Running head: AGE GROUPS AND INTERACTIONS

Gender Development: Differences in Verbal Communications and Physical Interactions across Age Groups

Abstract

One of the most crucial milestones in a child's life is when he develops his gender identity. Cross-gender and same-gender interactions were studied across age groups to see if the development of a child's gender-identity plays a role in their choice of partners for interaction. The study observed 20 total participants (10 males and 10 females) and two age groups (2- to 3-year-olds and 5- to 6-year-olds) were observed in terms of verbal communication and physical interaction with same- or opposite-gender peers. The findings of the study show that both 2- to 3-year-olds and 5- to 6-year-olds interacted more with same-gender peers, however, 5- to 6-year-olds had more opposite-gender interactions. The study found that there is a greater difference between same-gender and opposite-gender verbal interactions in 2- to 3-year-olds than the 5- to 6-year-olds. The 2- to 3-year-olds overall had more intentional physical contact than the 5- to 6-year-olds. Both age groups had more intentional physical contact with same-gender peers than opposite-gender peers. Based on the results, it is evident that younger children have an equal or higher sense of gender identity than the older children. The researchers suggest that parents, educations, and child-care professionals be more cognizant of the fact that these younger children do have a developed sense of gender-identity when interacting and communicating with children.

Gender Development: Differences in Interactions across Age Groups

Gender identity development is one the most crucial milestones that a child attains. An individual's gender identity can be an important mediator of his or her life experiences and in his or her development of a self-concept. Thus, one's gender identity can shape whom one interacts with, whom one becomes friends with, what type of toys he plays with, what type of courses he takes in high school, and eventually what type of job he chooses (Noppe, n.d.). Past research has proven that gender identity development, especially the ability to label oneself as either "boy" or "girl," starts at a very young age. This ability sometimes starts as early as 18 months (Salkind, 2002). However, the most critical years are in early childhood, between the ages of two and six. It is during this time frame that play styles and behaviors are found to crystallize around the identity "boy" or "girl" (Salkind, 2002).

One of the most famous researchers in this subject area was Lawrence Kohlberg (1966), who viewed gender development as a three-stage process. As cited by Salkind (2002), Kohlberg said that children first learn their gender identity ("I am a girl"), then gain gender stability ("I will always be a girl"), and finally they will understand gender constancy ("even if I wore boxers, I will still be a girl"). Kohlberg stated that the final stage is achieved at around six years of age. Thus, one can say that the younger child's cognitive understanding of gender is not as complete as that of the older child (Thompson & Bentler, 1971). For instance, Miller (2007) states that young preschoolers generally fail gender constancy tasks, and that success on these tasks emerges around the ages of 4 and 7.

Using this idea of gender identity development and its three stages, we wanted to see if there is a difference in play in terms of gender between age groups. In other words, in early childhood, do older children prefer to interact with same-gender peers over cross-gender peers

when compared to younger children? Or does this age difference not matter? Does the development of gender identity and the attainment of gender constancy influence whom one interacts with? Since research and theories have shown that gender identity develops and crystallizes by the age of 5, we hypothesized that the older children (5- to 6-year-olds) would spend less time interacting with their opposite-gender peers as compared to the younger children (2- to 3-year-olds). We also hypothesized that the older children (5- to 6-year-olds) would interact proportionately more with same-gender peers as compared to the younger children (2- to 3-year-olds), whose gender identity has not yet fully developed.

Method

Participants

The participants for this study all attend the children's center on a university campus in a Midwestern town which serves approximately 180 children. The children's center is designed to serve as a resource of the university students for their research needs. University students who are interested in childhood development can use this setting for observation, participation, and research. The center aims to provide a consistent, safe, secure, stimulating, and enjoyable environment for the children and parents are made aware that it is used for numerous research studies. The children's center philosophy places emphasis on a play-based and "developmentally appropriate curriculum" and it facilitates social behavior which develops the children's self-concepts. Additionally, the center's philosophy has a strong focus on social, cognitive, and physical development through large and small group activities. Since parents send their children to this center with the knowledge that their students will be participating in such observations and studies, we did not have to directly attain the informed consent of the parents. Since making our presence known would have induced an observer influence on the children's activity and

levels of interaction, we also did not directly attain the assent of the children being observed. The data collected maintained the anonymity of each child observed. No names or identifying characters were noted. The children were not compensated for taking part in this observational study.

Twelve 2- to 3-year-olds and eight 5- to 6-year-olds were chosen using convenience sampling from their respective classrooms for observation based on availability. The participants were chosen so that there were equal representations of both genders in each group. Thus, there were six males and females in the 2- to 3-year-old group and four males and females in the 5- to 6-year-old group. The majority of the children in the center were White-Americans with a few Asian-Americans and Black-Americans. The socioeconomic status of group is presumed to be middle class to upper middle class since most of the children's parents work for the university.

Design and Procedure

The five researchers of this study started their observations by having a test day to check the reliability of their measures. All five researchers observed the same child for 7 minutes and 15 seconds (with 30 second intervals for observation and 15 seconds for coding). Using this information, we established that we had .85 inter-observer reliability. After this, we split up into two groups. The first group consisted of three researchers who each studied four 2- to 3-year-olds together. The second group consisted of two researchers who each studied four 5- to 6-year-olds together. We observed the students during classroom playtime hours (as specified in the school time schedule) in their naturalistic setting. We watched students either through a two-way mirror (window in the door) or inside the classroom, if invited in by the teacher. The observation was unobtrusive and followed all the guidelines of the center. We used a stop-watch

to measure 30 second intervals of observation and 15 second intervals to record our data. Researchers coded for both verbal and physical interactions as well as the same-gender or opposite-gender interactions (0 = behavior absent, 1 = behavior was present). We spent a total of seven minutes and 15 seconds on each child. We then took 30 seconds to choose another child. Each researcher observed 2 male children and 2 female children. If working with other researchers, they split the children so that each child would not be observed more than once.

Measures

In each child that was observed, we measured and coded for two types of interactions: verbal communications and intentional physical contact. We operationalized verbal communication as any type of vocalization (e.g., speaking, whispering, laughing, screaming, singing, humming, sound imitations, sound effects, and crying). This category did not include involuntary sounds like sneezing and coughing. We operationalized intentional physical contact as touching, touching through an object (e.g., exchanging toys), and acts of aggression (e.g., pushing and slapping). It also included throwing an object (water included) at someone. However, this definition did not include unintentional physical contact like accidentally bumping against someone or accidentally tripping into someone. We coded if each behavior was present or absent (0 = no behavior present and 1 = behavior present) under two sublevels: same-gender and opposite-gender peers. Thus, for verbal communication, we coded if a child had verbal communication with a same-gender or an opposite-gender peer. For example, if a 5- to 6-year-old girl was whispering to another 5- to 6-year-old girl while holding her hand, we would code that there was same gender verbal and same gender physical interaction (1 for both) and no opposite gender verbal or opposite gender physical interaction (0 for both). Also, regardless of many times a behavior occurred in each of the 30 second time frames, it was still coded as just

being present (1) or not (0). Thus, if the child touched another child six times in the span of 30 seconds, we still coded it as just 1 for physical interaction.

Results

The purpose of our study was to see if older children in early childhood spent more time interacting with same-gender peers as opposed to cross-gender peers in comparison with younger children. We used mean, as a measure of central tendency, and range, as a measure of variability, to organize our results. As can be seen in Table 1 and Figure 1, we found that in contrast with our hypothesis, the older children (5- to 6-year-olds) had more interactions with opposite-gender peers (1.88 = mean of interactions per child for the older children and 1.0835 = mean number of interactions per child for the younger children). Additionally, we found that both 2- to 3-year-olds and 5- to 6-year-olds interacted more with their same-gender peers than opposite-gender peers (see Table 1). However, as mentioned before, 5- to 6-year-olds had significantly more opposite-gender interactions than the 2- to 3-year-olds.

For verbal communication, we found that there is a greater difference between same-gender and opposite-gender verbal interactions in 2- to 3-year-olds (see Table 2 and Figure 2). The 5- to 6-year-olds verbally communicated with their peers at approximately the same level regardless of gender (2.88 = mean number of same-gender interactions per child and 2.75 = mean number of opposite-gender interactions per child). The 2- to 3-year-olds, on the other hand, verbally communicated with their same-gender peers more than opposite-gender peers. 2- to 3-year-olds, on average, had .67 verbal communications with opposite-gender peers and 1.83 verbal communications with same-gender peers. Thus, 2- to 3-year-olds had a difference of 1.16 verbal communications per child between same-gender and opposite-gender peers, while 5-to 6-year-olds, only had a difference of 0.13 between same-gender and opposite-gender peers. In

terms of variability, 2- to 3-year olds had a range of 6 for same-gender verbal communications per child and a range of 5 for opposite-gender verbal communications. On the other hand, 5- to 6-year-olds had a range of 9 for same-gender verbal communications and a range of 2 for opposite-gender verbal communications. Thus, 5- to 6-year-olds had a wider range of data for same-gender verbal communications than the 2- to 3-year-olds, while the 2- to 3-year-olds had a wider range of data for opposite-gender verbal communications than the 5- to 6-year-olds.

For intentional physical contact, results showed that overall 2- to 3-year-olds had more intentional physical contact than the 5- to 6-year-olds (see Table 2 and Figure 3). For instance, 2- to 3-year-olds had a mean of 2.33 physical interactions per child with a same-gender peer while they only had a mean of 1.5 physical interactions per child with an opposite-gender peer. Along the same lines, 5- to 6-year-olds had a 1.25 mean number of physical interactions per child with same-gender peers and only 1 mean number of physical interactions per child with opposite-gender peers. Additionally, both age groups had more intentional physical contact with same-gender peers than opposite-gender peers. As can be seen in Figure 3, the difference between intentional physical contact between same-gender and opposite-gender peers for the 2- to 3-year-olds (.83 interactions per child) is greater than the difference for the 5- to 6-year-olds (.25 interactions per child). In terms of variability, 2- to 3-year olds had a range of 5 for both same-gender and opposite-gender physical interactions. On the other hand, 5- to 6-year-olds had a range of 2 for same-gender physical interaction and a range of 5 for opposite-gender physical interaction. Thus, 2- to 3-year-olds had a wider range of data for same-gender physical interactions than the 5- to 6-year-olds, but both had the same amount of data dispersion for opposite-gender physical interactions.

Discussion

The purpose of our study was to see if older children in early childhood spent more time interacting with same-gender peers as opposed to cross-gender peers in comparison with younger children. Our results were both consistent and inconsistent with our hypothesis. The results were consistent because older children showed slightly fewer physical and verbal interactions with opposite-gender peers than with same-gender peers. However, our results were inconsistent because younger children interacted more with their same-gender peers than opposite-gender peers in both types of interaction when compared to the older children. Salkind (2002) found that play styles and behaviors crystallize around a child's gender identity between the critical ages of two and six and our results matched his findings because both age groups seemed to interact more with their same-gender peers than their opposite-gender peers. This could mean that the gender-identity is crystallizing from the ages of two to six. However, our results show that there might not be a linear progression of a more crystallization of gender-identity as a child gets older since the younger children interacted more with same-gender peers than the older children. Thus, unlike the findings of Kohlberg (1966), Thompson and Bentler (1971), and Miller (2007), all of whom stated that the cognitive understanding of gender and gender constancy is more finalized at six years than at two years, our results showed that a child's gender-identity is not more developed at 6 years than it is at 2 years.

Our study also had numerous limitations. For instance, some of the children did not remain within eyesight at all times of observation. Consequently, if a child had been interacting more with either the same-gender or opposite-gender peer, then we could not code for it since we could not see it. This could have clearly skewed our results because these children could have been partaking in behaviors that would have supported our hypothesis while they were hidden (e.g., 5- to 6- year olds interacting with same-gender peers). Also, since we could not hear their

conversations, sometimes it was difficult to decipher if the child was verbally communicating with the teacher, another peer, or themselves. Thus, if the child had been verbally communicating with a peer, we might not have coded for it since we probably assumed they were communicating with the teacher instead. Thus, the children could have had more same-gender or opposite-gender verbal communications than was coded for. Also, because not all of the children were present at the time of observation, there was a skewed ratio of boys-to-girls in the classroom, which may have influenced our results. In such an environment, a child did not have the equal opportunity to interact with same-gender and opposite-gender peers. Had the classroom had an equal ratio of boys and girls, then our results might have been different because then the child would have been more likely to encounter both genders. For instance, if the 2- to 3- year- olds had more boys in their classroom then girls, then the girls would have had a higher probability of interacting with a boy. Also, due to the skewed ratio of boys and girls, the same child could have been observed by multiple researchers, which would have influenced our results. If there were only two girls present in a classroom, then the researchers would have all been observing the same child. And it could have just been that these two children were more or less inclined to interact with opposite-gender peers, and thus the results would not be representative of a larger population. There was also observer bias. Because we knew that we were looking for interactions with peers, we may have inadvertently chosen children who were more active, thus biasing our results. Similarly, we may have looked for specific behaviors without realizing it, which would have also biased our results.

Thus, based on our study, it is evident that younger children do have a sense of gender identity since younger children did interact more with their same-gender peers than opposite-gender peers. Parents, educations, and child-care professionals should also be more cognizant of

the fact that these younger children do have a developed sense of gender-identity when interacting and communicating with children. For instance, educators could use this information in their lesson-planning to form same-gender groups for younger children to ensure their comfort or to form more opposite-gender groups to encourage interaction between genders depending on their classroom goals and objectives.

Our research also produced some additional and unforeseen results. We found, for instance, that younger children (2- to-3 year olds) interacted more through physical interaction, and that older children (5- to-6 year olds) interacted more through verbal communication. These results could be the product of the fact that children have attained a higher degree of verbal development at 6 than they have at 2. Thus, children could be using the physical and verbal capabilities that they have while interacting. For a future study, we think it would interesting to look into these results and test to see if a child's physical and verbal developmental level has an impact on the type of interactions he engages in. It would additionally be interesting to see if these physical and verbal capabilities have an affect on gender-interactions (same-gender and opposite-gender). Moreover, because of the high number of limitations of our study design, we would recommend that the study be repeated before the results are generalized. If this study were to be repeated, we would recommend that the researchers observe children at more than one center, observe classrooms with equal gender distribution, ensure random selection (by using either single-blind or double-blind studies), and make sure that the children can be observed in all areas of the classroom.

References

Miller, S. A. (2007). *Developmental Research Methods*. Los Angeles.: Sage Publications, Inc.

Noppe, I.C. Gender-role development: The development of sex and gender. *Child Development Reference, 4*, 161-164.

Salkind, N.J. (2002). *Child development.* New York: Macmillan Reference.

Thompson, S. K., & Bentler, P. M. (1971). The priority of cues in sex discrimination by children and adults. *Developmental Psychology, 5*(2), 181-185.

Table 1.

Average Number of Interactions per child

	SAME-GENDER	OPPOSITE-GENDER
2- to 3-year-olds	2.08	1.08
5- to 6-year-olds	2.06	1.88

Table 2.

Mean Interactions and Range of Interactions (both Verbal and Physical) in the Two Age Groups

	Verbal		**Physical**	
	Same	**Opposite**	**Same**	**Opposite**
2- to 3-year-olds				
Total	22	8	28	18
Mean	1.83	0.67	2.33	1.5
Range	6	5	5	5
5- to 6-year-olds				
Total	23	22	10	8
Mean	2.88	2.75	1.25	1
Range	9	2	2	5

Figure Caption

Figure 1. Average number of interactions between same-gender and opposite-gender peers per child in both age groups.

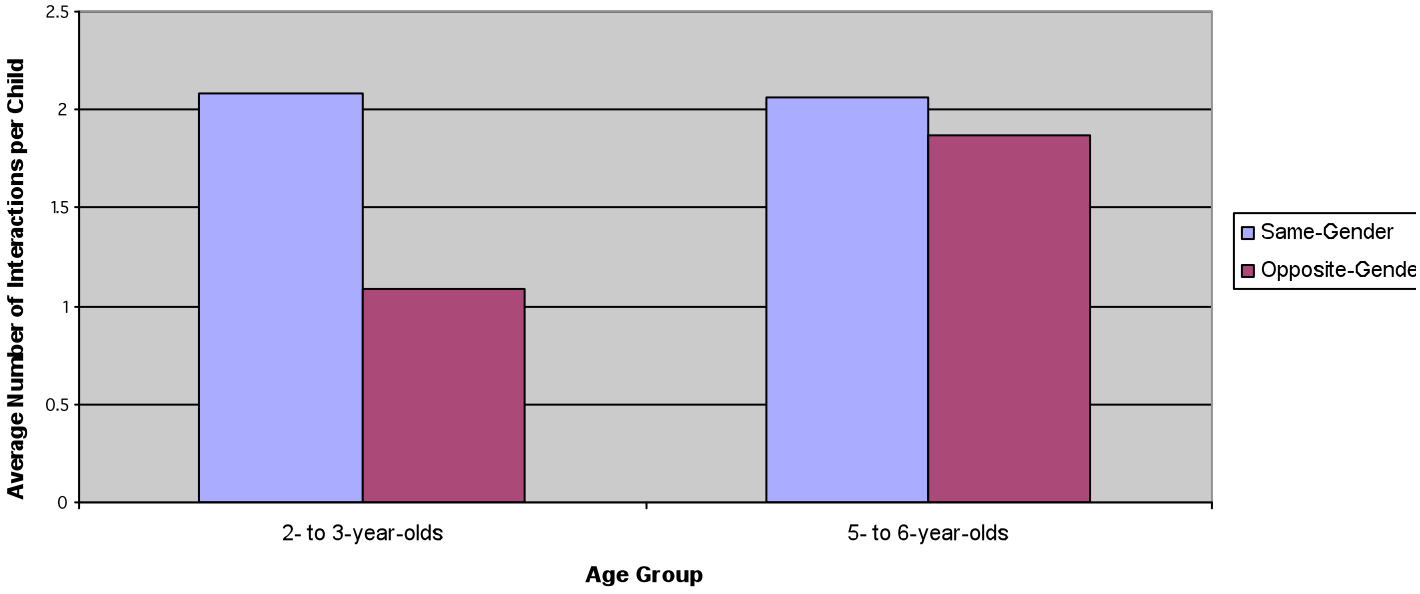

Figure 2. Average number of verbal interactions between same-gender and opposite-gender peers in both age groups.

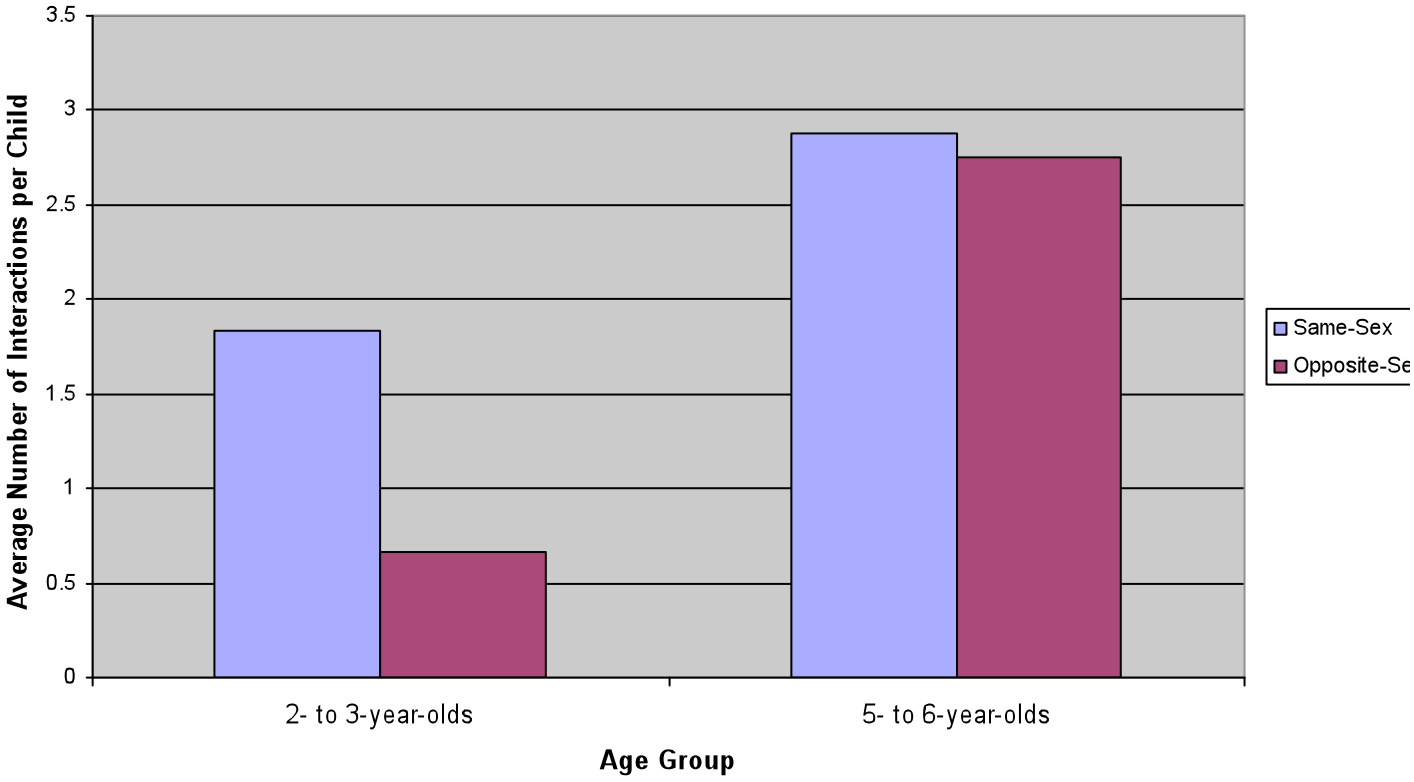

Figure 3. Average number of intentional physical interactions between same-gender and opposite-gender peers per child in both age groups.