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The Social and Economic Consequences of Gendered Toys in America

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Abstract

Toys in the American marketplace are heavily gender stereotyped, creating a variety of social and economic consequences. Beginning at an early age, children foster different cognitive abilities based on play with toys deemed appropriate for their gender. While boys' toys promote skills in math and science fields, girls' toys promote verbal and linguistic skills. This difference in cognitive ability has shown to influence a child throughout his or her lifetime, beginning with the education gap in schools and continuing on to influence a child's choice in college major as well as his or her future occupational choice. Additionally, gender specific toys are raising concern about promoting violence in young boys and an obsession with appearance in young girls. While it is clear that children historically prefer toys designated for their own gender, this paper concludes that children's preferences in toys are heavily influenced by parental, teacher and societal expectations regarding which toys are appropriate for each gender. Lastly, this paper aims to explore the future consequences of toy segregation as well as several potential solutions to gendered toys in the marketplace.

Key Words: Gender, Toys, Education, Stereotype

Introduction

Recently, there has been much debate over the impact of gendered toys in America and across the globe. Despite the various strides taken towards gender equality, toys in America are more gendered today than they were 50 years ago. According to Sweet, "In the Sears catalog ads from 1975, less than 2 percent of toys were explicitly marketed to either boys or girls. More importantly, there were many ads in the 70s that actively challenged gender stereotypes—boys were shown playing with domestic toys and girls were shown building and enacting stereotypically masculine roles…" (2014). However, in today's catalogs, nearly all toys are marketed as "for boys" or "for girls". For example, in a study examining the gender categorization of toys on the Disney website, Auster and Mansbach (2012) discovered that there was not even a category of toys on the Disney website labeled as "Gender-Neutral" or "Toys for both Boys and Girls". As a result, this extreme categorization is shown to have an impact in the cognitive abilities fostered in young boys and girls, which has contributed to the education gap seen in schools across America. While girls are excelling in verbal and linguistic skills, boys are falling behind, showing higher scores only in math and science (Porter, 2015).

The impacts of gendered toys extend beyond the education gap. This divide has an influence on the major an individual chooses to pursue in higher education, which impacts his or her career choice and leads to occupational segregation issues, such as the wage gap. Specifically, the skills developed playing with girl's toys lend themselves to lower paying occupations such as teaching and nursing, while the skills developed playing with boy's toys lend themselves to higher paying occupations such as engineering. In addition,

gender-stereotyped toys may elicit a variety of undesired social behaviors, including violence and obsession with appearance in young boys and girls, respectively.

This paper aims to explore whether or not the toy preferences reported throughout the literature on this topic are truly representative of children's toy preferences, or whether these "preferences" are formed at an early age as a result of heavy influence from parents and teacher's expectations as well as children's expectations about their own ability. In addition, this paper will also summarize the most pressing consequences of gendered toys in the marketplace and explore the future implications and potential solutions to toy segregation.

Toy Definition

Before discussing the various implications of toy segregation, it is important to first clarify the specific characteristics of toys that are for girls, for boys, and toys that are deemed gender-neutral. Much of the literature on the topic of gendered toys ambiguously refers to "girls' toys" and "boys' toys" without explaining what exactly constitutes a girl's toy versus a boy's toy. In a 2005 study, Blakemore and Centers attempted to categorize systematically a large and representative group of contemporary boys' and girls' toys that was applicable to toys on the market today (p. 621). To do this, they gathered a group of roughly 300 undergraduate students and asked them to rate more than 100 contemporary children's toys as to whether they were suited for boys, girls, or both. From these responses, they created an identification of five gender-related categories for toys: strongly masculine, moderately masculine, neutral, moderately feminine and strongly feminine. Blakemore and Centers then used the results of this study to conduct a second study in

which toys from each of these categories were rated on 26 different scales that measured the toys' characteristics in order to gain a more accurate description of the unique characteristics associated with girls' and boys' toys, as well as those associated with gender-neutral toys.

Blakemore and Centers came to several conclusions based on their results. Their first finding, consistent with past literature, was that dolls and toys focused on domestic activities were seen as being for girls while toys that represent aggression or violence, such as weapons, vehicles and action figures, were seen as being for boys (Pike & Jennings, 2005; Cherney & London, 2006; Weisgram et al., 2014). They also confirmed that girls' toys were more likely to be rated as focused on appearance and attractiveness and were also more likely to be more visually appealing themselves. Similarly, girls' toys were seen as more nurturant and more likely to focus on the development of domestic skills. Conversely, results indicate that boys' toys were more likely to be rated as violent and also more likely to be rated as competitive. Boys' toys were also rated as more exciting, fun, risky, sustaining of attention and more in need of adult supervision than girls' toys.

Toys that were categorized as gender-neutral, on the other hand, exhibited different features than toys that were gender-stereotyped. Unlike toys that were rated strongly masculine or strongly feminine, toys that were rated neutral or moderately masculine were rated higher on their scientific qualities, educational value and stimulation of physical and cognitive skills. Additionally, neutral toys were also thought to be more musical and artistic than strongly masculine or strongly feminine toys (Blakemore and Centers, 2005).

Additional research indicates that color is also a salient construct when defining toys as either for boys or for girls, especially among girls. A study conducted by Weisgram

et al. (2014) aimed to explore the roles of explicit gender labels and gender-typed colors on preschool children's toy preferences. To do this, they provided preschoolers with a variety of toys that were labeled as for boys or for girls in gender-typed colors (pink and blue) and monitored the children's interest in the toys based on their gender. The results indicated that both boys and girls preferred toys that featured colors associated with their own gender, and will use color as a way to categorize toys whose gender affiliation is ambiguous. These findings are supported by an Israeli study and a Spanish study that used similar methodologies (Karniol, 2011; Navarro et al., 2014).

Cognitive Development

Much of the current literature regarding children's toy preferences agrees that both boys and girls exhibit a preference towards own-gender toys and own-gender colors while playing, and that gender-specific toys induce the cognitive development of different skills amongst genders (Cherney & London, 2006; Cherney et al., 2003; Blakemore & Centers, 2005).

To further examine the specific gender-linked differences in toy preferences, Cherney and London surveyed 60 boys and 60 girls ages 5 – 13 about their leisure and activity preferences, and found that gender was a significant factor in determining children's toy preferences (2006). They also discovered that rather than playing with cross-gender toys, girls generally choose to play with toys deemed feminine or neutral while boys prefer toys deemed as masculine. According to Cherney and London (2006), "play with gender-stereotyped toys may foster differential social and cognitive skills in boys and girls" (p. 722). Their research shows that toys generally considered to be

masculine tend to promote the development of spatial abilities, while feminine toys tend to encourage the development of verbal rather than visual-spatial skills (2006, p. 722). Similarly, Cherney et al. (2003) found that feminine toys tend to elicit nurturing behavior, proximity and role-play whereas masculine toys promote mobility, activity and manipulative play.

Cherney and London (2006) go on to assert that this selection of toys based on gender may be inhibiting to children and limit their ability to develop certain cognitive skills or characteristics that could be enhanced through play with cross-gender toys. For example, a study monitoring the levels of play complexity when playing with female-stereotyped toys versus male-stereotyped toys found that the highest levels of play complexity for both girls and boys were elicited more frequently when playing with female-stereotyped toys such as a phone or kitchen set (Cherney et al., 2003). In a similar vein, Blakemore and Centers (2005) found that toys that were more neutral induce a higher degree of cognitive development than gender specific toys. These findings indicate that children may benefit more from both playing with toys that exhibit gender-neutral qualities and playing with toys that are cross-gender in order to foster a wider range of cognitive skills.

Behavioral Implications

Children's toy preferences based on gender may also come with several behavioral implications. As mentioned previously, girls' toys often focus on appearance and attractiveness while boys' toys focus on violence and competition. These specific attributes are beginning to have behavioral consequences in both young girls and boys, respectively.

When playing with toys, girls are likely to have experiences that emphasize the importance of appearance and attractiveness (Blakemore & Centers, 2005). This was found to be the case most frequently in toys categorized as strongly feminine in the aforementioned Blakemore and Centers study (2005). In fact, emphasis on appearance was in many ways the defining feature of toys categorized as strongly feminine. More specifically, there has been recent concern over the impact of fashion dolls (such as Barbies, Bratz, etc.) on the way young girls view themselves. These dolls often come equipped with various accessories and clothing that emphasize the doll's appearance and grooming, making physical attractiveness the most important quality of the toy and the quality that stands out most to young girls (Blakemore & Centers, 2005). This emphasis on appearance and grooming is thought to foster an obsession with appearance, enticing young girls to become consumed with their own grooming and appearance.

Conversely, boys are more likely to have experiences with toys that promote violence and aggression, involving competition, danger and risk. Violence was one of the primary defining features of toys deemed as strongly masculine in the Blakemore and Centers study (2005). This, coupled with violence promoted in masculine television and video games, has been cause for grave concern regarding the impact this exposure will have on the development of young boys (Blakemore & Centers, 2005).

Cherney and London (2006) similarly reported that violence is stereotypically associated with masculinity and masculine toys, and that young boys preferred toys and games involving fantasy and violence, as often seen in computer and video games. Additionally, they suggest that excessive play with violent games may lead boys to use aggression to solve problems. More specifically, a meta-analysis on the implications of

violent video games on aggressive behavior found that exposure to violent computer and video games is positively associated with an increase in aggressive behavior in male young adults, implying that play with many computer and video games places boys at risk of developing aggressive cognition (Cherney & London, 2006).

These findings indicate that play with gender-specific toys may foster the aforementioned undesired behaviors in young boys and girls, raising concern about the impact of play with strictly own-gender toys amongst children.

Education Gap

Current research suggests that the consequences of gendered toys in the marketplace also appear to have a large impact on the education gap present in schools. As a result of girls' and boys' toys promoting different skills among genders, girls are scoring much higher in a variety of school subjects while boys are continuing to score better only in math and science fields. These findings align with the current achievement gender gap seen in schools today, especially in the field of mathematics. Francisca del Rio and Strasser (2013) report that, "In the United States of America, studies spanning three decades of school achievement data showed an advantage for males in math and science achievement" (p. 232), while other research indicates that females are surpassing their male classmates in verbal and linguistic achievement (Porter, 2015).

While boys have shown higher achievement in mathematics for the past three decades, recent findings suggest that the gap between mathematic achievement in girls and boys may be closing (Francisca del Rio & Strasser, 2013; Lindberg et al., 2010). A meta-analyses conducted by Lindberg et al. (2010) concluded that there is no longer a gender difference

in mathematics performance. The analysis examined two main studies measuring the mathematic achievement gap by comparing the *d* values obtained in each study. In the studies, the *d* value measures the mean performance difference between two groups; in this case the groups were males and females. In Study 1, the *d* values averaged +0.05 based on data from 1,286,350 persons and in Study 2, the *d* values averaged +0.07 based on data from 1,309,587 persons, demonstrating a miniscule preference towards males in mathematic performance. These findings are consistent with another analysis of U.S. data from state assessments of youth grades 2 through 11, which reported that girls had reached similar performance to boys in mathematics (Lindberg et al., 2010). These findings demonstrate that not only are girls outperforming boys in all areas of education except for math, but also now, the gender gap in mathematic performance is nearly gone.

These findings raise some troubling conclusions. While recent data indicate that the education gap is closing and girls are becoming as skilled as boys in all subjects, these strides towards equality do not seem to carry on past adolescence. Females continue to select careers that are more language-based while males tend to select careers that are more math-based. It appears as though young girls still may not feel comfortable exploring activities in the math and science fields. Thus, despite the transitioning education gap, societal expectations of girls and boys remain rooted in the past and are continuing to be reflected through the differing career choices of males and females as well as through the wage gap.

Major and Career Selection

The differing cognitive abilities developed through play with gender-specific toys have lasting impacts outside of the education gap as well. These differing cognitive abilities in boys and girls may also influence the majors individuals will choose to pursue in higher education, which consequently influences the occupational choices individuals will make later in life, contributing to the wage gap as well as occupational segregation based on gender.

The most prevalent example of the gendered occupational segregation resulting from differing cognitive abilities lies within STEM occupations – Science, Technology, Engineering and Math. Women are grossly underrepresented in the STEM arena, most specifically in the technology and engineering sectors, making up only 25% of the STEM workforce. While female participation in STEM occupations has increased in past decades, the gender gap in this area remains substantial. For example, data show that in 1966, the percentage of men to receive a bachelor's degree was greater than the percentage of women in every single STEM field. By 2006, however, women were shown to receive more degrees than men in the biological sciences and chemistry, both STEM fields. Similarly, women were not far behind men in receipt of degrees in Earth sciences or mathematics (Liben & Coyle, 2014). However, despite these advances, women still make up only a mere 25% of the STEM workforce, indicating a continuing gender gap in STEM occupations.

Gender differences in STEM fields can even be traced to adolescence. Liben and Coyle analyzed the STEM gender differences in high school students who took 2013 Advanced Placement (AP) tests in STEM domains and the results were consistent with the data presented on bachelor's degrees: girls outnumbered boys in taking Biology AP exams

but boys outnumbered girls in every other STEM domain (calculus, chemistry, computer science and physics). In three states, not a single female took the Computer Science A exam. This gender gap is present not only in the proportion of males and females who take the AP STEM tests but also in performance. On nearly every AP STEM exam, boys' scores surpassed girls' scores. This finding provides evidence for a continuing gender gap in one area that has been identified as foundational for many STEM domains – spatial skills (Liben & Coyle, 2014). Spatial skills, developed through play with toys that are generally considered to be for boys, prove necessary to succeed in STEM professions. Unfortunately, since many young girls play with "girl's toys" that develop more linguistic and verbal skills, fewer females develop the spatial skills necessary to truly succeed in a STEM occupation.

This gender gap across occupations is drawing attention for a variety of reasons. First, many parents are concerned about their daughters' personal sense of fulfillment and their ability to compete for and succeed traditionally male occupations against similarly qualified male competitors. More importantly, national government agencies are also growing concerned about having an adequate US talent pool to satisfy the nation's workforce and labor needs (Liben & Coyle, 2014).

Preference Formation

As exhibited above, children tend to prefer toys suited for their own gender, and these gender-specific preferences have a critical influence on the various cognitive skills developed by young children in America. This difference in cognitive skills carries on throughout a child's lifetime, influencing their academic interests as a child, the major they choose to pursue in college, and the occupation they will have in their postgraduate life.

While the connection between toys, the cognitive skills they foster based on their masculine or feminine attributes and a child's future trajectory has been made, the root of these preferences has not been made clear. Why do children consistently prefer toys designed for their own gender? Literature on the subject implies that both children's' toy preferences and expectations about their own cognitive ability are formed and reinforced by parent and teacher expectations regarding a child's ability based on their gender.

Weisgram, Fulcher and Dinella note "children were more interested in familiar toys that were associated with their gender and novel toys that were labeled as for their gender than in toys not associated with or labeled as for their gender" (2014, p. 407). Due to the extreme prevalence of gender-stereotyped toys, children are significantly more interested in toys geared towards their own gender than for toys not labeled as for their gender. Interestingly enough, the study also found that young children have a preference for objects in gender-typed colors, particularly young girls. The study states, "the color of the toys had little effect on boys' interests and children's perceptions of boys' interests…However, feminine colors significantly increased girls' personal interest and children's perceptions of girls' interest in masculine toys or toys labeled as for boys as well as increasing the likelihood that these items will be categorized as "for girls"' (2014, p. 407).

Parent and Teacher Expectations

As stated previously, parent and teacher expectations regarding the abilities of their children based on gender are shown to have a large impact on a child's view of themselves and the toys they will be drawn to (Orr, 2011; Wood et al., 2002). Researchers agree that

parents not only expect their sons to outperform their daughters in math and science fields, but also encourage their sons to play with strictly own-gender toys while they are more fluid about cross gender-play with their daughters.

For example, Pike and Jennings present a series of findings that reinforce parents' involvement in the education gap. They assert that boys are often punished for participating in cross-gender play, whereas girls are often rewarded for cross-gender play. Cherney and London state that girls' interest in play with gender-stereotyped toys decreased as they grew older, which could potentially imply that gender roles are more strict for boys than for girls, reinforcing the current education gap. For instance, Cherney and London claim, "Girls may be less strictly gender-typed than boys are because they encounter less intensive gender role pressure from their parents and peers. Laboratory studies confirm that boys display stronger own-gender stereotyped preferences than girls do" (2006, p. 723).

Additional research suggests that fathers give less positive responses to sons who engaged in stereotypical girls' play than mothers, and that both parents are more tolerant of girls who play with stereotypical boys' toys. The research also suggests that boys are often socialized, particularly by their fathers, to be more sensitive to the "gender appropriateness" of the toy that they select (Pike & Jennings, 2005). Since boys are often reprimanded for choosing toys that are not stereotypically masculine, they generally only play with toys geared towards boys, and consequently, toys that develop strong spatial skills. Meanwhile, girls are often praised for playing with both girls' and boys' toys, allowing girls to develop a wider range of cognitive skills. These reinforced stereotypes may contribute the closing education gap and explain why girls score higher on a broader

variety of subjects, while boys appear to excel mainly in science. These preconceived expectations appear to influence not only the toys children choose to play with but also impact children's perceptions of their own cognitive ability based on their gender.

Lindberg et al. (2010) reveal that parents and teachers alike accredit higher academic ability estimates to boys than girls, which strongly impacts children's' estimates of their own ability. Further, a study measuring parent involvement in gender differences in math found that parents appear to provide more math-supportive environments for their sons than for their daughters (Jacobs et al., 2005). Parents further this stereotype by purchasing more math and science related toys for their sons, spending more time on math and science related activities with their sons and by holding an overall higher perception for their son's ability to succeed in math as opposed to their daughter's. Based on these environments created by parents, young boys are more drawn to science and math fields while girls shy away from such fields, partially due to the environment created at home. As such, parent perceptions and beliefs about children's ability to succeed in math and science based on gender is shown to have a strong influence on children's perceptions of their own ability (Jacobs et al., 2005).

Child Expectations

Research asserts that even children as young as five years old have already formed expectations regarding their academic ability based on their gender. This difference in expectation is thought to influence both the toys children prefer to play with as well as the subjects they are drawn to in elementary school, demonstrating the heavy influence of

gender stereotypes even amongst young children (Orr, 2011; Francisca del Rio & Strasser, 2012).

For example, Francisca del Rio and Strasser (2012) asked kindergarteners to judge the preferences and skills of hypothetical children, revealing some deep-rooted stereotypical expectations regarding boys' and girls' academic achievement. They found that when asked about preference, ease and higher achievement, both language and math were equally chosen if participants were imagining a hypothetical boy. If, however, participants were imagining a hypothetical girl, they imagined her to prefer and demonstrate higher achievement in only language. Then, when asked about dislike, lower grades and difficulty, results suggested that girls were expected to dislike math more than language and be worse at math. These findings suggest that children in kindergarten already expect males and females to have different academic abilities and preferences.

A study by Orr (2011) measuring kindergarten children's attitudes about school, however, concluded that girls are more likely than boys to exhibit positive social behavior and have positive attitudes about school. Conversely, boys are more likely than girls to have negative attitudes about school. Orr concluded that these differing attitudes have a sizeable impact on the grades of both girls and boys. Young girls' positive attitudes about school impact their grades positively, while young boys' negative attitudes impact their grades negatively (Orr, 2011). These findings, while fairly recent, may indicate that part of the closing education gap seen in the past few years could be a result of differing attitudes regarding school had by boys and girls.

While the Orr findings mentioned previously may indicate an overall shift in attitude towards school in boys and girls, parents and teachers continue to hold preconceived

expectations about a child's cognitive ability based on his or her gender. This bias impacts not only the toys children feel comfortable playing with but also, more importantly, this impacts the cognitive skills and fields of interest developed by a child based on his or her gender.

Consequences and Potential Solutions

Consequences

There are numerous consequences to playing with toys exclusively designated for one's own gender. As mentioned previously, play with gender-specific toys fosters a potentially limited and one-sided range of cognitive abilities amongst young children (Cherney & London, 2006; Cherney et al., 2003; Blakemore & Centers, 2005). This limited range of cognitive abilities hinders children from succeeding in a wide range of school subjects, encouraging them to excel only in areas deemed suitable for their gender through toys as well as societal expectations. This specification in ability translates beyond the classroom, influencing females to purse lower-paying, domestic occupations and males to pursue higher-paying occupations in STEM fields. Should this specification continue based on gender into the future, the United States may not have an adequate talent pool to satisfy the nation's labor force needs.

Potential Solutions

The literature discussing gendered toys presents two potential solutions that may alleviate play with strictly gender-specific toys and encourage children to play with toys

not originally designated for their gender, fostering a wider range of cognitive skills than can be gained through play with gender-specific toys alone.

The first potential solution proposed by Weisgram et al. (2014) is to create masculine toys in feminine colors and feminine toys in masculine colors. This suggestion raises an interesting controversy. On one hand, this may be a successful method to getting girls to play with traditionally masculine toys, promoting the development of science and spatial skills not generally acquired playing with girls' toys. On the other hand, having separate toys labeled by color for boys and girls may actually increase stereotypes and the perception of differences. Playing with pink masculine toys may also activate girls' stereotypes about femininity and prohibit the formation of masculine skills, even while playing with a masculine toy. Additionally, in laboratory studies, young boys exhibit stronger own-gender toy and color preferences and avoided feminine toys, even when they are presented to boys in masculine colors (Weisgram, Fulcher & Dinella, 2014; Karniol, 2011). These findings indicate that creating cross-gender toys in own-gender colors may be significantly more successful in girls than boys and still raises some questions about how effective this solution would be in encouraging children to play with gross-gender toys.

Another potential solution that would encourage cross-gender toy play is using nontraditional actors in children's toy commercials (i.e. using a male actor in a traditionally female toy commercial and vice versa). Pike and Jennings conducted a study to determine the impact of toy commercials on children and whether the gender of the model used in the commercial impacts which gender children perceive should play with particular toys (2005). The study found that "after even a brief exposure to nontraditional images both boys and girls were more likely to report that the toy advertised is for both boys and girls

as opposed to only for boys" (Pike & Jennings, 2005, p. 88). Given the power brief exposure has on children's perceptions, prolonged exposure to nontraditional actors could have a profound effect. Toy companies could potentially fight the gender stereotypes assigned to certain toys by changing the gender of the model used in commercials. In fact, Mattel, Inc. utilized this technique in an Italian Barbie commercial that aired in November of 2015 for Moschino Barbie, which featured a young boy playing with and accessorizing this high-fashion doll. At this point in time, the consumer response to this advertising effort is unknown. Based on the findings of Pike and Jennings (2005), however, using nontraditional actors in children's toy commercials may indicate the beginning of a potential solution to help encourage play with both own-gender and cross-gender toys.

Conclusion

Based on the potential and existing consequences of excessively gender-stereotyped toys in the American marketplace, it is imperative that more children engage in cross-gender toy play in order to foster a wider range of skills suitable towards a broader range of future occupations. What little research has been conducted on strategies to encourage cross-gender play amongst children is indicated above. Based on the relatively few solutions in existence to toy segregation today, future research in this field should focus on discovering and testing new ways to encourage cross-gender toy play amongst American children in order to ensure the most holistic development possible for future generations.

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