

## Gender Development Issues in South African Preschool Children



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## Summary

**Aims:** The main purpose of the present study was to examine the influence of intellectual maturity and age on *gender identification* and *gender definition* in South African preschool children ( $N = 70$ ). Furthermore, we investigated whether children in this population preferred same-sex playmates, a phenomenon called gender segregation, and whether they were in the stage of gender identification (Kohlberg) in which they should belong according to their age. Finally, the influences of socio-economic status (SES) and race were investigated.

**Method:** Intellectual Maturity was measured by the Goodenough-Harris Drawing test, by evaluating the details of drawings of a Man and a Woman. Gender identification and gender segregation were measured during an interview.

**Results:** Intellectual maturity and age have significant effects on gender identification and gender definition. Consistent with previous research, children appeared to prefer same-sex friends. Furthermore, our results corroborated the developmental theory of Kohlberg: the majority of the children were in the stage of gender constancy (69.2%). Other important findings were: a high correlation between raw scores on the Man and Woman drawings, girls outperformed boys on drawings of a Woman, but not on drawings of a Man. Finally, there were no important significant effects of SES and race.

## Introduction

Since 44.22% of the South African population is under the age of 18, with the largest age cohort between 5 and 9 years old (Biersteker & Robinson, 2000), it is very important to get a better understanding of this age group (Loxton, 2004). People go through a lot of developmental processes during their childhood, for example they learn how to speak or learn how to behave in certain situations. Another important developmental issue is the acquisition of a complete concept of gender. This is important because the concept of gender plays a central role in our development of self-concept throughout life (Botha, Van Ede, Louw, Louw, & Ferns, 1998): it has implications for the way we behave and the way we perceive the behavior of people around us.

The present study will focus on several gender issues. Most attention will be paid to Kohlberg's stages of gender identity development and how these stages are related to intellectual maturity and age. Another important focus will be the influence of intellectual maturity and age on gender definition. Intellectual maturity will be measured by drawings. Further focus will be gender segregation, i.e., children's preference to play with same-sex peers. Finally, the influence of socio-economic status (SES) and race will be investigated.

### *Kohlberg's stages of gender identification*

Kohlberg (see Newman & Newman, 1995) suggests that the development of our concept of gender takes place in three stages (i.e., the stages of gender identification). The first stage is *gender identity* (stage 1), in which children are able to label people as being male or female and to categorize themselves as being a boy or a girl. On average, gender identity will be achieved by the age of 2.5. In the second stage children are aware of the fact that their gender will be stable over time, which is called *gender stability* (stage 2). Children understand that their gender is a characteristic for life. Between the age of 4 and 7 children achieve *gender constancy* (stage 3), which means that they know that their gender is constant across different situations, for example when a boy plays with a doll, he is still a boy. In other words, children know that sex is irreversible. At achievement of the last stage children have a total gender concept and have the understanding that gender is related to the bodily features of a person, which will be constant throughout their whole life. This is in contrast with children between 3- and 4-years, who think that gender depends on observable differences, like clothing, hairstyles, toys, occupations and activities instead of the biological

Note: In this thesis the terms 'white', colored' and 'black' participants will be used. These terms could be viewed as controversial. These categories were not used as a means to label people according to a discredited system of classification, but to acknowledge differences that continue to exist as a consequence of South Africa's racist past. The terms will therefore be used descriptively and in the context as explained.

basis of gender (Berk, 1996). Since children in the current sample are between the age of 4 and 7, it is expected that most of the children will be in stage 3 of their gender identity development. The first goal of the present study was to investigate this issue. Why would it be important to investigate this? Before it could be examined how gender identification was related to other variables, it must be checked whether, in the current sample, there is a distribution across the stages comparable to the theory of Kohlberg.

Of course age is only a guideline and not the only factor that determines how far children are in their development of gender identification. Each child makes a unique progress, which is dependent on several factors. Major contemporary gender-development theories take an information-processing perspective on the acquisition of children's gender-roles. They agree on the assumption that early gender-role development relies on cognitive factors (e.g., Bem, 1981, 1984; Levy, 1988a; Martin & Halverson, 1981, 1987). The fact that cognitive factors (e.g., cognitive schemas) have a significant influence on the development of gender roles and identity seems very plausible, since a child must have a certain cognitive readiness to encode and classify information in order to understand what kind of appearance and behavior is typical for males and females (i.e., gender schematization; Carter & Levy, 1988; Carter, Levy, & Cappabianca, 1985; Levy, 1988a, 1988b). Although various researchers have demonstrated that gender constancy is related to a general level of cognitive development (e.g., Emmerich, Goldman, Kirsch, & Sharabany, 1977; Gouze & Nadelman, 1980; Huston, 1983; Kohlberg & Zigler, 1967; Leahy & Shirk, 1984; Marcus & Overton, 1978; Serbin & Sprafkin, 1986), it has never been investigated how intelligence (or intellectual maturity) relates to the development of gender identification. The second goal of the present study was to investigate this relation. It was assumed that children who show a more advanced cognitive development (i.e., have a higher intellectual maturity score) will be also further in their development of gender identification. The third goal of the present study was to investigate the relation between gender identification and age. We expected that children who are older will have a better developed gender identification. The Goodenough-Harris Drawing Test (Harris, 1963) will be used to measure this intellectual maturity.

#### *Gender definition*

Besides gender identification, as a fourth goal, the present study also investigated how *gender definition* is related to intellectual maturity. Gender definition refers to the features that, according to the child, distinguish men from women (e.g., women wear skirts, have long hair, etc.; men wear shorts, have spiky hair, etc.). To examine this, the child was asked 'how do you know'-questions. For example, after the question "Are you a boy or are you a girl?" to determine gender identity, children were asked "How do you know that you are

a boy/girl?”. Also after drawing a man or woman, children were asked “How do you know that this is a man/woman?” The expectation was that children who have a higher intellectual maturity score also display a better gender definition.

The fifth goal of the present study was to investigate the relation between gender definition and age. We expected that children who were older, would have a better gender definition.

#### *Intellectual maturity and the Goodenough-Harris Drawing Test*

Goodenough (1926) was the first person who proved that drawings could be used to determine the level of cognitive development (Figure 1). She designed the nonverbal Draw-a-Man test, in which children have to draw a person with pencil and paper. The amount of detail in the drawing determines the child’s level of conceptual thinking. Harris (1963) revised the Draw-a-Men test and developed the Goodenough-Harris Drawing Test. He extended it to 73 items and added a drawing of a Woman and the Self. The drawings of a Man and Woman are used to determine the child’s level of intellectual maturity. Scores on both drawings are highly correlated. The median of four studies between Man/Woman scale correlations was .75 (Abell, Wood, & Liebman, 2001). In order to compare the results of the present study to previous research, in this study the correlation between the Man and Woman drawings has also been calculated. We expected this correlation to be near the value of .75. Harris added the Drawing of the Self to assess self-concept and personality. He also developed a separate norm for boys and girls, because girls performed consistently better than boys on the drawings. This result turned out to be even stronger on the drawings of a woman. Regarding the Woman Drawings, three studies compared the raw scores of boys and girls. It was found that between age 4 to 17, all comparisons gave a superior score for girls (Abell et al., 2001). The sixth goal of the present study was to examine whether girls in the current sample also perform better on the Goodenough-Harris Drawing Test as compared to boys.

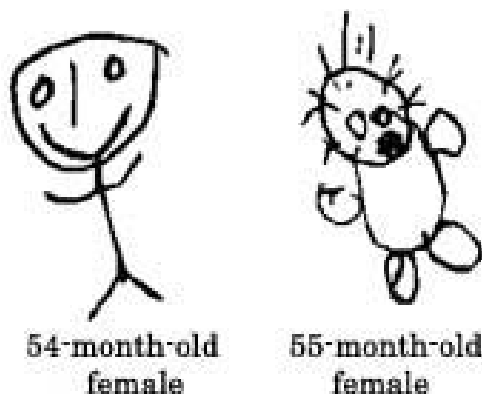


Figure 1: The progress of drawings of preschoolers follows a pattern. At the age of three or four, most of the children are able to draw lines that represent boundaries of objects (Cole & Cole, 1993). Regarding to drawing a person, children are able to draw a so-called tadpole figure, which is a circle that represents the head and two lines underneath that represent the legs. As fine motor skills develop, at the ages of four and five years children are able to make recognizable drawings of people (Craig, 1989).

There are several reasons to use the Goodenough-Harris Drawing Test to measure intellectual maturity. First, both gross and fine motor development increases considerably during early school-age. This development expresses itself in a child's preference for activities like drawing, cutting and pasting (Loxton, 2004). Researchers can benefit from this improvement and use drawings to test children. Second, drawings are a non-threatening and child-friendly method to test children (Martalas, 1999; Loxton, 2004). It is an informal method, which makes it easier for children to communicate about serious topics. For example, Burgess and Hartman (1993) used drawings to enable children to talk about frightening events. Preschoolers just don't mind to draw for a test, since they make drawings almost everyday, especially of themselves. Third, Goodenough (1926) herself proved that children's drawing performance is independent of art training and academic or artistic abilities, and that it is an universal method. In contrast to average intelligence tests, the Goodenough-Harris Drawing Test can be used in every culture without any adaptations. Fourth, performance on the test correlates well with other accepted intelligence tests, so the drawing test is an efficient replacement for complex and time-consuming intelligent tests. Abell et al. (2001) have found a significant correlation between the drawing test performance and the Wechsler Intelligence Scale for Children-III ( $r = .54, p < .001$ ) and the Wechsler Intelligence Scale for Children Revised ( $r = .45, p < .001$ ). From these findings, it can be concluded that results on the drawing test are strongly related to performance on well-validated intelligence tests. Finally, it turned out that the Goodenough-Harris Drawing Test has good reliability (Harris, 1963). Disadvantages of the test are the low correlations with school grades and teacher ratings. An explanation for this low correlation could be the nonverbal nature of the test and the fact that schools put strong emphasis on verbal skills (Abell et al., 2001).

### *Gender Segregation*

There is consistent evidence showing that preschoolers prefer to play with same-sex peers above other-sex peers (e.g., Boyatzis, Mallis, & Leon, 1999; Fishbein & Imai, 1993; Hartup, 1983). What could be the reasons for this phenomenon? First, the different genders seem to have different ways of successful interaction patterns (Fagot & Hagan, 1985; Jacklin & Maccoby, 1978). Boys tend to rely on commands, threats and physical force to convince one another, while girls use politeness and persuasive arguments (Borja-Alvarez, Zarbatany, & Pepper, 1991; Leaper, 1991). Furthermore, Boyatzis, Mallis, and Leon (1999) showed that game type also plays a role in gender-based peer preference. That is, in more competitive and physical games boys prefer to play with boys instead of girls. This was not the case in non-competitive and non-physical games. Finally, teasing seems to be involved in the preference for same-sex playmates. Best (1983) and Schofield (1981) showed that when

children interact with other-sex playmates, they are afraid that their peers will think that they “love”, “like” or “going with” the other child.

Serbin, Tonick, and Sterngalnz (1977) proved that the process of gender segregation is so strong that it is resistant to adult intervention. Even behavior-modification programs to promote cross-sex playing by means of a rewarding system, only have short-term effects, and these effects will quickly fade away once the rewarding stops. But when is gender segregation the strongest? First, it appears that gender segregation is stronger in situations that are not structured by adults (Luria & Herzog, 1985; Thorne, 1986). Furthermore, the preference for same-sex playmates seems to become stronger as children become older. Maccoby and Jacklin (1987) showed that when children are at the age of 4.5 they are three times more likely to play with same-sex peers than with other-sex peers. When children were at the age of 6.5 this ratio had become 11:1. In other words, from early until late preschool gender segregation had become clearly stronger. This development continues till middle childhood. Finally, gender segregation is more present when children are surrounded by children of their own age (Hartup, 1983; Lockhead & Klein, 1985; Maccoby & Jacklin, 1987). As a seventh goal, the present study examined whether children have a preference for interaction with children of their own sex, by means of investigating whether they tend to form friendships with peers of the same gender.

#### *Race and Socio-Economic Status*

From previous research it can be concluded that race and socio-economic status (SES) have an impact on Goodenough-Harris Drawing Test performance, with SES having the most influence (Scott, 1981). In South Africa we find clear-cut cultural differences. The children who participated in this study came from different cultural groups (black, colored, Asian, and white), with varying socio-economic status (SES: low, low/medium, medium/high, and high). An eighth goal of the present study was to investigate whether there are cultural and socio-economic differences with regard to gender identification. The influence of these variables on gender identification and gender definition was also studied.

#### *Overview of research questions*

To summarize, various aspects of gender-role development were tested in this research. The research questions were as follows: (1) Are children in this population in the appropriate gender development stage as proposed by Kohlberg (i.e., gender constancy)? (2) Do South African preschool children who are in stage 3 of gender identification have a higher intellectual maturity score as compared to children who have not yet reached this stage? (3) Are South African preschool children who are in stage 3 of gender identification



older as compared to children who have not yet reached this stage? (4) Is there a positive relation between the development of gender definition and children's intellectual maturity score? (5) Is there a positive relation between the development of gender definition and age? (6) Do children in this population prefer to play with peers of the same gender? (7) What is the relation between gender and the raw scores on the Man and Woman drawings? That is, do girls outperform boys? and (8) What are the effects of race and SES on gender identification, intellectual maturity and gender definition?

## Method

### *Participants*

Participants in this study were South African children ( $N = 70$ ; 30 boys, 40 girls) between 4 and 8 years of age ( $M = 5.7$  years,  $SD = 0.86$ ). All children attended a preschool in Stellenbosch. The preschool was multicultural, so children came from various racial groups: 14.3% was black, 70.0% was colored, 12.9% was white, and 2.9% was Asian. There was also a lot of variation in socio-economic status among the children: 8.6% came from a low SES background, 17.1% from a low/medium, 8.6% from a medium/high, and 65.7% from a high SES background.

### *The preschool in Stellenbosch*

The children in the current sample all attended an educational preschool in Stellenbosch (South Africa) with an holistic approach. The two most distinct features of this school were (1) a free-play climate, and (2) the diversities of cultures. Another important feature was (3) the non-sexist approach of the school.

First, a free-play climate means that children are given the opportunity to freely choose their activities throughout the day, i.e., they were allowed to do whatever they want to do: creative activities, build puzzles, do concept games, read books, engage in fantasy or construction play. Children were also free to play with who they want, since there were no preformed groups. Every activity was guided by a teacher. Why is this free system so important for these South African children? Most of these children came from poor and big families, in which they didn't have a voice or could not be an individual. This free educational system will give children better opportunities to attain independence, to take own initiative and responsibility.

Second, this school had a multicultural approach, and accepted children from various races and socio-economic backgrounds. Because the two main languages in South Africa are Afrikaans and English, the teachers in this school used both languages as a medium of communication and instruction.

Third, in the non-sexist approach children were not forced into perceived stereotyped roles. In other words, girls would not be forced to play with girls toys (e.g., dolls) and they were neither discouraged to play with boys toys (e.g., cars). The same thing can be said about boys. Furthermore, children are free to play with same-sex or other-sex peers.

### *Measures*

#### *Kohlberg's stages of gender identification*

To test in which developmental stage of Kohlberg each child was, we asked them the following questions: (1) Are you a boy or are you a girl? (refers to stage 1: gender identity) (2) Do you think you can be a mommy/daddy when you are older? (refers to stage 2: gender stability) and (3) If you play with dolls/cars would you still be a boy/girl? (refers to stage 3: gender constancy). Children are in stage 3 when they answer all questions right, so not just the last question.

#### *Defining Gender*

To examine how the preschool children defined gender, 'how do you know'-questions were asked. In the first place, this was done by means of the drawings in the Goodenough-Harris Drawing Test. After each drawing, children were asked: Is the person in your drawing a man or a woman? How do you know? Second, after the question "Are you a boy or are you a girl?", we also asked the children the 'how do you know'-question. Third, we showed the children a picture of Dominic, a drawing of a child who has no clear gender. Children were asked "Is this a boy or a girl" and afterwards the 'how do you know'-question.

To determine the gender definition score we had to compute a numeric score first, because the raw scores were ordinal. After the data collection five answer categories emerged: (1) physical features (e.g., "because girls wear a skirt"), (2) information (e.g., "mommy told me"), (3) "just because", (4) "I don't know", (5) invalid reason, and (6) other valid reason (e.g., "because boys play with cars, because she has a girls name"). Different points were assigned to the different categories. For categories 1 and 6, three points were assigned, for category 2 two points and for categories 3, 4 and 5 one point. Because 'how do you know'-questions were asked five times, points were summed to yield a total score for each child.

#### *Intellectual maturity*

In this study, the Goodenough-Harris Drawing Test was used to estimate children's level of intellectual maturity. The completion of this test was no longer than 10 minutes. During this test children had to make three drawings: one of a boy, one of a girl, and one of themselves.

To determine the intellectual maturity score, both man and woman drawings were evaluated separately on details of the drawing. For each relevant component in a drawing (e.g., a nose, ears, hair, fingers, skirt/short) one point was assigned. For each drawing all these points were added up, so there was a different total score for the man and woman drawings. To compute a total intellectual maturity score the scores on the man and woman drawings were added.

The Goodenough-Harris Drawing Test was used for two purposes. In the first place, it provided an estimation of intelligence. Second, the Goodenough-Harris Drawing Test was used to see how children define gender (see previous paragraph).

#### *Gender Segregation*

To test whether the preschool children preferred to have a best friend of their own sex, they were asked the following question: (1) Who is your best friend? (2) Is that a boy or a girl?

#### *Procedure*

The interview to test gender identification and the Goodenough-Harris Drawing Test was conducted by four trained research-assistants. All the children were tested individually at a separate place in the school to ensure that they would not be influenced by peers while being tested. The testing procedure started with a little informal conversation about a random topic, to make the child feel comfortable. Then, the research-assistant asked the first questions of the interview (see Appendix A). After these questions, the child completed the Goodenough-Harris Drawing Test under the supervision of the research-assistant. After completion of the drawings the supervisor asked the final questions of the interview. The researcher made as few suggestions and comments as possible.

#### *Statistical Analysis*

To test whether South African preschool children who are in stage 3 of gender identification have a higher intellectual maturity score and are older as compared to children who have not yet reached this stage, an independent *t*-test was conducted. The *t*-test has been tested one-tailed, since there was a clear expectation that children who were in stage 3 indeed would be more intellectually mature and would be older as compared to children who have not yet reached this stage. All the other analyses in the present study have been tested two-tailed.

To examine whether children in this population prefer to play with peers of the same gender, a chi square analysis was conducted. This analysis investigated whether or not there

was a significant difference between the amount of children who had a same-sex best friend as compared to children who have a opposite best friend.

To determine the relation between gender definition and intellectual maturity and age a correlational analysis was performed. Correlational analyses were also performed to investigate the relation between gender and the raw scores on the Man and Woman drawings, and the relation between the scores on the Man and Woman drawings. A frequency analysis was performed to determine whether the children were in the gender development stage as proposed by Kohlberg. An independent *t*-test was conducted to investigate whether girls outperformed boys on the Goodenough-Harris Drawing Test.

Finally, to investigate whether there were significant differences between children with different racial and socioeconomic backgrounds with regard to both intellectual maturity and gender definition an ANOVA was performed. The influence of race and SES on gender identification was evaluated with a chi square analysis.

## Results

### *Gender identity stage, intellectual maturity and age*

Table 1 displays the results of the independent *t*-test to compare children who are in stage 3 and children who have not yet reached this stage on both intellectual maturity and age. From this analysis it can be concluded that children who are in stage 3 scored higher on intellectual maturity [ $t(60) = 1.90, p < .05$ ] and were older [ $t(63) = 1.85, p < .05$ ] than children who have not yet reached this stage.

Table 1  
Means (standard deviations) of intellectual maturity scores and age of children who are in stage 3 and children who have not yet reached this stage

Groups	Intellectual Maturity	Age in months
Children in stage 3 <sup>a</sup>	15.61 (7.44) <sub>a</sub>	59.80 (7.99) <sub>c</sub>
Children in stage 1 or 2 <sup>b</sup>	19.75 (9.20) <sub>b</sub>	64.37 (10.86) <sub>d</sub>
<i>t</i> (60 / 63)	1.90*	1.85*

\*  $p < .05$  (1-tailed)

<sup>a</sup>  $N = 44$ , <sup>b</sup>  $N = 18$ , <sup>c</sup>  $N = 45$ , <sup>d</sup>  $N = 20$

### *Gender definition, intellectual maturity and age*

Table 2 presents the results of the correlational analysis examining the relations between gender definition, intellectual maturity and age. As can be seen in, there were significant relations among the three variables. In other words, children with a better developed gender definition, on average, had a higher intellectual maturity score and were older.

Table 2  
Correlations between age, intellectual maturity and gender definition score

	Age in months	Intellectual maturity	Gender definition score
Age in months	1		
Intellectual maturity	.31*	1	
Gender definition score	.29*	.32*	1

\*  $p < .05$

#### *Kohlberg's stages of gender identity development*

From a frequency analysis the following distribution of children across the stages of Kohlberg were found: 3 (4.6%) children were in the first stage of gender identity, 17 (26.2%) were in second stage of gender stability, whereas 46 (69.2%) were in the last stage of gender constancy. In other words, as expected, the majority of the children was in stage 3.

#### *Intellectual maturity and the Goodenough-Harris Drawing Test*

A correlational analysis revealed a correlation of .87 ( $p < .001$ ) between the Man and Woman drawings. This was even higher than in previous research, which have found a median value of .75.

An independent  $t$ -test demonstrated that girls outperformed boys on the drawing of women [ $t(63) = 2.95, p < .005$ ]. This finding was consistent with previous research. However, in the present study there was no difference between boys and girls on the drawings of men [ $t(63) = 1.17, p = .25$ ]. Meanwhile, previous research have also shown that gender differences were generally larger for drawings of women than for drawings of men (Harris, 1963).

#### *Gender segregation*

Of the 70 children who were tested, 65 children (27 boys, 38 girls) gave a valid answer to the question what the gender of their best friend was. Of the boys, 22 (81.5%) had a boy as their best friend and of the girls, 32 (84.2%) had a same-sex preference for their best friend [ $\chi^2(1) = 27.78, p < .001$ ]. So in total, 54 children (83.1%) preferred a same-sex child as their best friend. This finding is consistent with previous research on gender segregation.

#### *Race and SES*

Table 3 presents the results on the link between race and SES, on one hand, and intellectual maturity and gender definition, on the other hand. Contrary to the expectations

there were neither significant differences between the different races on both intellectual maturity [ $F(3,61) = .54, p = .66$ ] and gender definition ( $F(3,57) = 2.57, p = .06$ ), nor were there significant differences between the different SES groups with respect to intellectual maturity ( $F(3,61) = 2.39, p = .08$ ) and gender definition ( $F(3,57) = 1.08, p = .37$ ). The chi square analysis on gender identification also revealed no significant differences for either race ( $p = .06$ ) or SES ( $p = .16$ ).

Table 3  
Results of the ANOVA investigating the influence of race and SES on Intellectual Maturity and Gender Definition

Groups	<i>M (SD)</i>	
	Intellectual Maturity	Gender Definition
Race		
White	15,75 (6,04)	10,50 (4,37)
Asian	19,00 (.00)	7,00 (.00)
Colored	18,83 (8,76)	11,73 (3,24)
Black	15,90 (8,91)	13,33 (1,66)
SES		
Low	20,83 (8,31)	11,33 (4,46)
Low/medium	14,64 (10,27)	9,88 (1,55)
Medium/high	11,83 (5,49)	12,60 (3,05)
High	19,36 (7,83)	11,97 (3,34)

### Discussion

The most important findings of this study were: (1) South African preschool children who are in stage 3 of gender identification had a higher intellectual maturity score and were older as compared to children who had not yet reached this stage. (2) South African preschool children who have a better developed gender definition displayed higher levels of intellectual maturity and were older as compared to children with a less developed gender definition. (3) The majority of the children in this sample were in the appropriate gender development stage (i.e., Kohlberg's stage of gender constancy). (4) Children in this sample preferred to form same-sex friendships instead of other-sex friendships (i.e., gender segregation).

The first finding confirmed our hypotheses that children in the stage of gender constancy (stage 3) would have a higher intellectual maturity score and would be older as compared to children who have not yet reached this stage. This finding supports the theory

of many researchers that children must have a certain cognitive readiness to understand that sex is an irreversible characteristic of humans and that it is related to bodily features that will be constant throughout life. The present study replicates the finding that children develop this cognitive readiness as they get older. Previous research has already proved that gender constancy is related to a general level of cognitive development, but the present study is the first to prove that intellectual maturity (which is closely related to intelligence) is a determining factor in how well children can determine the stability of gender.

The second finding, that children with a better developed gender definition have a higher intellectual maturity and are older, is related to the first finding. Both findings show that when children are more intellectually mature and older, they will have a better understanding of gender. The second finding proves that children with a higher intellectual maturity and a higher age are better in coming up with valid features that distinguish men from women. For example, they are better in clarifying that a woman is a woman, because she has long hair and wears a skirt, and that a man is a man because he has short spiky hair and wears pants.

The third finding is consistent with the theory of Kohlberg (1966). Kohlberg predicts that children between the age of 4 and 7 will be in the last stage of gender identification. From the results it can be concluded that the majority of the children (i.e., 69.2%) was in this last stage. It also means that 30.8% had not yet reached this stage, although they should have. The most plausible reason for this is the lower intellectual maturity score of this group. As mentioned before, children who were not in stage 3 (30.8%) had lower levels of intellectual maturity than children who had reached this stage. Furthermore, the progression of Kohlberg's stages should be seen as a dynamic process (Condry, 1984), and so it is possible that this 30.8% were at least partially in the last stage. Perhaps the use of a questionnaire with more than just one item per stage would be preferable to measure more subtle variations of Kohlberg's stages.

The fourth finding that South African preschool children preferred to form same-sex friendships instead of other-sex friendships, is very consistent with previous research. In the current population on average 83.1% had a preference to have a best friend of the same gender. In other words, there was strong evidence for gender segregation. This is not very surprising: since the preschool in Stellenbosch was very unstructured, children could choose their own play activities and playmates, and as it is mentioned in the introduction, gender segregation is strongest in unstructured situations. A drawback of this finding is that we can't relate our findings to previous research, as we didn't really investigate a preference to play with either a boy or a girl. Children were just asked for the gender of their best friend, assuming that this would be their favorite playmate. Other methods could have yielded more precise information on the gender segregation of the children: for example we could have

asked for gender of the children they played with most or rely on observation of actual behavior to determine how often they played with children of both genders.

Another finding of the present study was that girls outperformed boys on drawings of a woman, but not on drawings of a man. A possible explanation for this could be that girls have a greater tendency to pay attention to drawings of their own gender than boys do. Previous research (Luquet, 1923; Machover, 1949) has proved that when children make a drawing of a person of their own gender, most of the time they make a drawing of themselves. Girls seem to have a greater tendency than boys to make themselves look pretty, e.g., by means of a nice dress, shoes, a crown, etc. Because girls don't identify themselves with a man, they don't show this tendency on drawings of a man. This would explain why they don't outperform the boys when drawing a man. Other factors that may also play a part are: girls have a accelerated general development compared to boys, pay more attention to detail, have greater social interest and skills, have a greater tendency to compliance and studiousness (Kagitçibasi, 1979).

Furthermore, we proved that there was a high correlation between the raw scores on the Man and Woman drawings, which is also consistent with previous research. We found a correlation of .87 ( $p < .001$ ) as compared to .75 from previous research and .77 from Harris' (1963) research. From these findings we can conclude that the tasks of drawing a Man and a Woman are measuring similar abilities.

Finally, the present study didn't find any evidence for influences of race and SES. A reason for this could be the small sample sizes of some racial and socioeconomic groups. Another possibility is that the children from this sample all joined the same class and therefore the effects of race and SES were reduced. Furthermore, the teachers of the school themselves had to divide the class in low, medium and high SES, and it would have been better if we had employed a standardized and perhaps more valid index of SES.

There are a number of limitations in this study. First, we used a very small sample within a very small age range. The drawback of this, is that is it hard to make generalizations to the whole population of South African preschool children. Second, it should be noticed that the choice of variables in this study was not very logical from a theoretical point of view. Why would one study gender constancy and gender segregation within in one study? The reason for this was our limited period of time in South Africa, which has made us to test as much aspects of gender as possible to see whether we could find any significant effects. For future research it may be better to prepare the research better and to choose variables that have a more clear-cut empirical relation to each other. Finally, this study only used the children themselves as a source of information, in only one setting (i.e., school). According to the multimethod approach it's always better to obtain information from different informants, in a



variety of settings, using a variety of procedures that include interviews, observations, questionnaires and tests (Mash & Wolfe, 2002).

Despite these shortcomings, the present study supports the already existing theories about gender segregation and proves that intelligence plays an important role in the development of a child's concept of gender (i.e., gender identification and gender definition). Clearly, more research is needed to further investigate the relation between intelligence and the concept of gender, for example by means of a real intelligence measurement (e.g., WISC) and by examining other gender concepts.

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	e. other: .....
(6) Who is your best friend? Is that a boy or a girl?	BOY / GIRL
>> For the boys: (7) When you become older, do you think you can be a mommy?	YES / NO
>> For the girls: (8) When you become older, do you think you can be a daddy?	
>> For the boys: (8) If you would play with dolls, would you still be a boy, or would you be a girl?	BOY / GIRL
>> For the girls: (8) If you play with cars, would you still be a girl, or would you be a boy?	