; Liben & Signorella, 1980; Martin et al., 2002). Although research has demonstrated that children's exposure to stereotyped television is related to stereotyped attitudes and exposure to counter-stereotyped television is related to more egalitarian attitudes, these stereotyped media effects do not always emerge (Valkenburg & Peter, 2013; Ward & Aubrey, 2017). I investigated whether individual-level factors (perspective-taking, gender centrality, gender

typicality, identification with counter-stereotypical characters) moderated stereotypical media effects. The current study thereby built on previous research by examining the role of these moderators on the effects of watching an animated program created for this study that included both gender-stereotypical and counter-stereotypical content. I first tested whether observing the video led to more flexible attitudes about gender-nonconforming peers and egalitarian attitudes about activities. Second, I tested whether the moderators influenced these effects. In doing so, I additionally explored whether the child's gender interacted with moderators, whereby the effect of the video on outcomes might differ in strength or direction for girls and boys. The results of the study are discussed below.

Overall Impact of Watching Video on Attitudes

The results demonstrated that watching a video featuring both counter-stereotypical and stereotypical characters led to an increase in children's endorsement of egalitarian attitudes about gender-typed activities. This was indicated for attitudes portrayed in the video as well as a more general list of gender-typed activities. These findings replicate research on the impact of watching counter-stereotyped media on children's attitudes (Rosenwasser et al., 1989; Pike & Jennings, 2005; Wroblewski & Huston, 1987). Additionally, this work demonstrates the directionality of media effects based on a video created with equal representations of stereotyped and counter-stereotype content. Previous experimental work has relied on portraying either stereotypical or counter-stereotypical depictions in stimuli and media interventions (see Ward & Aubrey for a review). However, most television shows

31

created for young children contain both stereotypical and counter-stereotypical content (Walsh, 2021). When participants in this sample were presented with equal stereotypical and counter-stereotypical representations, their attitudes became more egalitarian after viewing. This sheds light on how children are incorporating and integrating both types of content into their conceptualization of gender-appropriate behavior (Bussey & Bandura, 1999; Liben & Signorella, 1980; Martin et al., 2002)

However, the results showed no overall effect of the animated program on children's attitudes toward gender-nonconforming ingroup or outgroup peers. This outcome was measured with a two-item scale for each group. It is possible that this scale did not offer enough range to statistically account for change after watching the video. However, when considering the role of moderating factors, the analyses revealed that stereotyped and counter-stereotyped television can have an impact children's attitudes toward gender-nonconforming peers. These moderating relationships are discussed below.

Impact of Individual Moderators

Perspective-Taking

Contrary to hypotheses, Across the four outcome measures, children's perspective-taking did not moderate any of the media effects. An inspection of the bivariate correlations indicates that perspective-taking was correlated with two moderators. These included negative correlations with outgroup gender typicality and identification with ingroup counter-stereotypical characters. Perhaps perspective-taking facilitated children's felt typicality and identification with their own gender

ingroup. For most children within the 3- to 6-year range of the current sample, same-gender identification and affiliation with same-gender peers are major preoccupations (Leaper, 2022; Ruble et al., 2006). Research on intergroup conflict in adults has demonstrated that although perspective-taking can improve intergroup conflict it had no effect on attitudinal changes (Gutenbrunner & Wagner, 2016). Other work with adults has highlighted the role of additional interacting factors on the effectiveness of perspective-taking to change stereotyped attitudes (Todd & Simpson, 2017; Vescio et al., 2003). Additional work is necessary to parse out these connections as related to stereotyped media effects.

Additionally, the measure of perspective-taking asked children to engage in multiple skills. Children were asked both to select an answer and to explain a rationale for that selection. It is possible that young preschool-aged children struggled with the explanation portion of this task. Some of the youngest participants did not provide a rationale for some or all of the responses. Recent research has demonstrated that perspective-taking skills are really emerging in parallel to language and vocabulary skills during the preschool years (Emen & Aslan, 2019). It is possible that the articulation of the rationale for correct choices was a more advanced skill than children were able to contribute given their current developmental skill set. Future research should examine this assessment strategy in samples with preschool-aged children.

Gender Centrality

Gender centrality was included in the model for exploratory purposes given the mixed pattern of results associated with this factor in prior studies. Centrality generally did not predict changes in children's gender attitudes. The one exception was a marginally significant Gender x Centrality interaction effect. Among boys, higher gender centrality predicted decreases in the endorsement of egalitarian attitudes about the activities portrayed in the video. Given the analyses were exploratory and the interaction effect was marginally significantly, this pattern should be viewed cautiously. Children with high gender centrality may be more attentive and susceptible to stereotypes about same-gender characters. One speculation that would need testing in future research is that boys with higher gender centrality may have been more attentive to stereotypical representations in the video that were consistent with their existing gender schemas and ignore the counter-stereotypical images (e.g., see Martin & Halverson, 1983).

Ingroup and Outgroup Gender Typicality

Ingroup gender typicality and outgroup gender typicality were two additional moderators that were tested. As Martin et al. (2017) demonstrated, children can feel typical of their own gender ingroup, their gender outgroup, or both. As hypothesized, ingroup gender typicality and outgroup typicality each predicted less acceptance of gender-nonconforming ingroup members and gender-nonconforming outgroup members, respectively. This supports previous research finding young children negatively evaluated and sanctioned peers for their gender-nonconforming behavior

(Blakemore, 2003, Skočajić et al., 2020). Specifically, children with high felt typicality are likely to negatively evaluate those nonconforming peers with membership in shared groups. For example, boys with high typicality will sanction other boys for behaving outside of prescribed gender norms (Abrams et al., 2008). This might explain why even children who consider themselves typical of outgroup members tend to favor conformity to the outgroup's norms. These findings add clarity on the relationship of dual identity in relation to peer judgments and evaluations.

In addition, the results revealed a Gender x Ingroup Typicality interaction with egalitarian attitudes about activities depicted in the video. Previous research has demonstrated that children who report high felt typicality to their gender ingroup are more likely to hold gender-stereotypical attitudes (Kessels, 2015; Patterson, 2012). Contrary to my hypothesis, however, boys in this sample who reported higher ingroup typicality endorsed more egalitarian attitudes after watching the animated program. The same pattern was not observed for girls. One speculation is that boys who felt typical to other boys were especially aware of restrictive gender norms about activities (Mulvey & Killen, 2014), and therefore are more apt to reject them. If so, presumably there would other factors contributing to this outcome such as having parents who encourage gender-role flexibility. Future work could examine the interaction between moderators to further untangle these relationships.

On the other hand, boys with high ingroup typicality may have been so accustomed to traditional masculine tropes and norms from the media they consume, that they may have been especially attentive to and influenced by the male gender-

35

nonconforming character from the video program. Depictions of the male counter-stereotypical character may have afforded them the chance to see a new and very different media representation of how boys can behave. This may have been especially influential for these boys who are used to aligning with masculine norms. Future research should consider the ways in which children's current media diets play into these relationships.

Identification with Ingroup and Outgroup Counter-Stereotypical Characters

To my knowledge, this is the first study to request participants rate their identification with all characters from the presented media, which allowed me to analyze the moderating role of identification with both ingroup and outgroup counter-stereotypical characters. It was expected that strong identification with counter-stereotypical outgroup members would lead to more acceptance of gender-nonconforming behavior. In partial support of my hypothesis, identification with outgroup counter-stereotypical characters predicted increases in children's positive attitudes toward nonconforming ingroup peers after viewing the animated program. This demonstrates that identification with outgroup characters has similar effects for children in preschool as those that have been observed in research with adults. For example, identification with outgroup members has been shown to increase participants' understanding and acceptance of marginalized groups (McLaughlin & Rodriguez, 2017; McLaughlin et al., 2018), including groups like gender-nonconforming peers.

This finding has implications for interventions with young children. As new generations continue to challenge gender norms, practices, and identities more children will likely engage in gender-nonconforming behavior. Research has demonstrated these children are often rejected and evaluated poorly by their peers (Blakemore, 2003; Skočajić et al., 2020). Teachers, parents, and practitioners will look for ways to create a positive and inclusive environment for all children at a time when they are often rigid in their conceptions of gender. Encouraging children's own identification with counter-stereotypical characters may prove a beneficial avenue for intervention and peer acceptance for these marginalized and rejected nonconforming youths.

Counter to expectations, no significant effect was observed for identification with outgroup counter-stereotypical characters and children's acceptance of gender-nonconforming outgroup peers. Interestingly, perspective-taking was negatively correlated with identification with counter-stereotypical ingroup characters. Previous work as named perspective-taking as one of the key steps in the process of identifying with television and media characters (Cohen, 2001). It is possible that individual identity factors were in conflict with children's perspective-taking skills as related to their ability to take the perspective of nonconforming ingroup members. This may explain why the expected relationship between identification and ingroup peers could not be observed. As addressed earlier, work has not examined children's identification with counter-stereotypical characters of differing group memberships

and more work must be done to explain the relation among these moderators in relation to specific outcomes.

Identification with ingroup counter-stereotypical characters additionally predicted increases in egalitarian attitudes toward gender-typed activities portrayed in the video. Previous research has shown that identifying with characters who actively resist stereotypes has been shown to be related to lower stereotyping and prejudice (Dunn & McLaughlin, 2019, Olsson & Martiny, 2018). This may be especially important for boys who are less likely to identify exclusively with counter-stereotypical characters (Hoffner, 1996; Hentges, 2020) and more likely to be expected to engage in stereotypical activities (Mulvey & Killen, 2014). Identification with counter-stereotypical ingroup characters may help to narrow the gap in gender-flexible attitudes between boys and girls (Halim et al., 2016).

Summary

Overall, the results provided mixed support for my hypotheses. First, there was evidence that the video had a positive impact on children's gender-egalitarian attitudes. Second, some of the moderators affected the strength or direction of this effect in expected ways. Notably, high felt typicality with a gender-ingroup or a gender-outgroup was related to lower evaluations of peers who violated gender norms in their ingroup or outgroup, respectively. Ingroup felt typicality was also related to higher endorsement of egalitarian attitudes for boys. In partial support of my hypotheses, identifying with outgroup counter-stereotypical characters increased

38

acceptance of ingroup (but not outgroup) peers in this study. More work is necessary to parse out the dynamic relations among these moderating factors.

Some of the moderators either did not significantly affect the impact of the video on attitudes or their effect was unclear. Most notably, these included perspective-taking and gender centrality. In addition, none of the moderators affected the impact of the video on children's attitudes toward gender-typed activities in general. Theorists have argued that general attitudes are more likely to change after cumulative high exposure to stereotyped or counter-stereotyped media (Bandura, 2001; Bussey & Bandura,1999; Gerbner, 1998). Longitudinal work may illuminate this relationship. However, there were effects associated with their attitudes toward activities depicted in the video. Changes in children's gender attitudes after viewing media would appear to be most closely tied to the content portrayed in the media that they watch. This provides important context for research on stereotyped media effects in particular. Longitudinal work has found that gender-typed activity preferences and engagement during preschool strongly predict those preferences overtime (Golombok et al., 2012; Kung, 2021). If counter-stereotyped media effects can be enacted as an intervention during preschool, this may set children on a more inclusive accepting path later on in childhood and adolescence. Media effects research should look specifically to the early childhood years when instituting inclusive interventions.

Limitations and Future Directions

Next, I acknowledge some of the study's limitations and recommend directions for future research. First, the measurement of some of the variables was

limited. This may include the measure of perspective-taking which was not found to moderate any media effects. The measure of perspective-taking was adapted from several studies, and it is unclear whether it was valid for the age range in the sample from 3- to 6-year-olds. Also, the gender centrality construct was measured with a 1-item question due to time and other constraints. Research with older children has utilized both ranking and rating of gender to assess centrality (see Turner & Brown, 2007), which may represent a potentially stronger method for measuring gender centrality. Additionally, I separately analyzed ingroup and outgroup gender typicality in the analyses. Other research with larger sample sizes suggests that taking into account children who score high in *both* types of typicality may be especially revealing (Martin et al., 2017; Pauletti et al., 2017).

Second, the Covid-19 pandemic created special challenges to the research. Some of the in-person data was fully collected before schools shut down in March of 2020. Therefore, the project had to shift toward remote data collection to ensure an adequate sample size. This meant shortening some measures (e.g., centrality) and further limiting the age group of participants. Additionally, consequences from the Covid-19 pandemic reduced the in-person sample size upon resuming collection. Several participants were experiencing shifts in quarantine requirements, and some were not able to participate in visit two. This study should be replicated with a sample that is collected using each recruitment technique separately.

Finally, due to sampling limitations, I was unable to consider the possible influence of the video and moderators on children with gender-nonbinary identities. I

attempted to go beyond binary identities to some extent by assessing felt typicality to both gender ingroups and outgroups. However, the animated program was limited to binary children's gender adherence and gender nonconformity. As this was the first examination of the introduction of equivalent stereotyped and counter-stereotyped representations in a media intervention stimulus, it was important to maintain a simple and parallel design. However, as children's television begins present children with more gender-diverse and nonbinary character portrayals (Walsh, 2021), it will be important for research on gender-typed media effects to consider evolving conceptualizations of gender (Hyde et al., 2018).

Contributions to Media Effects Research

Previous research has demonstrated that watching stereotyped media contributes to stereotyped media effects on stereotyped attitudes and behaviors. Conversely, research has shown that counter-stereotypical media may be related to more egalitarian attitudes and acceptance of counter-stereotypical behavior (Ward & Aubrey, 2017). However, a meta-analysis of these stereotyped media effects observed a small overall effect size of these outcomes (Oppliger, 2007), which indicates that stereotyped media effects may occur differently for children based on various factors (Valkenburg & Peter, 2013). Although my findings replicate previous work on media effects on stereotyped attitudes, I was able to further consider the moderating role of individual-level factors. These relationships revealed the impact of the video on the way children incorporate and internalize media content can only be identified after taking particular moderators into account. By attending to the way these moderators

41

impact media effects in young children, researchers can parse apart mechanisms for these effects and provide guidance to parents and content creators who are invested in narrative media as a form of societal change and personal growth.

Small average effects of stereotyped media seen in prior studies (see Oppliger, 2007) may also be related to methodological choices in the fields of child development and media psychology. Many studies have utilized general attitudinal measures of stereotyped attitudes to assess media effects. In the drive to account for individual differences and the efficacy of stereotyped media interventions (Valkenburg & Peter, 2013), it is essential to assess children's attitudes and evaluations based on what is directly present with the program or stimulus. In the current study, overall changes in egalitarian attitudes occurred after watching the animated program. However, these effects were no longer significant when the analyses tested for moderators. This means that differential stereotyped media effects are truly bound by the content within the program. Connecting media effects on children's outcomes therefore depends on the content of the program, the connection of the measures to the content, and individual moderators about the viewers. By making these clear and explicit connections in their methodological choices, researchers may be able to identify stronger more robust media effects.

Importantly, almost no differences were observed between the in-person and online samples, meaning these samples were very similar. While this allowed us to combine the samples for statistical analyzes, this finding also has strong implications for future research. That these two samples, with very different interview formats,

42

were so similar tells us that preschool-aged children are capable of participating in research in an online context, and for the current study, that the collection modality was unrelated to media effects outcomes. Data collection with young children is often challenging and in-person research with this population may be especially difficult as the pandemic remains unpredictable. The option to conduct research remotely may also remove previous limitations by region or access for researchers interested in examining these effects in certain populations. This research indicates that remote research with preschoolers is a viable and impactful option for future research media effects work.

Lastly, study was the first known study to present children with equal representations of stereotypes and counterstereotypes. Whereas previous experimental studies (see Ward & Aubrey, 2017 for a review) have often relied on presenting children with *either* stereotypical or counter-stereotypical media content, the current study the literature on media effects by increasing the external validity of stereotyped media stimuli, given that preschool television tends to present viewers with varying types and levels of stereotypes (Walsh, 2021). Presenting children with interventions and television programs that present more equivalent depictions of diverse gender representations can lead them to have more open attitudes and accepting expectations of those around them. Content creators can use this research as an example for future television programs. By including thoughtful and intentional counter-stereotypical representations, children's television can have meaningful impacts on children's stereotyped and egalitarian attitudes and encourage them to be more inclusive and

accepting of their peers. Parents can also look to television that specifically includes both stereotyped and counter-stereotyped character depictions as a model for their children. By examining the contribution of moderators to stereotyped media effects in response to content that was intentionally and explicitly manipulated in an externally valid stimulus, this research provided a more holistic examination of media influences on children's formation of gender attitudes and demonstrated the formative role television can have in creating accepting and egalitarian children.

References

Abrams, D., & Rutland, A. (2008). The development of subjective group dynamics. In S. R. Levy & M. Killen (Eds.), *Intergroup relations and attitudes in childhood through adulthood* (pp. 47-65). Oxford University Press.

Abrams, D., Rutland, A., Palmer, S. B., Pelletier, J., Ferrell, J., & Lee, S. (2014). The role of cognitive abilities in children's inferences about social atypicality and peer exclusion and inclusion in intergroup contexts. *British Journal of Developmental Psychology*, *32*, 233-247. https://doi.org/10.1111/bjdp.12034

Ahmed, S., & Abdul Wahab, J. (2014). Animation and socialization process: Gender role portrayal on Cartoon Network. *Asian Social Science*, *10*, 44–53. https://doi.org/10.5539/ass.v10n3p44

Aladé, F., Lauricella, A. R., Kumar, Y., & Wartella, E. (2022). Impact of exposure to a counter-stereotypical STEM television program on children's gender- and raced-based STEM occupational schema. *Sustainability*, *14*, 1-16. https://doi.org/10.3390/su14095631

Aubrey, J. S., & Harrison, K. (2004). The gender-role content of children's television programs and its links to their gender-related perceptions. *Media Psychology*, *6*, 111-146. https://doi.org/10.1207/s1532785xmep0602_1

Baker, K., & Raney, A. A. (2007). Equally super?: Gender-role stereotyping of superheroes in children's animated programs. *Mass Communication and Society*, *10*, 25–41. https://doi.org/10.1080/15205430709337003

Bandura, A. (2001). Social cognitive theory: An agentic perspective. *Annual Review of Psychology*, *52*, 1–26. https://doi.org/10.1146/annurev.psych.52.1.1

Barner, M. R. (1999). Sex-role stereotyping in FCC-mandated children's educational television. *Journal of Broadcasting & Electronic Media*, *43*, 551–564. https://doi.org/10.1080/08838159909364509

Blakemore, J. E. O. (2003). Children's beliefs about violating gender norms: Boys shouldn't act like girls, and girls shouldn't act like boys. *Sex Roles*, *48*, 411-419.

Brown, C. S., & Bigler, R. S. (2005). Children's perceptions of discrimination: A developmental model. *Child Development*, *76*, 533–553. https://doi.org/10.1111/j.1467-8624.2005.00862.x

Browne, B. A. (1998). Gender stereotypes in advertising on children's television in the 1990s: A cross-national analysis. *Journal of Advertising*, *27*, 83-96. https://doi.org/10.1080/00913367.1998.10673544

Bussey, K., & Bandura, A. (1999). Social cognitive theory of gender development and differentiation. *Psychological Review*, *106*, 676–713. https://doi.org/10.1037/0033-295X.106.4.676

Cameron, J. E. (2004). A three-factor model of social identity. *Self and Identity*, *3*, 239–262. https://doi.org/10.1080/13576500444000047

Carter, D. B., & McCloskey, L. A. (1984). Peers and the maintenance of sex-typed behavior: The development of children's conceptions of cross-gender behavior

in their peers. *Social Cognition*, *2*, 294-314.

https://doi.org/10.1521/soco.1984.2.4.294

Carter, E. J., Hyde, J., Hodgins, J. K. (2019). *Investigating the use of interactive features for children's television programming.* Disney Research. https://studios.disneyresearch.com/wp-content/uploads/2019/04/Investigating-the-Effects-of-Interactive-Features-for-Preschool-Television-Programming.pdf

Cherney, I. D., & London, K. (2006). Gender-linked differences in the toys, television shows, computer games, and outdoor activities of 5- to 13-year-old children. *SexRoles*,*54*, 717–726. https://doi.org/10.1007/s11199-006-9037-8.

Cohen, J. (2001). Defining identification: A theoretical look at the identification of audiences with media characters. *Mass Communication and Society*, *4*, 245–264. https://doi.org/10.1207/S15327825MCS0403_01

Coltrane, S., & Messineo, M. (2000). The perpetuation of subtle prejudice: Race and gender imagery in 1990s television advertising. *Sex Roles*, *45*, 363–389. https://doi.org/10.1023/A:1007046204478

Coyne, S. M., Linder, J. R., Rasmussen, E. E., Nelson, D. A., & Birkbeck, V. (2016). Pretty as a princess: Longitudinal effects of engagement with Disney princesses on gender stereotypes, body esteem, and prosocial behavior in children. *Child Development*, *87*, 1909–1925. https://doi.org/10.1111/cdev.12569

Drury, K., Bukowski, W. M., Velásquez, A. M., & Stella-Lopez, L. (2013). Victimization and gender identity in single-sex and mixed-sex schools: Examining contextual variations in pressure to conform to gender norms. *Sex Roles*, *69*, 442-454. https://doi.org/10.1007/s11199-012-0118-6

Dunn, J. A., & McLaughlin, B. (2019). Counter-stereotyped protagonists and stereotyped supporting casts: Identification with Black characters and symbolic racism. *Communication Research Reports*, *36*(4), 309-319. https://doi.org/10.1080/08824096.2019.1660870

Elfers, T., Martin, J., & Sokol, B. (2008). Perspective taking: A review of research and theory extending Selman's developmental model of perspective taking. In A. M. Columbus (Ed.), *Advances in Psychology Research* (pp. 229-262). Hauppauge, NY: Nova Science Publisher.

Emen, M., & Aslan, D. (2019). The relationship between perspective taking skills and language development in preschool children. *Journal of Education and Educational Development*, *6*(1), 25-42.

Fisch, S. M. (2004). *Children's learning from educational television: Sesame Street and beyond* Mahwah, NJ: Erlbaum.

Flavell, J. H., et al. (1968). The development of role-taking and communication skills in children. Oxford, England: John Wiley & Sons.

Flavell, J. H. (2004). Theory-of-mind development: Retrospect and prospect. *Merrill-Palmer Quarterly*, *50*, 274–290.

Galinsky, A. D., & Ku, G. (2004). The effects of perspective-taking on prejudice: The

moderating role of self-evaluation. *Personality and Social Psychology

Bulletin*, *30*, 594-604. https://doi.org/10.1177/0146167203262802

Galinsky, A. D., & Moskowitz, G. B. (2000). Perspective-taking: Decreasing

stereotype expression, stereotype accessibility, and in-group

favoritism. *Journal of Personality and Social Psychology*, *78*, 708-724.

https://doi.org/10.1037/0022-3514.78.4.708

Geena Davis Institute on Gender in Media. (2021). *See Jane 2021: Looking back and

moving forward: The state of representation in popular television from 2016-

2020.* https://seejane.org/wp-content/uploads/GDIGM-See-Jane-2021-

Report.pdf

Gerbner, G. (1998). Cultivation analysis: An overview. *Mass Communication and

Society*, *1*, 175–194. https://doi.org/10.1080/15205436.1998.9677855

Gerding, A., & Signorielli, N. (2013). Gender roles in tween television programming:

A content analysis of two genres. *Sex Roles*, *70*, 43-56.

https://doi.org/10.1007/s11199-013-0330-z

Globe, P., Martin, C. L., Hanish, L. D., & Fabes, R. A. (2012). Children's gender-

typed activity choices across preschool contexts. *Sex Roles*, *67*, 435-451.

https://doi.org/10.1007/s11199-012-0176-9

Golombok, S, Rust, J., Zervoulis, K., Golding, J., & Hines, M. (2012). Continuity in

sex-typed behavior from preschool to adolescence: A longitudinal population

study of boys and girls aged 3-13 years. *Archives of Sexual Behavior*, *41*, 591-

597. https://doi.org/10.1007/s10508-011-9784-7

Greenberg, M.T., Marvin, R. S., & Mossier, D.G. (1977). The development of

conditional reasoning skills. *Developmental Psychology*, *13*, 527-528.

https://doi.org/10.1037/0012-1649.13.5.527

Gutenbrunner, L., & Wagner, U. (2016). Perspective-taking techniques in the

mediation of intergroup conflict. P*eace and Conflict: Journal of Peace

Psychology, 22*(4), 298–305. https://doi.org/10.1037/pac0000184

Halim, M. L., Ruble, D., Tamis-LeMonda, C., & Shrout, P. E. (2014a). Rigidity in

gender-typed behaviors in early childhood: A Longitudinal study of ethnic

minority children. *Child Development*, *84*, 1269–1284.

https://doi.org/10.1111/cdev.12057

Halim, M. L., Ruble, D. N., Tamis-LeMonda, C. S., Zosuls, K. M., Lurye, L. E., &

Greulich, F. K. (2014b). The case of the Pink Frilly Dress and the avoidance

of all things "girly": Children's appearance rigidity and cognitive theories of

gender development. *Developmental Psychology*, *50*, 1091-1101.

https://doi.org/10.1037/a0034906

Halim, M. L., Walsh, A., Tamis-LeMonda, C. S., Zosuls, K. M., Ruble, D. N. (2018).

The roles of self-socialization and parent socialization in toddlers' gender-

typed appearance. *Archives of Sexual Behavior*, *47*, 2277-2285.

https://doi.org/10.1007/s10508-018-1263-y

Halim, M. L., Zosuls, K. M., Ruble, D. N., Tamis-LeMonda, C. S., Baeg, A. S., Walsh, A. S., & Moy, K. H. (2016). Children's dynamic gender identities across development and the influence of cognition, context, and culture. In C. S. Tamis-LeMonda & L. Balter (Eds.)*, Child Psychology: A Handbook of Contemporary Issues (3rd ed.)* (pp. 193-218). New York, NY: Psychology Press/Taylor & Francis.

Hentges, B. (2020). Viewer perceptions of gendered characters: Parents and child reports on gender stereotypical and counter-stereotypical behaviors on iCarly. *American Communication Journal*, *22*(1), 1-13.

Hoffner, C. (1996). Children's wishful identification and parasocial interaction with favorite television characters. *Journal of Broadcasting & Electronic Media*, *40*, 389–402. https://doi.org/10.1080/08838159609364360

Hyde, J., Bigler, R. S., Joel, D., Tate, C. C., & van Anders, S. M. (2018). The future of sex and gender in psychology: Five challenges to the gender binary. *American Psychologist.* Advanced online publication. https://doi.org/10.1037/amp0000307

Iannotti, R. J. (1985). Naturalistic and structured assessments of prosocial behavior in preschool children: The influence of empathy and perspective taking. *Developmental Psychology*, *21*, 46-55. https://doi.org/10.1037/0012-1649.21.1.46

Jones, J. (2011). *Gender and racial representations on children's Saturday morning cartoons* (Master's Thesis). California State University, Fullerton.

Katz, P. A. (2003). Racists or tolerant multiculturalists? How do they begin. *American Psychologist*, *58*, 897 – 909. https://doi.org/10.1037/0003-066X.58.11.897b

Kessels, U. (2005). Fitting into the stereotype: How gender-stereotyped perceptions of prototypic peers relate to liking for school subjects. *European Journal of Psychology of Education*, *XX*, 309-323.

Kung, K. T. (2021). Preschool gender-typed play behavior predict adolescent gender-typed occupational interests: A 10-year longitudinal study. *Archives of Sexual Behavior*, *50*, 843-851. https://doi.org/10.1007/s10508-021-1976-z

Leaper, C. (1994). Exploring the consequences of gender segregation on social relationships. In C. Leaper (Ed.), Childhood gender segregation: Causes and consequences (pp. 67-86). San Francisco: Jossey-Bass.

Leaper, C. (2014). Gender similarities and differences in language use. In T. Holtgraves (Ed.), *Oxford handbook of language and social psychology* (pp. 62-81). New York, NY: Oxford University Press.

Leaper, C. (2022). Origins and consequences of childhood gender segregation: Towards an integrative developmental systems model. To appear in D. P. VanderLaan & W. I. Wong (Eds.), *Gender and sexuality development: Contemporary theory and research*. New York: Springer.

Leaper, C., Breed, L., Hoffman, L., & Perlman, C. A. (2002). Variations in the Gender-Stereotyped Content of Children's Television Cartoons Across

Genres. *Journal of Applied Social Psychology*, *32*, 1653–1662.
https://doi.org/10.1111/j.1559-1816.2002.tb02767.x

Liben, L. S., & Bigler, R. S. (2002). The developmental course of gender
differentiation: Conceptualizing, measuring, and evaluating constructs and
pathways. *Monographs of the Society for Research on Child Development*, *67*,
148-183.

Liben, L. S., & Signorella, M. L. (1980). Gender-related schemata and constructive
memory in children. *Child Development*, *51*, 11–18.
https://doi.org/10.2307/1129584

Martin, C. L., Andrews, N. C., England, D. E., Zosuls, K., & Ruble, D. N. (2017). A
dual identity approach for conceptualizing and measuring children's gender
identity. *Child development*, *88*(1), 167-182.
https://doi.org/10.1111/cdev.12568

Martin, C. L., & Fabes, R. A. (2001). The stability and consequences of young
children's same-sex peer interactions. *Developmental Psychology, 37*, 431-
446. https://doi.org/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.
https://doi.org/10.2307/1129498

Martin, C. L., & Halverson Jr, C. F. (1983). The effects of sex-typing schemas on
young children's memory. *Child Development*, 563-574.
https://doi.org/10.2307/1130043

Martin, C. L., Kornienko, O., Schaefer, D. R., Hanish, L. D., Fabes, R. A., & Globe,

 P. (2013). The role of sex of peers and gender-typed activities in young

 children's peer affiliative networks: A longitudinal analysis of selection and

 influence. *Child Development*, *84*, 921-937.

 https://doi.org/10.1111/cdev.12032

Martin, C. L., & Rose, E. H. (1995). Children's gender-based reasoning about toys.

 Child Development, *66*, 1453-1471. https://doi.org/10.2307/1131657

Martin, C. L., Ruble, D. N., & Szkrybalo, J. (2002). Cognitive theories of early

 gender development. *Psychological Bulletin*, *128*, 903-933.

 https://doi.org/10.1037/0033-2909.128.6.903

Martins, N., & Harrison, K. (2012). Racial and gender differences in the relationship

 between children's television use and self-esteem: A longitudinal study.

 Communication Research, *39*, 338–357.

 https://doi.org/10.1177/0093650211401376

McAllister, M. P. & Giglio, J. M. (2005). The commodity flow of U.S. children's

 television. *Critical Studies in Media Communication*, *22*, 26-44.

 https://doi.org/10.1080/0739318042000331835

McLaughlin, B., & Rodriguez, N. S. (2017). Identifying with a stereotype: The

 divergent effects of exposure to homosexual television characters. *Journal of*

 Homosexuality, *64*, 1196–1213.

 https://doi.org/10.1080/00918369.2016.1242335

McLaughlin, B., Rodriguez, N. S., Dunn, J. A., & Martinez, J. (2018). Stereotyped

    identification: How identifying with fictional Latina characters increases

    acceptance and stereotyping. *Mass Communication and Society*, *0*, 1–21.

    https://doi.org/10.1080/15205436.2018.1457699

Mulvey, K. L., & Killen, M. (2014). Challenging gender stereotypes: Resistance and

    exclusion. *Child Development*, *86*(3), 681-694.

    https://doi.org/10.1111/cdev.12317

Murnen, S., Greenfield, C., Younger, A., & Boyd, H. (2016). Boys act and girls

    appear: A content analysis of gender stereotypes associated with characters in

    children's popular culture. *Sex Roles*, *74*, 78-91.

    https://doi.org/10.1007/s11199-015-0558-x

Myers, K. (2012). "Cowboy Up!": Non-hegemonic representations of masculinity in

    children's television programming. *The Journel of Men's Studies*, *20*, 125–

    143. https://doi.org/10.3149/jms.2002.125

Ofcom. (2019). *Children and parents: Media use and attitudes report 2018.* London,

    United Kingdom: Ofcom.

Olsson, M., & Martiny, S. E. (2018). Does exposure to counterstereotypical role

    models influence girls' and women's gender stereotypes and career choices?

    A review of social psychology research. *Frontiers in Psychology*, *9*.

    https://doi.org/10.3389/fpsyg.2018.02264

Oppliger, P. A. (2007). Effects of gender stereotyping on socialization. In R. W.

    Preiss, B. M. Gayle, N. Burrell, M. Allen, & J. Bryant (Eds.) *Mass media*

effects research: Advances through meta-analysis (pp. 199-214). New York;

London: Routledge.

Orenstein, P. (2011). *Cinderella ate my daughter.* New York: Harper.

Patterson, M. M. (2012). Self-perceived gender typicality, gender-typed attributes,

and gender stereotype endorsement, in elementary-school-aged children. *Sex

Roles*, *67*, 422-434. https://doi.org/10.1007/s11199-012-0184-9

Pauletti, R. E., Menon, M., Cooper, P. J., Aults, C. D., & Perry, D. G., (2017)

Psychological androgyny and children's mental health: A new look with new

measures. *Sex Roles*, *76*, 795-718. https://doi.org/10.1007/s11199-016-0627-9

Perry, D. G., Pauletti, R. E., & Cooper, P. J. (2019). Gender identity in childhood: A

review of the literature. *International Journal of Behavioral Development*, *43*,

289-304. https://doi.org/10.1177/0165025418811129

Pike, J. J., & Jennings, N. A. (2005). The effects of commercials on children's

perception of gender appropriate toy use. *Sex Roles*, *52*, 83-91.

https://doi.org/10.1007/s11199-005-1195-6

Powell, K. A., & Abels, L. (2002). Sex-roles stereotypes in TV programs aimed at the

preschool audience: An analysis of Teletubbies and Barney & Friends.

Women and Language: WL; Urbana, *25*, 14.

Radesky, J. S., Schumacher, J., & Zuckerman, B. (2015). Mobile and interactive

media use by young children: The good, the bad, and the

unknown. *Pediatrics*, *135*, 1-3. https://doi.org/10.1542/peds.2014-2251

Reeves, B., & Miller, M. M. (1978). A multi-dimensional measure of children's
identification with television characters. *Journal of Broadcasting &
Electronic Media*, *22*, 71-86. https://doi.org/10.1080/08838157809363867

Richert, R. A., Shawber, A., Hoffman, R., & Taylor, M. (2009). Learning from
fantasy and real characters in preschool and kindergarten. *Journal of
Cognition and Development*, *10*, 41-66.
https://doi.org/10.1080/15248370902966594

Rideout, V. J., Vandewater, E. A., & Wartella, E. A. (2003). Zero to six: electronic
media in the lives of infants, toddlers and preschoolers.

Rosenwasser, S. M., Lingenfelter, M., & Harrington, A. F. (1989). Nontraditional
gender role portrayals on television and children's gender role perceptions.
Journal of Applied Developmental Psychology, *10*(1), 97-105.
https://doi.org/10.1016/0193-3973(89)90016-6

Ruble, D. N., Martin, C. L., & Berenbaum, S. A. (2006). Gender development. In W.
Damon (Series Ed.) & N. Eisenberg (Vol Ed.), *Handbook of child psychology.
Volume 3. Social, emotional, and personality development* (6th ed., pp. 858–
932). New York: Wiley.

Scharrer, E. L. (2013). Representations of gender in the media. In *The Oxford
handbook of media psychology* (pp. 267–284). New York: Oxford University
Press.

Schofield, M. J., & Kafer, N. F. (1985). Children's understanding of friendship issues:

    Development by stage or sequence? *Journal of Social and Personal*

    Relationships, *2*, 151-165. https://doi.org/10.1177/0265407585022003

Schooler, D., Ward, L. M., Merriweather, A., & Caruthers, A. (2004). Who's that

    girl: Television's role in the body image development of young White and

    Black women. *Psychology of Women Quarterly*, *28*, 39–47.

    https://doi.org/10.1111/j.1471-6402.2004.00121.x

Sellers, R. M., Smith, M. A., Shelton, J. N., Rowley, S. A. J., & Chavous, T. M.

    (1998). Multidimensional model of racial identity: A reconceptualization of

    African American racial identity. *Personality and Social Psychology Review*,

    2, 18–39. https://doi.org/10.1207/s15327957pspr0201_2

Selman, R.L. (1980). *The growth of interpersonal understanding: Developmental and*

    clinical analysis. Academic Press: New York.

Signorielli, N. (2012). Television's gender-role images and contribution to

    stereotyping. In *Handbook of children and the media* (2nd ed., pp 321-339).

    Los Angeles: Sage.

Skočajić, M. M., Radosavljević, J. G., Okičić, M.G., Janković, I. O., Žeželj, I. L.

    (2020). Boys just don't! Gender stereotyping and sanctioning of counter-

    stereotypical behavior in preschoolers. *Sex Roles*, *82*, 163-172.

    https://doi.org/10.1007/s11199-019-01051-x

Skorinko, J. L., & Sinclair, S. A. (2013). Perspective taking can increase stereotyping:

    The role of apparent stereotype confirmation. *Journal of Experimental Social*

    Psychology, *49*, 10-18. https://doi.org/10.1016/j.jesp.2012.07.009

Smith, L. J. (1994) A content analysis of gender differences in children's advertising.

    Journal of Broadcasting & Electronic Media, *38*, 323-337,

    https://doi.org/10.1080/08838159409364268

Smith, T.E., & Leaper, C. (2006). Self-perceived gender typicality and the peer

    context during adolescence. *Journal of Research on Adolescence*, *16*, 91-103.

Spinner, L., Cameron, L., & Calogero, R. (2018). Peer toy play as a gateway to

    children's gender flexibility: The effect of (couter)stereotypic portrayals or

    peers in children's magazines. *Sex Roles*, *79*, 314-328.

    https://doi.org/10.1007/s11199-017-0883-3

Stewart, R. B., & Marvin, R. S. (1984). Sibling relations: The role of conceptual

    perspective-taking in the ontogeny of sibling caregiving. *Child Development*,

    55, 1322. https://doi.org/10.2307/1130002

Stryker, S., & Serpe, R. T. (1994). Identity salience and psychological centrality:

    Equivalent, overlapping, or complementary concepts? *Social Psychology*

    Quarterly, *57*, 16–35. https://doi.org/10.2307/2786972

Thompson, T. L., & Zerbinos, E. (1995). Gender roles in animated cartoons: Has the

    picture changed in 20 years? *Sex Roles*, *32*, 651–673.

    https://doi.org/10.1007/BF01544217

Todd, B. K., Barry, J. A., & Thommessen, S. A. O. (2017). Preferences for 'gender-typed' toys in boys and girls aged 9 to 32 months. *Infant and Child Development*, *26*, 1-14. https://doi.org/10.1002/icd.1986

Todd, A. R., & Simpson, A. J. (2017). Perspective taking and member-to-group generalization of implicit racial attitudes: The role of target prototypicality. *European Journal of Social Psychology*, *47*(1), 105-112. https://doi.org/10.1002/ejsp.2204

Turner, K. L., & Brown, C. S. (2007). The centrality of gender and ethnic identities across individuals and contexts. *Social Development*, *16*, 700–719. https://doi.org/10.1111/j.1467-9507.2007.00403.x

Valkenburg, P. M., & Peter, J. (2013). The differential susceptibility to media effects model. *Journal of Communication*, *63*, 221–243. https://doi.org/10.1111/jcom.12024

Vandewater, E. A., Rideout, V. J., Wartella, E. A., Huang, X., Lee, J. H., & Shim, M. (2007). Digital childhood: Electronic media and technology use among infants, toddlers, and preschoolers. *Pediatrics*, *119*, 1006-1015. https://doi.org/10.1542/peds.2006-1804

Vescio, T. K., Sechrist, G. B., & Paolucci, M. P. (2003). Perspective taking and prejudice reduction: The mediational role of empathy arousal and situational attributions. *European Journal of Social Psychology*, *33*, 455-472. https://doi.org/10.1002/ejsp.163

Vezzali, L., Stathi, S., Giovannini, D., Capozza, D., & Trifiletti, E. (2015). The

greatest magic of Harry Potter: Reducing prejudice. *Journal of Applied Social

Psychology*, *45*, 105-121. https://doi.org/10.1111/jasp.12279

Walsh, A. S. (2020). Representations of Gender-Diverse Characters in Adventure

Time and Steven Universe. *Studies in Media and Communication*, *8*(2), 61-69.

https://doi.org/10.11114/smc.v8i2.5048

Walsh, A. S. (2021). An index of gender-typed portrayals in preschool television.

Advances in Social Sciences Research Journal, *8*(4). 438-453.

https://doi.org/10.14738/assrj.84.10047

Walsh, A. & Leaper, C. (2020). A content analysis of gender representation in

preschool television. *Mass Communication and Society*, *23*, 331-355.

https://doi.org/10.1080/15205436.2019.1664593

Walsh, A. & Leaper, C. (2022). *The impact of media on children's gender and racial-

ethnic stereotyping: Cognitive, individual, and contextual moderators*.

Unpublished manuscript.

Ward, L. M. (2005). Children, adolescents, and the media: The molding of minds,

bodies, and deeds. *New Directions for Child and Adolescent Development*,

109, 63–71. https://doi.org/10.1002/cd.138

Ward, L. M., & Aubrey, J. S. (2017). *Watching gender: How stereotypes in movies

and on TV impact kids' development.* San Francisco, CA: Common Sense.

Weisgram, E. S., Fulcher, M., & Dinella, L. M. (2014). Pink gives girls permission:

Exploring the roles of explicit gender labels and gender-typed colors on

preschool children's toy preferences. *Journal of Applied Developmental Psychology*, *35*, 401-409. https://doi.org/10.1016/j.appdev.2014.06.004

Wille, E., Gaspard, H., Trautwein, U., Oschatz, K., Scheiter, K., & Nagengast, B. (2018). Gender stereotypes in a children's television program: Effects on girls' and boy's stereotype endorsement, math performance, motivational dispositions, and attitudes. *Frontiers in Psychology*, *9.* https://doi.org/10.3389/fpsyg.2018.02435

Wilson, B. J., & Cantor, J. (1985). Developmental differences in empathy with a television protagonist's fear. *Journal of Experimental Child Psychology*, *39*, 284-299. https://doi.org/10.1016/0022-0965(85)90042-6

Wong, C. A., Eccles, J. S., & Sameroff, A. (2003). The influence of ethnic discrimination and ethnic identification on African American adolescents' school and socioemotional adjustment. *Journal of Personality*, *71*, 1197–1232. https://doi.org/10.1111/1467-6494.7106012

Wroblewski R, & Huston A.C. (1987). Televised occupational stereotypes and their effects on early adolescents: Are they changing? *The Journal of Early Adolescence, 7*(3), 283-297. https://doi.org/10.1177/0272431687073005

Zosuls, K. M., Andrews, N. C. Z., Martin, C. L., England, D. E., & Field, R. D. (2016). Developmental changes in the link between typicality and peer victimization and exclusion. *Sex Roles*, *75*, 243-246. https://doi.org/10.1007/s11199-016-0608-z

Zosuls, K. M., Ruble, D. N., Tamis-LeMonda, C. S., Shrout, P. E., Bornstein, M. H.,

    Greulich, F. K. (2009). The acquisition of gender labels in infancy:

    Implications for gender-typed play. *Developmental Psychology*, *45*, 688-

    701. https://doi.org/10.1037/a0014053

Table 1

Sample Characteristics of Children Participating In-Person or Remotely

	In-Person *n (%)*	Remote *n (%)*
Gender		
Girls	34 (56.7%)	29 (46.0%)
Boys	26 (43.3%)	34 (54.0%)
Ethnicity/Race (from Parent)		
White	44 (73.3%)	42 (66.7%)
Multi-ethnic/Multi-racial	10 (16.7%)	16 (25.4%)
Other	6 (10.0%)	5 (7.9%)
Parent Education		
At least some college	96 (83.4%)	115 (92.7%)
Less than some college	22 (18.6%)	9 (7.3%)

Note. Two families in each modality reported being single parents and as such, only provided parent education data for the primary parent.

Table 2

Means, standard deviations, and Pearson correlations for continuous variables.

	Mean	SD	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.
1. Age	4.35	.92										
2. Perspective-Taking	4.46	1.75	.53**									
3. Gender Centrality	2.63	.62	-.13	-.15								
4. IG Gender Typicality	4.23	.81	.04	-.08	.26**							
5. OG Gender Typicality	2.76	1.24	-.33**	-.34**	.08	.16						
6. IG Identification	2.27	.78	-.35**	-.32**	.22*	.14	.17					
7. OG Identification	2.24	.77	-.10	-.12	.03	.07	.00	.22*				
8. IG Nonconforming	-.19	1.47	.00	.04	-.18	-.24**	.05	.09	.19*			
9. OG Nonconforming	.16	1.40	.06	.00	.09	-.13	-.31**	.10	.01	.07		
10. Egalitarian (Video)	.61	2.56	-.01	-.10	-.01	.18*	-.05	.15	.02	-.10	-.13	
11. Egalitarian (General)	.93	3.45	-.01	.09	-.06	.06	-.22*	-.04	.06	-.04	-.06	.47**

Note. Outcome variables reflect difference scores. IG = gender ingroup. OG = gender outgroup. Identification = Identification with counter-stereotypical character. Nonconforming = Attitudes toward gender-nonconforming peers. Egalitarian = Gender-egalitarian attitudes toward activities.

$^{*} p < .05.$ $^{**} p < .01.$

Table 3

Pairwise T-tests for Pre-post Viewing Effects of the Animated Program

	Response Range	Pre-Viewing *M*(*SD*)	Post-Viewing *M*(*SD*)	*t*	*p*
IG Gender-Nonconforming Attitudes	1-5	3.16(1.49)	2.97(1.55)	1.44	.152
OG Gender-Nonconforming Attitudes	1-5	3.26(1.44)	3.42(1.44)	-1.22	.224
Egalitarian Attitudes – Video	0-10	4.00(3.12)	4.61(3.44)	-2.64	.009**
Egalitarian Attitudes - General	0-14	6.37(4.79)	7.29(4.57)	-2.98	.003**

Note. IG = gender ingroup. OG = gender outgroup. Significant effects are highlighted in bold.

*p <. 05. **p < .01.

Table 4

Hierarchical Regression Analysis for Participants' Attitudes about Gender-Nonconforming Ingroup Members

	Beta (*SE*)	*β*
Perspective-Taking	.10 (.08)	.08
Gender Centrality	-.14 (.22)	-.34
Ingroup Gender Typicality	-.24 (.16)	-.43**
Outgroup Gender Typicality	.11 (.11)	.13
Identification with IG Counter-stereotypical Character	.12 (.18)	.23
Identification with OG Counter-stereotypical Character	.20 (.17)	.38*

Note. Model 1: $R^2 = .14, p = .007$. Significant effects highlighted in bold.

* $p <. 05$. ** $p < .01$.

Table 5

Hierarchical Regression Analysis for Participants' Attitudes about Gender-Nonconforming Outgroup Members

	Beta (*SE*)	*β*
Perspective-Taking	-.06 (.08)	-.05
Gender Centrality	.11 (.21)	.24
Ingroup Gender Typicality	-.12 (.16)	-.22
Outgroup Gender Typicality	-.34 (.11)	-.38[**]
Identification with IG Counter-stereotypical Character	.14 (.17)	.25
Identification with OG Counter-stereotypical Character	-.02 (.16)	-.03

Note. Model 1: $R^2 = .14$, $p = .006$. Significant effects are highlighted in bold.

[*] $p <. 05$. [**] $p < .01$.

Table 6

Hierarchical Regression Analysis for Participants' Egalitarian Attitudes about Activities within the Animated Program

	Step 1		Step 2	
	Beta (SE)	β	Beta (SE)	β
Perspective-Taking	-.05 (.15)	-.07	-.01 (.15)	-.07
Gender Centrality	-.09 (.39)	-.38	-.14 (.39)	-.57
Ingroup Gender Typicality	.20 (.30)	.64	.23 (.30)	.71*
Outgroup Gender Typicality	-.12 (.20)	-.24	-.11 (.20)	-.22
Identification with IG Counter-stereotypical Character	.15 (.32)	.50	.26 (.34)	.84*
Identification with OG Counter-stereotypical Character	-.04 (.31)	-.12	-.02 (.31)	-.06
Gender x Perspective-Taking			.08 (.12)	.04
Gender x Centrality			.75 (.37)+	.70
Gender x IG Typicality			-1.35 (.26)**	-.80
Gender x OG Typicality			.18 (.19)	.16 (.19)
Gender x Identification with IG Counter-stereotypical			.05 (.32)	.06
Gender x Identification with OG Counter-stereotypical			.09 (.30)	.10
R^2	.07		.18	
R^2_{change}	.07		.11	
F_{change}	1.43		2.49*	

Note. Significant effects are highlighted in bold.

+ p = .06. * p < .05. ** p < .01.

Figure 1

Gender x Ingroup Typicality Interaction Effect on Changes in Egalitarian Attitudes within the Animated Program
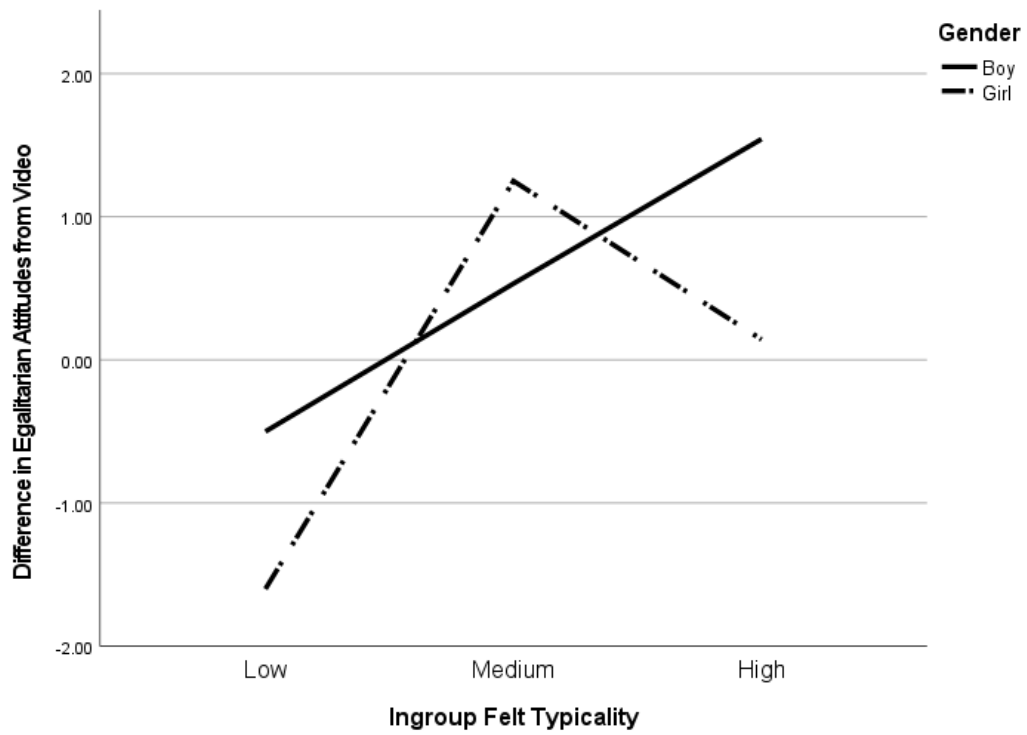
Figure 2

Gender x Centrality Interaction Effect on Changes in Egalitarian Attitudes within the Animated Program