Learning, Play, and Identity in Gendered Lego Franchises

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Introduction

Lego is the among the largest toy companies in the world. Its products are profoundly influential in the lives of millions of children. In press releases and marketing materials, Lego has positioned itself as a guardian of children's creative cultures and a sponsor of children's abilities to develop cognitively and socially (Nipper, 2012). In lockstep with its consumer base, Lego has shifted from marketing language focused on "skill and assembly" to language focused on "creativity and originality" in the last two decades (Lauwaert, 2008; Carrington, 2013). The creative, open-ended, and child-driven aspect of Lego toys and media is crucial for understanding the full scope of play and learning afforded by the brand, and it is one that the authors respect, value, and often study. However, because Lego permeates the home and school lives of many young children who are actively developing cultural models associated with constructs such as gender, race, and social class, it is also crucial to attend to the brand-driven cultural practices and forms of play that are embedded in Lego products through the company's processes of designing, manufacturing, and marketing.

In this paper, we use a mixed methods approach to compare the multimodal "building blocks" of play provided by the Lego Friends franchise, which is primarily aimed at female audiences, and several other Lego series that are marketed to similar-age male audiences. Using both quantitative and qualitative analyses, we examine if and how certain configurations of play and gendered-discourses may be privileged through what Johnson (2013) calls "preferred constructions… for which the company literally provide[s] instruction manuals and feature[s] in packaging and promotional imagery" (p. 2-3). We also focus on the constellation of digital artifacts (i.e., video games, videos) that give narrative structure to these preferred configurations of play.

Lego has attempted to cultivate a girls-only market for the last three decades. The Friends product range replaces Lego's previous female-consumer-oriented theme Lego Belville, which was in production from 1994-2009, and featured minifigs (that is, miniature figurines) that were morphologically more similar to humans than the traditional boxy figure included with other sets. Other female-oriented Lego product lines have included Homemaker (1971–1982), Paradisa (1991–1997) and Scala (1997–2001). Interestingly, in the 1980s, The Lego Group was lauded for using both girls and boys in marketing materials, with ads that seemingly positioned their products as gender neutral. However, more recently the company's marketing strategy has shifted to focus on portions of the children's market instead of children as a whole. As a case in point, the Friends line, released in 2012, represented the culmination of four years of market research on "the way girls naturally build and play" (Lego.com, 2014). The line is focused on a group of primarily female friends in a suburban environment called Heartlake City. Marketing materials for the line feature females, and the overarching product narrative centers on five core female mini-doll characters that, with their human-like figures, differ significantly from the traditional, blocky minifig.

Lego City, like Lego Friends, is focused on human characters performing tasks in an urban life setting and is therefore more closely aligned with the Lego Friends theme than Lego's specialty (i.e., Ninjago, Legends of Chima) and branded (i.e., Star Wars) lines. An offshoot of Lego Town, Lego City features male-dominated marketing materials, bricksets, games, and videos. Only six of the 38 Lego City minifigs released in 2013 are female. As such, in a qualitative comparison of gendered Lego franchises, Lego City offers an apt foil for Lego Friends. However, a direct quantitative comparison between Lego Friends and Lego City is made difficult by the fact that they are marketed to slightly different age groups, with Friends sets being marketed to children approximately a year older than the target audience of Lego City. Nevertheless, since many other Lego series are marketed to males as well, including several for the same age range as Lego Friends (e.g., Teenage Mutant Ninja Turtles, Super Heroes, and Castle), a direct comparison between Lego Friends and those other sets was suitable for our numerical analyses.

Theoretical Framework and Related Literature

In a detailed exploration of the "geographies of play" associated with the toys and digital cultures surrounding brands such as Lego and SimCity, Lauwaert (2009) describes "facilitated play practices." In this construct, "facilitated" refers to the idea that certain configurations of play are made easier and promoted by the design of a toy and its associated discourses. Lauwaert suggests that "[t]he structure of a toy, its technological specificities, its materiality, the rules and manuals, examples and guidelines, its 'reputation' and connotations create a network of facilitated

play practices. Both the material and immaterial aspects of a toy or computer game create a window of opportunities within whose boundaries the players can act" (2009, p. 12-13). Although Lauwaert rightly acknowledges that "there is no one essential use that can be deduced from the artifact itself" (Oudshoorn & Pinch qtd. in Lauwaert, p. 13), the author's analysis supports the notion that product design and marketing can create a dominant discourse and core set of play practices for a particular toy.

Practices connected to play allow young people to build literate identities and early repertoires of social roles and interaction in relation to valued artifacts (virtual and material) and within the culture of their everyday lives. In their object ethnography of Legos, Carrington and Dowdall (2013) remind us that children's play and social worlds -- and concomitantly, spaces for making and marking identities -- are increasingly linked to global brands and globalized franchises, such as Lego, Mattel, Nintendo, and Apple. In turn, these brands may "shape the contexts in which young people build repertoires of practice and a sense of themselves" as literate and cultural beings (Carrington and Dowdall, 2013, p. 97).

Sociocultural studies of literacy, identity, and play in early childhood (Marsh, 2000; Wohlwend, 2009; 2012) have analyzed artifacts and practices of children's play worlds, increasingly mediated through global franchises and converging new technologies. For instance, Carrington (2003), Wohlwend (2012), and Black et al. (2013) analyze toys and their digital counterparts as identity texts that open, close, and invite certain ways for children to see themselves, e.g. as "doing boy" or "doing girl". Specifically focusing on gendered expectations, both Wohlwend (2012) and Black et al. (2013) posit design of commercial products geared for children's consumption and play as having built in "anticipated identities" that are embedded in the design of toys such as Disney Princesses and Barbie. These anticipated identities, akin to Lauwaert's notion of facilitated play practices, are further indexed through the narratives of associated multimodal texts, such as books, songs, movies, games, and virtual worlds.

Research has demonstrated that the anticipated identities and facilitated play practices of similar products and games (Cassell & Jenkins, 2000) for girls and boys can differ significantly. For example, drawing on these notions, Black, et al. (2013) analyzed two Mattel-produced virtual worlds, one marketed for girls and one for boys. Although the two worlds were structurally and functionally similar to each other, they offered markedly divergent literacy and identity resources to their participants. The texts, games, tools, narratives, and character roles within the worlds positioned boys as knowers, scientists, and agents while "anticipating" girl players to be more passive consumers of media within the site itself and in the real world. Moreover, a quantitative readability analysis of the site texts revealed a reading level of approximately second grade for the girls and over ninth grade for the boys, despite these sites having the same target age group of 6 and up.

To understand if this sort of pattern persists in the Lego universe, we draw from a sociocultural framework to explore how socialization through the dominant narratives, anticipated identities, and facilitated play practices of the Lego Friends and Lego City franchises might influence young children's conceptions of the social roles and cultural practices available to and expected of them. We do this by asking the following research questions: 1) What are the facilitated play practices of the Lego Friends and the Lego City franchises? 2) How do these practices compare in terms of difficulty? and 3) What are the anticipated identities associated with these preferred play practices?

Methods and Data

The bricksets themselves are the cornerstone around which the Lego franchises are built. Therefore, we began with a series of quantitative analyses to explore whether the Lego Friends bricksets are comparable (in terms of difficulty) to other products marketed to males of the same age group. We conducted two main analyses, one to establish a viable metric for age appropriateness, and one to examine gender differences across sets. In the first analysis, we evaluated the usefulness of set complexity as a metric for age appropriateness. Changizi et al. (2002) assert that the relationship between unique pieces and total pieces in a set may be used as an indicator of the complexity of that set. Therefore, when we commenced this analysis, we selected U/T (unique pieces over total pieces) as our indicator of complexity. In the first analysis, dealing with the relationship between complexity and age appropriateness, we compared 42 sets released in 2013 with between 300-500 pieces and for which brickset. com had data on the number of unique pieces in that set. In the second analysis, dealing with gender differences, we used all Lego Friends sets released in 2013 that were listed as "Ages 6-12", and for which brickset.com had data on the number of unique pieces, and all other non-Friends sets that met those same conditions (2013, "Ages 6-12", and availability of data on unique piece count) within the same piece range (160-500). There were five Friends sets and fourteen non-Friends sets in those groups (from the Teenage Mutant Ninja Turtles, Super Heroes, and Castle series).

To confirm that the sets used in this second analysis were targeted at a particular gender, we examined the marketing materials and content of the sets with an eye to gender representation. Lego Friends commercials show only female children, while the male-focused lines feature young boys and men. The Friends minifigs have a ratio of 24:3 female to male. Conversely, of nineteen Teenage Mutant Ninja Turtles minifigs released in 2013 with specified genders, eighteen are male. The one female character is an office assistant. In 2014 this series is introducing a second female character: a villain named Karai. Of 38 minifigs in the 2013 Super Heroes product line, all but four are male. Of the four females, none is a super hero; two are supporting characters, and two are villains. And of the eighteen minifigs in the Castle series, only one is female (a princess).

For the qualitative component of our analysis, we used content and discourse analytic methods to analyze comparable Lego Friends and Lego City sets and associated marketing materials to understand the configurations of play and anticipated identities (Wohlwend, 2009) that these products invite children to engage with. For example, the Lego Friends Water Scooter Fun and Lego City Surfer Rescue sets are comparable because both have a target age range of 5-12, include roughly the same number of pieces (32/28 pieces respectively), and are similar in terms of the focal components of activity. However, analysis of the accessories, aesthetics, and marketing materials for these particular two sets reveals marked differences between the facilitated play practices and discourses embedded in these artifacts. An inductive coding process was used to identify the specific discourses that were explicitly or implicitly referenced in relation to the sets. To illustrate, the code for a discourse of danger was developed to identify any reference to the presence of dangerous objects, threat of injury (from setting, situation), and/or any references to urgency to avoid harm or injury. The code of friendship was developed to identify any reference to talking, interacting, or spending time with others for enjoyment or leisure (as opposed to for work or other functional purposes).

Qualitative analysis also focused on fieldnotes and an observation protocol for the seven existing Lego Friends video games and seven Lego City video games. The thematic foci of the games were so distinct that we were unable to select comparable games but instead focused on all available Friends games and the first seven City games listed on Lego.com (which included the most recently-released games). The game observation protocols were focused on identifying the goal, difficulty level, reward structure, how players are positioned in the game, and the discourses indexed by the game.

Analysis

Construction Play
In creating a new Lego franchise specifically oriented toward female children, Mads Nipper, the VP of Marketing for Lego Group, explains that the group was motivated to have more children access and reap the "positive benefits of the construction play pattern" (Nipper, 2012, para 1). Therefore, our initial analyses focused on the construction play opportunities offered by the bricksets.

Our first analysis explored the usefulness of the ratio between unique pieces and total pieces in a set (U/T ratio) as an indicator for age appropriateness. Our initial hypothesis was that sets with higher U/T ratios are more complex (Changizi, 2002), and therefore more appropriate for older children. However, our results revealed that the average U/T ratio fell substantially over the age range, from 0.43 and 0.39 for 5 and 6 year olds to 0.19 and 0.11 for 10 and 12 year olds. Put another way, across all 300-500 pieces sets, there was an average of over 150 unique types of piece in each of the sixteen sets for 5 and 6 year olds, down to an average of 83 in each of the four sets for 10 year olds, and just 39 unique types of piece in the one set for 12 year olds. Sets for 7, 8, and 9 year olds fell between these extremes. These results suggest that our initial hypothesis was precisely wrong, at least if the Lego age ranges are correct (and the authors' anecdotal experience supports the appropriateness of the Lego age ranges). Instead, our study found that sets with a low U/T ratio (that is, sets with fewer unique pieces) tended to be more appropriate for more developmentally advanced children.

Based on this finding, we then moved on to a second analysis, examining the U/T ratio across a range of Friends and non-Friends sets. Our results revealed that Friends sets tended to have lower U/T ratios than non-Friends sets (see Figure 1). That is, holding total number of pieces constant, Friends sets have fewer unique types of pieces than non-Friends sets.
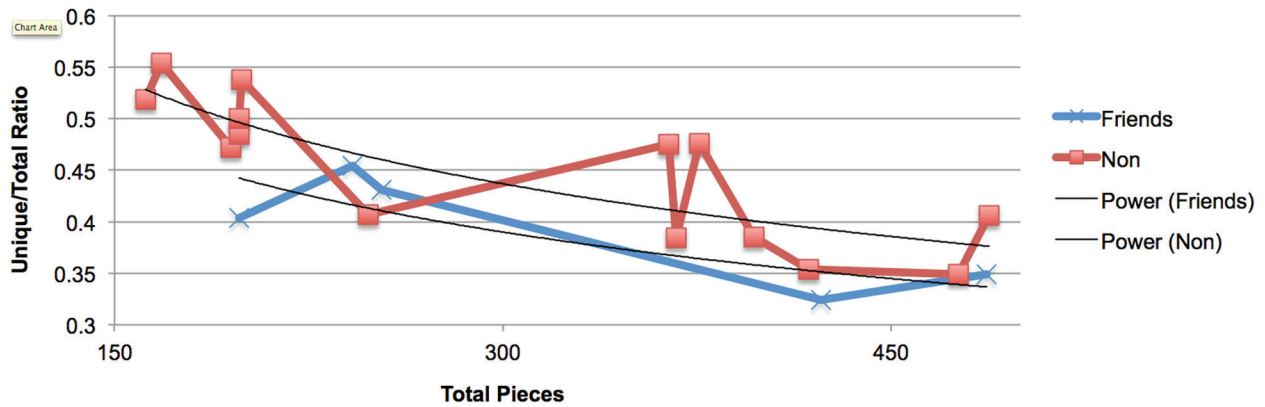
Figure 1: Across 160-500 piece sets, Lego Friends tends to have fewer unique pieces per set than other Lego product lines.

Connecting these results with the previous analysis, which suggests that lower U/T ratios correlate with older age groups, these results suggest that Friends sets are at a more developmentally advanced level than non-Friends sets. These results offer some evidence that, in terms of the complexity of their products, Lego is not systematically disenfranchising girls, and possibly even treating them as more advanced than boys.

Comparing these results with the findings of Black et al. (2013), which found that Mattel's Barbie Girls online world was at a much lower reading level than another contemporary online product for boys (Xtractaurs), we offer that, while the gender roles embodied in their products may be problematic, Lego does not treat girls as less advanced than boys in terms of the core assembly activity of the sets, and in fact may treat them as more advanced. Taken together, the qualitative and quantitative results of this study point to the multiple levels at which a product may affect its users, not all of which may be consistent.

Play Construction
Qualitative analyses focused on five comparable Lego Friends and Lego city bricksets and their associated print marketing materials revealed strong similarities and differences between the product lines. The most prominent discourses indexed in the sets are illustrated in the following table.

	Adventure	Physical Activity	Friend-ship	Leisure	Work	Explor-ation	Danger	Rescue
Friends	3	3	5	4	1	2	0	0
City	5	4	0	1	4	1	3	3

Table 1: Prevalent Discourses in Lego Friends and City Sets.

The parity across the sets in terms of discourses of adventure and physical activity was an unexpected finding for the researchers, as discourses of exploration and adventure are often the purview of boys-only narratives (Jenkins, 2000, Black et al., 2013). Perhaps the most striking distinction between the sample sets is the overrepresentation of leisure pursuits in the Friends sample. All physical activity in the line is focused on activities such as biking, swimming, and surfing, while much of the physical activity in the City product line is related to work, and more specifically, work that involves rescuing people in danger. The single work-related Friends set, Emma's Lifeguard Post, positions Emma (or the user) as someone who makes decisions about what flag to put up to indicate water safety but does not offer the female lifeguard or user the opportunity to take on the social role of a rescuer. Another noteworthy distinction was the prevalence of discourses of friendship and companionship in the Friends line and the lack thereof in the City sets. For example, for the Friends mini-dolls, car rides in the country and scooter rides in the ocean include the companionship of a cuddly cat or friendly dolphin, whereas the City mini-figs ride solo in their race cars or are pitted against a shark to rescue a surfer in trouble.

Analysis of the Lego Friends video games yielded similar findings to analysis of the sets, but with some noteworthy distinctions. Once again, discourses of leisure and friendship dominated the Friends games, while work and coming-to-the-rescue were prevalent themes in Lego City. Players of the Friends games were able to take on the roles of pet and beauty salon employee, hostess in a cafe, party planner, horse groomer, and person trying to emulate a friend's clothing choices. Lego City players were able to take on the roles of fire fighters, police officers, coast guard officers, race car drivers, and miners. Interestingly, many of the Friends games did not provide an explicit means of leveling-up but instead allowed players to continue playing at the same level with a slightly different configuration (e.g., groom a different pet, dress like a different friend). The reward for reaching the end goal of the Friends games was explicit affirmation and celebration (e.g., friends cheering, laudatory messages, balloons and confetti). Almost all of the City games listed explicit goals that players needed to accomplish to reach the next level and unlock a different vehicle or ability. The reward for accomplishments was generally a trophy or star.

Discussion and Conclusion

When the Friends line was released, the brand quickly garnered strong proponents and detractors in the online community, with some praising Lego's promotion of "good role models for girls" (Common Sense Media, 2014), and others damning the sets as "a pink and purple, gender segregated, suburban wasteland populated by Barbie/Bratz style dolls" (Feminist Frequency, 2012). These responses to the brand are illustrative of a long-standing conversation about the ways gender stereotyping permeates the material and media artifacts of children's play (i.e., Black et al., 2012; Cassell & Jenkins, 2000; Carrington, 2003; Wohlwend, 2009). Interestingly, our analysis for this paper serves to both temper and confirm the conflicting responses to the Friends franchise. On the one hand, the games and sets we analyzed emphasize friendship, exploration and adventure, and physical activity, with the latter two representing what are stereotypically thought of as part of "boys'" play. On the other hand, the games and sets reify other feminine stereotypes, such as the ornamental, social, and dependent female.

The problems with these limited representations of females is perhaps best captured in a letter to Lego by a seven year-old girl named Charlotte Benjamin that went viral in February 2014. In her letter, Charlotte complains that women in the Lego sets only "sit at home, go to bed, and shop, and they have no jobs" (Examiner.com, 2014). She goes on to point out that "the boys went on adventures, worked, saved people, and had jobs, even swam with sharks" (Examiner.com, 2014). Clearly, in spite of Lego's avowals of exhaustive market research on "the way girls naturally build and play" (Lego.com, 2014), they have missed some of their target audience. The Friends line will allow Charlotte to engage in the same complex building practices as boys that are using Lego City and other male-focused lines, but as it stands, the line will not completely satisfy her desire to move beyond gendered social roles.

At the close of her letter, Charlotte makes a simple request. She asks Lego to "make more girl people and let them go on adventures and have fun...okay!?!" We would extend this request to include a broadening of the social roles and discourses that are indexed by the preferred configurations of play in Lego sets for both girls and boys. If a house catches fire in Heartlake City, the residents are completely reliant on the Lego City characters to come extinguish it. Moreover, due to the changes in the Friends mini-doll physique, a Heartlake resident could not even sit securely in a borrowed Lego City fire truck to put out a fire (traditional Lego mini-figs have two holes on their backside that allows them to lock into the bricks that serve as seats for vehicles, but the mini-dolls do not). Heartlake City needs its own suite of municipal service sets to offer young female players the opportunity to explore a broader range of social roles. They could also throw a few sharks (or alligators) into the calm waters of Heart Lake. Similarly, why not include the sort of cooking, gardening, and homemaking options that characterize the Friends sets in Lego City?

Imaginative play offers children their first opportunities to envision and learn about the sort of professionals, parents, and people that they might end up being. Lego has a long history of supporting innovative opportunities for learning; thus, we encourage them to consider the findings in this paper and use their unique position in society to create these opportunities for both boys and girls as equitably as possible. In addition, next steps for this project should include an ethnographic account of how young children actually engage with material and virtual Lego products and how they may take up and/or transform the facilitated play practices of the different sets.

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