

Better Sexual Education Design for Children: Based on the Characteristics of Children's Sexual Psychological Development

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Abstract: To make children enter puberty with a healthy sexual mentality, it is very important to carry out pre-adolescent sex education that is corresponding to the characteristics of psychological development stages of children. However, there are no studies that specifically address the characteristics of children's psychosexual development, and few studies that explore how sex education can be targeted at each stage of a child's development. This paper intends to examine the traits of children's psychosexual development across various stages, utilizing Piaget's and Erikson's developmental theories, summarize the findings, and explore how sex education resources should align with the developmental characteristics of children at different ages to enhance contemporary childhood sexuality education. This study conducts an unbiased and methodical analysis of the global literature from 1970–2024. The gaps and comprehensiveness of earlier studies are also assessed, and possible strategies for further strengthening child sex education are proposed based on the theories and techniques they provide. The research shows that Piaget's theory has a profound significance for studying the characteristics of sexual psychological development of preoperational children, and can be used as a reference for the design of gender identity curriculum. Erikson's theory is expected to be applied to the study of the psychological characteristics of social sexual interaction and the teaching design of children from 6 years old to pre-adolescence.

Keywords: Sex Education, Children Development, Piaget, Erikson.

1. Introduction

From the perspective of human development, the golden period of physical, social, cognitive, and emotional development throughout human life is adolescence [1]. Between the ages of 10 and 19, individuals undergo significant physical, psychological, and sexual maturation, resulting in heightened curiosity regarding sex and relationships; therefore, effective sex education during this period can influence sexual and reproductive health as well as overall well-being both during and beyond this developmental stage. In AJ's study, he noted that most young people have their first sexual intercourse during adolescence, especially in high-income countries [2]. However, the high-speed transmission of sexually transmitted diseases among the youth is worth noting. Referring to the U.S. as an example, according to the updated data reported by the CDC (U.S. Centers for Disease

Control and Prevention), the data in 2023 is almost the same as in previous years, showing that adolescents and young adults aged 15-24 account for nearly 50% of all types of STIs cases [3]. It is the lack of sexual health awareness that causes a rise in the spreading of STIs. People who are particularly vulnerable to STIs include adolescents who have multiple or simultaneous sex, as well as adolescents who do not adhere to condoms or use them incorrectly.

What is more noteworthy is that the time of human sexual enlightenment is still appearing earlier with the development of modern life, which means that sexual enlightenment has begun to appear in most people's childhood [4]. Therefore, sex education in the childhood stage is increasingly becoming a topic of concern in the education sector. Because educators' expectation is that people must learn how to face and deal with the consequences of unhealthy sexual behavior by their adolescence [5]. Nonetheless, the overwhelming majority of children and adolescents lack access to this information from their parents or other official sources, significantly impeding their capacity to cultivate pleasant sexual experiences [6]. This study will explore the developmental characteristics of the sexual psychology of pre-adolescent children from the perspective of human development, especially child development theories, and discuss the possibility of better ways of sex education. This paper specifically evaluates the existing modern child sex education system from the perspective of self-gender identity and social sexual interaction, according to Piaget's theory and Erikson's theory in development psychology, and further discusses how educators can design child sex education curricula and improve the modern child sex education system to target these three aspects. This study aims to analyze the components of conventional sex education methods that are incompatible with or inadequate for children's developmental stages and provide suitable recommendations for enhancement, particularly with self-gender identification and social sexual interaction.

2. Literature Review

Mainly based on Piaget's theory and Erikson's theory, this paper evaluates and extends the discussion of the existing child sex education system. Additionally, the paper is divided into two major parts according to two vital aspects in human sexuality, which are self-gender identity and social sexual interaction. During the research process, the main search keywords are "gender," "sex education," "child development," "Piaget," "Erikson" and so on. No less than 60 literatures were searched and browsed, and the main sources of the literature were international journals. After exclusion and sorting based on the object of the study, namely pre-adolescent children, and the purpose of the study, namely psychological developmental characteristics, 22 literatures were finally included in the reference.

Very few studies on sex education have been published in recent years, and much of the data and analysis remained in the 20th century. Even if there are, the published research also shows great topic limitations and research gaps. For example, most previous studies have only emphasized the critical importance of sex education for human development or generically talked out people's attitude towards child sex education, and very little research has explored or concluded how children's sex psychology develops before adolescence, how to properly educate children in different age groups about sex, or what educators should include in child sex education materials on the basis of what theories.

Regarding sex education for the group of young people, there are already a few studies in the world that have proven the effectiveness of comprehensive sex education (CSE) in improving general sexual health. Doctor Tabatabaie made a case for the necessity of sex education for children specifically in the context of Islam, a religion that treats sex and underage as completely contradictory topics. He argued that sex education plays a key role in the formation of sexual subjectivity, and comprehensive sex education involves human rights issues. All young people need to have equal opportunities to acquire this important life skill [7]. For example, Goldfarb and Lieberman investigated the efficiency

of CSE in American schools on young people's sexual health and sexual well-being, also focusing on the content of sex education curricula other than contraception and STD prevention. They point out that sex education does not influence young people's thinking in a single way [8].

Some studies have also mentioned social concerns about the content of young people's sex education. For instance, Robinson et al. mentioned that most parents in Australia are positive about the cooperation between schools and families to carry out sex education for children, but many parents still worry about whether the teaching content is suitable for children's age and their psychological development stage [9]. Among the 60 studies of children sex education published over a 14-year period between 2005 and 2019, only one in six studies included specific teaching content and implementation methods. To make matters worse, only one study has looked at a population of entirely pre-adolescent children [10].

Consequently, the investigation of child sex education throughout the pre-adolescent phase is inadequate, and the data is significantly deficient. Furthermore, it is anticipated to examine the particular content of the child sex education curriculum in accordance with the developmental characteristics of the kid's stage.

3. Children's Gender Identity Psychology and Teaching: According to Piaget's Theory

Piaget's theory is widely used and explained in children's sex education on the subject of self-gender identity. According to Piaget's theory, child development can be divided into four stages, which are the sensorimotor stage from 0 to 2 years old, the preoperative stage from 2 to 7 years old, the concrete operational stage from 7 to 11 years old, and the formal operational stage beyond 12 years old. Piaget's theory emphasizes that children at different stages of development have unique cognitive abilities, ways of thinking, and learning needs and that their cognitive development is a gradual and active process [11].

Children's gender cognition, encompassing the comprehension of gender distinctions and self-gender roles, predominantly manifests during Piaget's pre-operational stage (ages 2-7), the second phase of cognitive development. At this stage, toddlers start to comprehend the world through language and symbolic thought; nonetheless, their thinking remains concrete, intuitive, and egocentric. That means children begin to understand the labels "boy" and "girl" and are able to identify their own gender and that of others based on some specific human characteristics. Thompson and Bentler interpreted that, hair and clothing style became the most popular and common hint for children in this stage to judge people's gender [12].

In the field of the application of Piaget's theory to gender cognition, Breese's research in 1978 is strongly representative. Breese mentioned in his study that thinking about human sexual development should not only consider forces, drives, or needs in the Freudian sense, because it is more inclined to cognitive development in the Piaget sense. All behavior is learned, including sexual behavior. At this stage, children will face the problem of sexual egocentrism. Preoperational children have an extremely limited understanding of sex during the learning process because they are unable to clearly distinguish between sexual symbols and their referents or objects. This partly explains the emergence of fetishes. For example, preoperational children are unable to distinguish between the comfortable feeling of their toes being stroked and the toes themselves, so they are likely to develop a dependence on the toes. Boys cannot understand how girls urinate because they do not have penises. Breese did a literature review and analysis to examine how the development of human sexuality fits in with Piaget's cognitive development. He emphasized the main problems and causes of children's sexual cognitive development in the preoperational stage, but he did not give a reasonable solution [13].

Martin and Ruble also studied how children's gender perception is formed on the basis of Piaget's theory. They mentioned the role of gender schema in the preoperational stage. From a very young age, children gradually develop gender schemas by observing and experiencing social expectations

of gender. These schemas help them categorize people as male and female. When children are exposed to gender-related information, they are more likely to remember and accept the content that fits their gender schema and ignore the content that does not. This selective attention leads to the constant reinforcement of gender schema. Gender identity therefore develops when children realize they belong to a gender group. Martin and Ruble also conducted a qualitative study on whether young children develop preferences for same-sex playmates. When children have a gender identity, they increase their motivation to interact with other similar members of their group, show a preference for same-sex members, and increase their interest in activities related to their own gender. Boys may be directed into playing with vehicles and sports, while girls are prompted to engage with dolls [14].

At the late preoperational stage and very early concrete operational stage (around 5 to 7 years old), based on Piaget's object permanence theory, a significant feature of children's gender identity thinking is gender constancy. This means that they realize that their gender is stable and will not change due to some external factors or environment. On the basis of identifying gender with symbols in the preoperational stage, children further think logically and begin to understand that gender is based on internal biological characteristics, rather than just external elements. Ruble et al. investigated the role of gender constancy in early gender development. They interviewed 94 children between the ages of three and seven. Research has shown that cognitive development about gender constancy significantly influences children's adherence to traditional gender norms. Children are generally rigid about gender stereotypes and beliefs between the ages of 3 and 5. After age 5, children gradually view gender beliefs with a more open mind [15]. The initial gender cognition at this stage also lays the foundation for their later determination of their inner gender.

Consequently, educators must consider the aforementioned challenges while developing sex education curricula for children aged 2 to 7. For example, in addition to teaching children how to distinguish the traditional gender sense between men and women based on how people look and dress, it is appropriate to incorporate guided teaching about gender stereotypes, such as that it is not necessarily a girl who wears a skirt, or a girl will not become a boy because of not like wearing a skirt. Professor Nutbrown, from the University of Sheffield, discusses how teachers can help children overcome gender stereotypes in early education settings. He suggested that, in the face of gender preferences in the range of role play between boys and girls in kindergartens, encouraging children to play a variety of situational play games could be beneficial to identify gender roles and challenge gender stereotypes. For example, in the beginning of his study, girls did not allow male peers to enter their family play game, because they were stereotyped as men who would mess up the house. After a few weeks, when more contextual games were created, including offices, barbershops, food stores, and so on, gender-dominated play situations decreased significantly. Both boys and girls can be more actively involved in acting [16]. This kind of gender identity teaching beyond the traditional sense will bring a new gender schema to the children at this age. When they finish assimilation and adaptation, they can break through gender stereotypes to a certain extent and become less confused in the process of self-gender recognition.

4. Children's Sexual Interaction Psychology and Teaching: According to Erikson's Theory

When it comes to studying children's sex psychology in social sexual interaction education, Erikson's theory is largely considered. According to Erikson, children begin to pay much attention to social relations in the "industry versus inferiority" stage (6 years old to puberty). Children at this stage are no longer dependent solely on their families, but also begin to interact with their peers at school and in a wider social environment. As children learn how to build friendships with their mates and find their place in a particular group, they also become curious about relationships and intimacy. Education regarding social interaction rules and roles is becoming progressively significant. Therefore, the "industry versus inferiority" stage is a critical period for sexual relationship education

for children, as they begin to develop a greater awareness of physical development and gender identity, and also begin to face peer influences on gender, sexual orientation, and so on [17].

The concept of "industry" in social sexual interaction education can be understood as a child gaining confidence and self-esteem through understanding and mastering the development of his body, the rules of the development of gender relations and social responsibilities. Sexual relationship education (SRE) is related to how children learn about themselves, how they find love outside of family relationships, how they appreciate their developing bodies, and how they recognize that they are helping others grow in this relationship [18]. Gilbert contended that educating children about sex encompasses not only sexual knowledge but also lessons on love and loss, vulnerability and power, friendship and aggressiveness. Many studies have shown that giving support and encouragement to children at this stage can lead to a surge in confidence in a relationship. Kang et al. conducted a comparative experiment with forty sixth grade students. It turns out that encouragement is a great way to boost kids' self-esteem and social motivation [19].

However, at this stage, the appearance of self-esteem consciousness leads to the emergence of inferiority consciousness [20]. A child will develop low self-esteem if he does not feel supported by others in a sexual relationship. In this regard, research on homosexual and LGBT children is representative. Doctor Abbott et al. conducted a study about sex relationship education (SRE) in the UK. They used data analysis methods from discursive psychology to determine whether teachers' SRE decisions were inclusive. The finding is that in the UK, even when teachers support heterosexual norms while ignoring LGB and homosexual groups, their decisions are seen as inclusive. This indicates that SRE is significantly imbalanced and that these young individuals outside of heterosexual relationships are not receiving adequate sex education [21]. According to Erikson's theory, if these types of children are consistently neglected in the SRE process, they will feel that they are not strongly supported, and a great sense of sexual self-doubt will be produced at a certain age.

Batra asserted in his examination of children's psychosocial development that children's initiative is manifested in their eagerness to engage in social interactions and employ problem-solving strategies that align with their developmental stage and internal cognition. Many common circumstances weaken children's activeness; for example, their needs for social communication and problem-solving are not seen by the teacher, or their inner expectation of problem solving is different from the teacher's, which brings strongly self-doubt and inferiority. In Erikson's sense of the pre-adolescence stage, constant self-doubt, in any way, can have a negative impact on a child's self-esteem [22]. Batra's argument well supports the conclusions of Doctor Abbott et al. In the psychosexual development stage of children from 6 years old to puberty, if they show a different sexual relationship orientation from heterosexual but are not paid attention to by teachers, their later sexual psychological development and sex relationship development will be greatly negatively affected.

Therefore, according to Erikson's theory, for children who age between 6 and puberty, positive social sexual relationship education should focus on developing children's sense of achievement, responsibility and self-esteem in relationships, so that they can handle complex relationships and sexual development with confidence and maturity. These include building body knowledge and encouraging children to understand their body structure, such as the physical development of boys and girls during adolescence, so that they can confidently face physiological changes. Also, educators and parents are expected to give children a positive attitude or strong emotional support when they show their initial sense of relationship. Instead of simply eliminating it and refusing to talk about it, help children understand the difference between love, friendship, and infatuation and emphasize the importance of respect, understanding, and consent in relationships. Finally, do not ignore any gender group or sexual orientation group. In addition to heterosexual relationship normative education, homosexual and LGBT normative education should also be carried out.

5. Conclusion

This study concludes that Piaget's development theory is worth referring to in designing gender identity education for children aged two to seven, and it is meaningful to label and symbolize gender teaching. Pay attention to children's sexual egocentrism psychology and gender constancy psychology in this stage. Educators are expected to conduct intervention at the early concrete operational stage to help them break the traditional gender norm concept and better define their inner gender. Erikson's industry versus inferiority theory can be used for reference in the education of social sexual interaction of pre-adolescent children. Educators should give children support for relationship development and interpret sexual relationships in a positive way. At the same time, equal sex education for sexual minorities is important. The target groups and development theories involved in this study are limited. This study exclusively examines the attributes of children's sexual psychological development during the pre-operational stage of Piaget's theory and the industry versus inferiority stage of Erikson's theory, providing recommendations for sex education design informed by the peculiarities of these two phases. Future research may investigate psychosexual development processes and traits in bigger, more diverse populations to enhance the comprehensiveness of the results. Furthermore, more profound and abstract themes in sex education, such as sexual harassment and sexual consent, can be examined in greater detail.

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