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GENDER-STEREOTYPED ATTITUDES IN KINDERGARTEN STUDENTS: A MULTICAUSAL ANALYSIS

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Abstract

Even though gender-stereotypy has become a major field of scientific interest, most studies concentrated on gender-differences or -preferences without taking into consideration developmental issues. Based on the findings on gender- stereotyped attitudes at preschool-age of Kanka, Wagner, Schober and Spiel (2011), the present study analyzed the determining influences of cognitive development, children's age, and parents' gender-stereotyped attitudes on kindergarten students' implicit theories. Data was collected from both kindergarten students and their parents. While parents filled out a questionnaire, children were tested by a standardized instrument which they should experience as a fun game. The final sample included 266 children (144 girls and 122 boys aged 3;12-7;00 years) along with 148 parents' questionnaires. To meet the needs of the present study, a multiclausal model was used. Corresponding to former studies, results showed more stereotyped attitudes in girls than boys. Results also revealed that implicit theories of gender-stereotypy in boys and girls are based on significant influences of the child's own sex as well as cognitive development whereby crystallized intelligence seems to have the highest impact. As crystallized intelligence is based on cultural norms, it is highly related to age (significant effect) and hence modifiable.

Keywords: Sex roles; gender-stereotypy, preschool-age; gender differences

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1. Introduction

Children develop implicit theories of gender schemata at an early age. Soon after the age of two, they identify themselves as a member of one sex (Kohlberg, 1966; Sandnabba & Ahlberg, 1999) which they soon connect with a preference of specific behavior being 'appropriate' for either girls or boys (Martin & Ruble, 2004). Starting with kindergarten-age, children give gender-stereotyped answers when asked about objects their guardians would want them to play with (Raag & Rackliff, 1998) as parents are known to criticize them for engaging in behavior which they consider to be 'appropriate' for the opposite sex (Cahill & Adams, 1997; Martin, 1995). By the age of five, children already seem to have a firm understanding of how to behave 'properly' as a boy or a girl (Martin & Ruble, 2004). This knowledge is soon to be considered as 'correct' behavior and also expected from others. By the age of five, gender-stereotyped attitudes start to arise and expand with increasing age while rigidity seems to decrease (Huston, 1983; Ruble & Martin, 1998). At preschool age, children's play is dominated of same -sex interaction (Maccoby, 1998) as playing with peers of the opposite sex may result in a decrease of popularity (Ladd, 1983; Martin, 1994). The gender-segregated play-behavior of preschoolers results from a different education and treatment of sons and daughters by guardians, specifically parents (Lindsey & Mize, 2001). Empirical evidence could, for example, be found for toy-preferences (Leaper & Gleason, 1996; Freeman, 2007), language-use (Leaper, Anderson, & Sanders, 1998) or gender-stereotyped play activities (Lytton & Romney, 1991) that parents engage their children in. These parental concepts of gender-stereotyped socialization seem to be also crucial for the subsequent self-socialization of the child (Maccoby & Jacklin, 1974). Kanka, Wagner, Schober, and Spiel (2011) revealed the strong connection between gender-stereotyped behavior and corresponding attitudes in kindergarten students: the higher these attitudes, the higher the related gender-stereotyped behavior. During kindergarten-age, gender-stereotyped attitudes significantly start to rise and so does gender-stereotyped behavior (Campbell, Shirley, & Candy, 2004). It was already more than 30 years ago, when Bem (1981) stated in her Gender Schema Theory that gender-stereotyped attitudes corresponding to gender-stereotyped behaviour in kindergarten students are internalized by a combination of cognitive development and social learning.

2. Problem Statement

For the last 40 years, the research of gender-stereotyped attitudes and behavior has been of major scientific interest (Helwig, 1998). Even though cognitive development has been shown to affect gender -stereotyped attitudes in children, no study could be found that

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aimed to investigate the relationship between intelligence and gender - stereotypy in kindergarten students. In specific, it was the crystallized intelligence which was of interest as this is the part of intelligence known as being determined by social influences and hence modifiable (whereas the fluid intelligence is determined by genetic endowments; Cattell, 1963). Hence, the present study aimed to investigate this specific influence of cognitive development on gender-stereotyped attitudes at kindergarten-age whereby the other known predetermining factors, parental education and the child's own sex, should be regarded in data analysis as well.

3. Research Questions

As this study aimed to investigate various influences on kindergarten students' gen der-stereotyped attitudes, the following research questions were examined:

1) Do boys and girls show different gender-stereotyped attitudes according to cognitive development and their parental influence in socialization?
2) Is there a verifiable age effect? Does increasing age make a difference to children's gender-stereotyped attitudes?

4. Purpose of the Study

Even though parental and other social influences have been proven to be crucial for gender development in kindergarten students (e.g., Freeman, 2007; Leaper & Gleason, 1996), a potential intellectual predetermination could not been revealed yet. In addition, former studies only considered one dominant factor but neglected to include all potential influences in their analyses. Accordingly, a multicausal analysis was made in order to not only consider but also evaluate selected influencing variables determining gender-stereotypy in kindergarten students.

5. Research Methods

To evaluate gender-stereotyped attitudes in kindergarten students, a short test was designed which the children should experience as an exciting game. The test included the SexRole Learning Index (SERLI; Edelbrock & Sugawara, 1978) as well as the Model of Gender-Stereotyping (Trautner et al., 1988), both adapted according to the findings of the study done by Kanka et al. (2011). The SERLI-items covered gender-stereotyped objects whereas the items of Trautner et al. (1988) were related to gender-stereotyped behavior patterns (overall 26 items, 13 female and 13 male items). For this part, three boxes were placed in front of the tested child who was asked whether a p resented item (object or

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behavior pattern which was printed on a card) was for boys, girls or both, boys and girls. The child should then put the card, according to his/her answer, in the most 'appropriate' box (the first box was 'for girls', the second one 'for boys' and the third one 'for both'; a corresponding picture was attached to each of these boxes).

Cognitive Development was measured by the Colored Progressive Matrices (Raven, Raven, & Court, 2003, German Adaption by Bulheller & Haecker, 2002) for culture-free and hence fluid intelligence as well as the German version of the Wechsler Preschool and Primary Scale of Intelligence in its third edition (WPPSI-III; Petermann & Lipsius, 2009) to analyze the crystallized intelligence (information, word reasoning and vocabulary). To evaluate parents' gender-stereotyped attitudes (and hence social influence on their children), they were asked to fill out a questionnaire which was passed out by their child's kindergarten teacher. Parent's questionnaire included the

German version of the Bem Sex Role Inventory (BSRI; Bem, 1974; German Version by Schneider-Düker, 1978). The BSRI includes several personality traits whereupon parents should rate themselves (self-assessment).

A stratified random sample that may be regarded as representative for Austrian kindergarten students was designed. An equal number of boys and girls (as well as their parents) of various age-groups were invited to participate in the study. Data could be collected from 266 kindergarten students (144 girls and 122 boys) between 3;12 and 7;00 years of age, 148 parents returned the parents' questionnaire (127 mothers and 21 fathers).

6. Findings

Results showed high scores in gender-stereotyped attitudes of participating kindergarten students in general (M = 8 for female items and M = 10 for male items, out of 13 items each). For boys, the gender-stereotyped rating showed a bigger difference between female (M = 7) and male items (M = 10) compared to girls' responses (M = 8 for female and M = 9 for male items). To answer the research questions, two different multi-regression models were generated: one for female gender-stereotyped items and one for male gender-stereotyped items. Concretely, the following predictors were analyzed: age of child, child's sex, fluid intelligence, crystallized intelligence and parents' gender- stereotyped attitudes. As the attitudes of parents had no significant influence on their children's gender-stereotyped responses (model not significant), this variable was excluded. The regression-analyses showed a significant influence of age: the older the children were, the higher their gender-stereotypy had been developed. For female items, the child's own sex had a significant influence on gender-stereotyped responses of children, for girls to a higher extent. Regarding

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the effect of intelligence on the development of gender -stereotypy in kindergarten students, a significant influence could be revealed for the part of crystallized intelligence.

In specific, a positive relation between 'information' and gender-stereotyped responses to male items could be proven. This means that the more knowledge children (both, boys and girls) had acquired, the higher their gender - stereotyped attitudes were (see table 1).

Table 1. Results of the regression analysis (multicausal model with standardized Beta -scores)

	Female Gender-stereotyped Items	Male Gender-stereotyped Items
Multiple Correlation	.28***	.33***
R2	.08	.11
Child's sex	-.12**	.05
Age of child	.22***	.28***
Fluid intelligence	.02	.05
Crystallized intelligence Information	.15*	.21***
Word Reasoning	-.08	-.10
Vocabulary	-.07	-.03

Note: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.20$

7. Conclusions

The present study aimed to analyze all potential influencing factors of children's development of gender-stereotypy. To meet those needs, two multiple regression -analyses were made which revealed a main influence on crystallized intelligence on the development of children's gender-stereotyped attitudes. According to Cattell (1943), "crystallized ability consists of discriminatory habits long established in a particular field." (p. 178). It is hence related to social learning and the influence of the social environment a child is exposed to. Depending on cultural norms, it is modifiable. Knowledge about social norms usually grows with age: older children hence had acquired stronger gender-stereotyped attitudes and beliefs. Even though traditional (gender-stereotyped) male roles are more rigidly defined in our society (Burge, 1981; Fagot & Littman, 1975; Freeman, 2007), girls are known to take over traditional female roles more frequently than boys do with traditional male roles (see Cramer & Skidd, 1992; Kasten 1986). Therefore, taking over traditional gender-roles (showing gender-stereotyped behavior) seems to be highly related to gender-stereotyped attitudes as Kanka et al. (2011) could show in an earlier study.

Consequently, it should be guardians as well as the social environment that should critically reflect traditional male and female roles demonstrated in public. Especially television programs which are commonly watched by kindergarten students might have a major impact on forming their implicit theories underlying gender-stereotyped behavior. It is hence the display of main cultural opinion makers (such as TV) that already seems to influence children's gender-stereotyped attitudes to a high level, rather than the direct 'guidance' (education) of parents which might, on the other hand, alter these beliefs as crystallized intelligence is known to be modifiable.

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