

Fogg Behavior Model for Children's Sex Education

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ABSTRACT

In recent years, many cases of child sexual abuse have been exposed by the media. In addition to unscrupulous criminals and imperfect laws, children cannot correctly understand "sex" and lack of self-protection consciousness, which is also one of the sources of a series of tragedies. Therefore, the social attention of child sex education continues to rise. No matter family, school or society begin to advocate sex education, among which the role of family sex education can not be ignored. Based on the relevant research on the design of child sex education services, many literatures have identified the stakeholders of child sex education, put forward the issue of child sex education from the perspective of behavior design, and put forward the importance of parental participation. The key point of sex education for children is to drive parents' educational behavior and improve children's sexual knowledge acquisition degree. Parents' reasonable and perfect sex education can give children a healthier body and mind and avoid harm. But what kind of education form and content can better achieve the purpose has become the focus of social attention. This paper introduces the way of service design to integrate related resources and construct a service system to meet the needs of parents to carry out sex education for children. Information systems or software that strengthen, change or form a person's behavior, purpose or attitude without coercive means are called persuasion systems. It is proposed by Professor BJ Fogg from Stanford University to use persuasion technology to realize the design purpose of persuasion system, which can also be called "persuasive design". At present, theories of behavior table, FBM behavior model, eight steps of persuasive design, and persuasive web design have been formed, all of which are attributed to the unremitting research of scholars such as BJ Fogg and Andrew Chak. FBM model is a new model established by Fogg to study human behavior. It is a behavior model based on persuasive design.

Keywords: Training, Education, Learning sciences

INTRODUCTION

According to THE FBM model, there are three basic factors for individuals to produce behaviors. The first is motivation factor, which requires users to have certain motivation support to realize certain behaviors. Ability factor refers to the user's ability to achieve a behavior, or the difficulty of a behavior itself to the user's ability requirements; A trigger is a point of opportunity for the final completion of the action.

Based on these theories, this paper will study the sex education model suitable for parents to realize in the family.

With the support of persuasion theory, the behavior and needs of parents and children are analyzed to obtain the behavior table, and the three elements of behavior realization are analyzed according to Fogg behavior model. First of all, this paper analyzes the different behaviors that parents and children may have in the process of sex education, analyzes the relationship between them by using the behavior table, and analyzes the causes behind it. Secondly, this paper constructs the Fogg behavior model of children's sex education. Fogg behavior model is a new model established by Fogg to study human behavior. It is a behavior model based on persuasive design. According to Fogg's behavior model, there are three basic factors for individuals to produce behavior: motivation factor, ability factor and trigger factor. This paper analyzes the basic elements of parents' and children's behaviors in the process of sex education from three aspects of motivation, ability and trigger points, and puts forward some strategies to improve the quality of sex education for children, hoping to better improve the quality of sex education and play a positive role in promoting the development of sex education for children in the future.

PROJECT BACKGROUND

According to the 2018 Investigation Report on Child Sexual Assault Cases and Child Sexual Assault Prevention Education of "Girl Protection", 317 cases of child sexual assault were publicly reported by media in 2018, with more than 750 victims. Most of the related researches on children's sex education are on the level of pedagogy, psychology and sociology, and most of them are on the investigation of the current situation of education and the study of countermeasures (Li, 2017). Many families do not talk about sex education for children, and parents do not even mention "sex" in a positive way. Such abstinence ideology comes from the social and political atmosphere to some extent, but its influence makes children unable to correctly understand "sex", which leads to a series of tragedies. In recent years, sex education has been introduced into the public's vision, which is advocated by families, schools and society. Among them, the role of parents cannot be ignored. Sexual education is a key link of the family education, on the market at present is derived many picture books of sexual education, information, books, toys and cartoons, the emergence of these design to some extent improve the children's knowledge of sex, but how to help parents more effective teaching sex knowledge, system let the children receive different levels of sexual knowledge, it is worth to continue to explore.

Research Significance and Purpose

Sex education for children needs to be carried out in a multi-touch, multi-dimensional and systematic way. Relevant literatures put forward the ideas of service design: The introduction of service design, the integration of relevant resources, and the construction of a service system to meet the needs of parents for children's sex education. At the same time, it is also an attempt

to intervene in the design to solve social problems, in order to use the power of design to promote the development of children's sex education in China (Wei and Zhang, 2020). Literature has been clear about the sexual education stakeholders, put forward taking family sexual behavior design education problems, and puts forward the importance of parental involvement, to drive the parents education behavior, and improve children's degree of sexual knowledge acquisition is the key of the child sex education, supported by persuasion theory, this paper analysis of parents and children's behavior and demand behavior form, Analyzing the three elements of behavior realization based on FBM model can better improve the quality of sex education, both for children and parents.

PERSUASION THEORY AND RELATED CONCEPTS

Persuasion System

Information systems or software that strengthen, change or form a person's behavior, purpose or attitude without coercive means are called persuasion systems. Ubiquitous in modern life, to persuade system, generally persuasion persuasion direction is of positive significance in the system, in the boot self-discipline health, such as mint, healthy, KEEP the APP, or cultivate learning habit to speak, cocoa APP belong to persuade system such as English, users in the process of using independent voluntary attitude, rather than intimidating.

It can be seen that whether it is fitness or learning, the persuasion system aims to grasp the psychological needs of users, combine psychology and computer to obtain a new system model, and achieve the purpose of changing users' behavior and attitude. In this process, persuasion technology is more valuable because of psychological guidance, and the realization of human-computer interaction is more attractive to users, which is its big advantage.

Persuasion Design

It is proposed by Professor BJ Fogg from Stanford University to use persuasion technology to realize the design purpose of persuasion system, which can also be called "persuasive design". At present, theories of behavior table, FBM behavior model, eight steps of persuasive design, and persuasive web design have been formed, all of which are attributed to the unremitting research of scholars such as BJ Fogg and Andrew Chak. The causes and results of persuasive design is to focus on behavior, is focused on the trigger behavior motivation and the ability to realize the behavior, and using the existing psychology research as the foundation, aims to analyze and evaluate the user's intent, it essentially belongs to a goal-directed design, behavior of the context is the focus.

Theory of Persuasion

Persuasion theory, It includes Behavior Wizard, Fogg Behavior Model (FBM), Persuasive Systems Design Model (PSD), and goal-oriented Design (DWI) With intent Method, etc. (Wei and Zhang, 2020).

(Fogg Behavior Model) FBM model is a new model established by Fogg to study human behavior. It is a behavior model based on persuasive design. FBM model that behavior to individuals need to the three basic factors: (1) the first is the motivation factors: implement some behavior requires the user to have certain motive support (2) factors: ability factor refers to the user's ability to implement a behavior, or the difficulty of a particular behavior itself to the user's request (3) the ability to trigger factors: That is, the opportunity point at which the behavior is finally accomplished. In the FBM model, for the realization of a behavior, motivation, ability and the contact is be short of one cannot, even if meet the motivation and ability, in the case of lack of opportunity point target behavior also have may not be possible, instead of on cultivating the goal of long-term behavior, for the dependence of contact point will drop, because in the cultivation of the long-term motivation and ability is relatively fixed, Despite the absence of a specific stimulus, the behavior still occurs normally.

DIRECTIONS INVOLVED IN SEX

Sex Education for Children Involves Direction

Sex education has long been characterized by conflicting definitions, goals and philosophies, obscuring efforts to understand and measure its effectiveness. The different dimensions of sex education involve the anatomy, physiology and biochemistry of the sexual response system. Identity, orientation, role and personality; There are thoughts, feelings and relationships. In 2012, The Future of Sex Education was a partnership between Advocates for Youth, Answer and SIECUS, three major national Sex Education organizations, National Education Standards (NSES) were issued (Goldfarb and Lieberman, 2020). It includes the following seven subject areas: the relationship between consent and health, anatomy and physiology, adolescent and adolescent sexual development, gender identity and expression, sexual orientation and identity, sexual health and interpersonal violence (Goldfarb and Lieberman, 2020).

Sex education is extremely important for children. First of all, children are in the period of recognizing the world through observation, and observation is their main way. Their understanding of sex is also gradually formed at a very young age through the imitation of the surrounding environment. Secondly, according to the research on literature related to child sexual abuse, some researchers (Davis, Gidycz, 2000) believed that young children could not learn and master the concepts related to sexual abuse like older children. However, there is research evidence (Wurtele, Owens, 1997) that preschool children can learn self-protection skills and the concept of sexual abuse (Li, 2017).

That is, young children can develop self-protection knowledge, skills and intentions, including increasing the likelihood of reporting sexual abuse and knowing how to react in dangerous situations. Therefore, interventional sex education in childhood is very necessary and more effective (Wei and Zhang, 2020).

Furthermore, child sexual abuse can cause a wide range of psychological and behavioral distress and is an important risk factor for a range of negative developmental outcomes in childhood, youth and adulthood for victims. One third to one half of school-age children and adolescents who experience sexual abuse experience clinical symptoms of post-traumatic stress (Daigneault, Tourigny, Cyr, 2004) (Li, 2017).

Therefore, it is necessary to conduct sex education for children to prevent sexual abuse. Sex education for children involves the seven fields mentioned above, but because of the particularity of sex education for children, it is integrated into two aspects: recognition of gender diversity; Knowledge, skills, attitudes and corresponding social emotions to improve personal safety and touch.

Recognizing Gender Diversity

Although many countries have yet to recognise gay and lesbian in the law, regardless of their gender, but love on the relationship with he not gay discrimination is very subjective and narrow, lack of understanding of gender diversity will cause a lot of bad social influence, the reports (Wei and Zhang, 2020) points out that in the school, gay men are more likely to suffer from campus bullying. Raising a child's awareness of different sexual relationships from an early age not only reduces his likelihood of being a discriminator, but also avoids becoming a victim. In a tolerant and positive sex education environment, children are more likely to develop a normal view of sexuality, and can naturally face their sexual orientation.

Knowledge, Skills, Attitudes and Corresponding Social Emotions to Improve Personal Safety and Touch

Child sexual abuse is a kind of child abuse with extremely bad influence, and such behavior is proved to be effectively prevented through sex education activities involving parents by relevant literature (Wei and Zhang, 2020). The content of education is mainly divided into three aspects: to improve the relevant knowledge of personal safety and touch, to improve prevention skills, and to develop self-esteem and self-love attitude.

Knowledge to improve personal safety and touch. Here, we focus on strengthening children's control over their own bodies, including their cognition of body parts, where they can't be touched, where they can't be exposed and where they need privacy.

Improve prevention skills. This mainly includes methods for identifying unsafe situations, such as reactions when strangers approach, and positive disclosure and communication skills.

Develop self-esteem and self-loving attitudes. To strengthen children's social emotions corresponding to knowledge of physical safety and touch, as well as positive feelings about genitalia, and to address the normal development of adolescence.

The above is a summary of the direction of sex education for children. The following will be analyzed from the behavior of implementing sex education.

Table 1. Behavior analysis of Parents and children in sex education. (Folds et al. 2021).

	A single act of obedience		A long-term act of obedience		Attitude change	
	Parents	Children	Parents	Children	Parents	Children
Form the behavior	Take the initiative to teach about sexual development	Correct understanding of body development and gender	Explaining gender diversity	Recognizing gender diversity	Emphasis on sex education	Respect sexual diversity
Change behavior	Actively explain the knowledge of sexual reproduction	Understand the laws of human reproduction and take sexual behavior seriously	Continue to teach about sex	Have a comprehensive knowledge of sex	Take the initiative to communicate about sex	Establish the concept of correctness
Reinforce existing behavior	Know body parts and private parts	Don't let strangers touch your private parts	Teach your child about physical privacy	Consciously protect private parts of your body	Improve the quality of sex education	Improve the ability to prevent sexual assault

BEHAVIOR ANALYSIS OF THE RESEARCH OBJECT

The main learning environment of children's sex education is the family environment, and the most direct teacher is the parents, so the parents' attitude towards sex determines the quality of children's sex education, and the research object of persuasion theory is behavior, so in the process of designing and researching children's sex education, the behavior of parents and children should be clearly understood first. According to the FBM model mentioned above, in order to achieve the target behavior, motivation, ability and touch point elements must be satisfied. The following is an analysis of their behaviors and behavioral needs in the process of sex education.

Parents

In the process of sex education for children, parents' behaviors include cultivating children's awareness of gender diversity, guiding children to identify body parts, telling children the privacy of body parts, informing children of prevention methods when strangers approach, guiding children to communicate positively, and cultivating children's attitude towards sexual development.

Children

As being educated, children may have the following behaviors in the process of receiving sex education: curiosity about their own body parts, curiosity about human reproduction, touching their private parts, touching the body of their peers, etc.

Results of Behavior Analysis of the Subjects

According to the possible behaviors of parents and children in the process of child sex education, detailed behavior table analysis can be done to further clarify the behavior changes in the process of child sex education.

As can be seen from the behavior table, positive child sex education improves the behavior of parents and children to varying degrees, which will eventually affect children's views on "sex". With the growth of age, they will gradually form a positive sex concept. At the same time, this is conducive to the normal growth and development of children and mental health, and can improve children's safety awareness and skills to effectively prevent the occurrence of sexual abuse.

RESEARCH ON CHILDREN'S SEX EDUCATION METHOD BASED ON FOOG MODEL

Positive influence of the above mentioned child sex education present sexual education is primarily a picture books, animation design, information such as pages, interaction is relatively single, how to use persuasion theory to guide practice, help their children learning knowledge, master the relevant skills, thus influence even change their sexual attitudes are this article explores the design direction of, Based on Foog model, parents and children need to make an in-depth analysis of motivation, ability and triggers in combination with their behavioral elements, so as to explore ways to better realize children's sex education.

Analysis of Parental Behavior Factors

Motivation about learning is actually an internal psychological process or internal motivation guided by a series of learning challenges and learning objectives, stimulating and maintaining learning activities. Children's sex education includes two actors, parents and children. For parents, the motivation may not need too much description, but more from the care of children. It is necessary to understand the importance of sex education for children's development, in fact, sex education can be launched.

In the process of sex education for children, parents may encounter many problems: lack of sex knowledge, no appropriate education methods, lack of auxiliary props and so on. Since parents have different education levels, ages and personalities, in order to achieve child sex education, it is necessary to reduce the difficulty of parents' education, provide corresponding auxiliary props to help education, and improve the relevant knowledge of parents.

Compared with motivation, trigger more meaningful for the parents, child sex education needs to naturally at the right time, when the parents already have appropriate sex education skills, need triggers to remind, can carry out sexual education, when ability is insufficient, need triggers to reduce the difficulty of the task, to successfully achieve sexual education according to the motivation and ability of judgment, Choose the right trigger. According to the possible behaviors of parents and children in the process of child sex education, detailed behavior table analysis can be done to further clarify the behavior changes in the process of child sex education.

Analysis of Children's Behavior Factors

Children are in an age that can not distinguish good from bad, lively and active, distracted and curious. According to the characteristics of children, the motivation factors should be divided into external factors and internal factors. External factors can guide children into the study of sex education from rewards and points ranking, and parents' encouragement and partners' encouragement will also become an external motivation to make children feel the sense of achievement in learning; At the same time, the intrinsic factors including the thirst for knowledge, the desire to win and the joy of learning aroused in the learning process will also become a powerful motivation. Curiosity will be the main intrinsic motivation for children to learn sexual knowledge, which will help children to explore more knowledge.

In the process of learning, children's thinking jumps, their understanding ability needs to be improved, and they are full of curiosity and like to ask questions. They should be willing to accept new knowledge. However, their characteristics should be considered in the process of sex education, such as simplified knowledge, replacing concrete process with abstract symbols, situational demonstration of safety skills, such as knowledge related to touch, and differences in sexual characteristics. Set reasonable depth of education content, reduce children's learning burden, provide interesting education form, thereby improving the ability factor.

When children have strong motivation to learn and are able to meet high abilities, the trigger may be a reminder of a signal. For example, when the alarm bell rings at 3:00 p.m. every Wednesday, parents may accompany their children to learn about sex. When children do not have a strong motivation to learn, they need triggers to assist, and at the same time, the balance of ability factors, perhaps toys like educational tools can make children interested. According to the actual situation, the motivation and ability factors are judged, and appropriate triggers are selected to promote the realization of sex education.

Exploration of Design Methods

In order to satisfy the three factors of behavior realization in Fogg model, not only the relationship between them should be clear, but also the specific forms of motivation, ability and triggers in actual educational scenes should be further discussed, so as to build an application model of children's sex education.

Motivation – To Update the Education Model and Increase Interest in Learning Through Gamification Design

First, before doing the design of child sex education, need to understand the characteristics of children's study habits and learning behavior, through the collection of a large number of user information, such as by field observation, user interviews, questionnaire survey, the sexual education demand point to sort, to establish a reasonable level of functional requirements, extract the main direction of sex education, Comb the framework of sex education for children.

Secondly, in terms of education mode, gamified design method can be used to increase children's interest in learning and improve motivation factors. Gamified design is defined as "using gamified mechanics and gamified experience design to digitally inspire and motivate people to achieve their goals". Then applied to children's sex education, specifically, it may be that children can gain reward points through correct understanding of touch knowledge; Or the trigger itself appears in the form of a toy doll, so this kind of education itself is an experience of playing games, which can attract children more.

Ability - Reduce the Difficulty of Education and Improve Visual Experience

For the education of children, visual rendering is very important, especially the knowledge related to "sex", the scale of the performance and the form is very important, some knowledge of the picture is not suitable for children to watch, so first of all should carry out the education content filtering, second should be the appropriate abstract processing, in order to more suitable for children to learn colors, images, text, To make children in a state of easy to accept, improve the ability factor, but also reduce the difficulty of parents' education.

In this process, the theory of semiotics can be used to realize the visualization of sexual knowledge. However, when studying the form of symbols, kansei engineering can be used to make a rational quantitative analysis of the acceptance degree of children for factors such as color, shape and combination, so as to obtain the most appropriate symbol model. Specific applications include, for example, in the education of identifying sexual characteristics, the differences between men and women can be summarized by abstract symbols, or in the process of parents teaching children about sexual reproduction, the whole frightened development process can be displayed by symbolic means, so as to increase children's impression and relieve parents' embarrassment.

Triggers - Design Appropriate Trigger Mechanisms for Specific Scenarios

The family environment is the main place for children's sex education, and the setting of reasonable trigger mode should take both parents and children into account. First of all, considering the difficulties in teaching parents, we should use Internet products combined with online and offline scenes to improve parents' "sex knowledge", increase communication between parents, establish organizations to prevent sexual abuse, and spread relevant information in a timely manner. Considering the learning characteristics of children, the trigger mechanism should have certain attraction, stimulate children's behavioral motivation, guide children's thirst for knowledge, promote the communication of sexual knowledge between children and stimulate children's learning of sexual knowledge combined with intelligent products.

CONCLUSION

Child sexual abuse and other social news continue to break out, children's sex education is urgent, how to build a reasonable and effective child sex education method is the core of this paper. Through analyzing the behavior of

parents and children by using the behavior table of persuasion system, we can judge the behavior characteristics of children in the course of sex education, so as to infer the general direction of sex education: recognizing gender diversity; Knowledge to improve personal safety and touch; Improving prevention skills; Develop self-esteem and self-loving attitudes. Determined the exploration direction of sex education, using the Fogg model in the persuasion system, from the three factors of behavior realization: Motivation, ability and trigger points explore the methods to realize children's sex education, and it is concluded that the three aspects of combining the model of gamification design, improving the visual content, and designing reasonable mechanism are respectively corresponding to stimulate motivation, improve ability, and discover triggers, so as to better realize the behavior discussed in the behavior table.

This paper does not elaborate on the actual education scenarios. In future studies, the feedback mechanism of child sex education can be further analyzed and studied, so as to better systematically design child sex education so as to obtain better user experience and learning effect.

Sex education is a basic education, for children, good and scientific sex education is indispensable, sound sex concept is conducive to children's physical and mental development, but also for the construction of a person's sexual love concept has a great impact. I hope that in the future, children can no longer learn sex knowledge from novels, pictures and movies, but through scientific sex education to obtain a sound sex concept, with a positive and sunny attitude to face their physical and mental changes, in a more timely and effective way to protect their personal safety, have a better childhood.

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