

# Research on the Factors Affecting the Formation of Children's Go Skills Based on Grounded Theory

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## Abstract

Using the rooted theory and using Nvivo8.0 qualitative analysis software, in-depth interviews were conducted with the parents of 26 amateur 5-segment chess players. Through the three-level coding analysis, it was found that there are four factors affecting the formation of the skills of children's Go masters: external factors (teacher quality, family environment and learning chess environment), internal factors (go literacy and self-quality), mediating factors (study of chess) and adjustment factors (hearing). On this basis, the structural model of the influencing factors of the skills of children's chess masters is constructed, in order to provide useful guidance for parents and Go workers.

## Keywords

Go master; skill formation; grounded theory.

## 1. Introduction

In March 2016, AlphaGo, an artificial intelligence program developed by Google's DeepMind, competed with Go World Champion and professional nine-segment player Li Shishi to win the game with a total score of 4 to 1. A wide range of concerns around the world. This world-renowned man-machine war is not only a great victory for artificial intelligence, but also a new vitality for the ancient and great art of Go, which has brought a new upsurge in the Go training market. The research by Huang shows that the psychological quality of primary school students engaged in Go activities is significantly positively affected, which indirectly enables them to achieve better results in learning.

In fact, the acquisition of the amateur 5-stage certificate of Go often requires years of study and precipitation, and it is necessary to temper through many competitions. The difficulty is self-evident. Based on this, this article takes the level of children's Go to amateur 5 as a hard condition, through in-depth interviews with parents of 26 amateur 5-segment chess players, using the grounded theory to carry out three-level coding, and constructing the influencing factors of the skills of children's Go masters. The structural model, in-depth analysis of the cause of the skills of children's Go, in order to provide useful guidance for parents and Go workers.

## 2. Literature References

When studying the shadow education in Turkey, Tansel and Bircan found that parents' participation in education, family income, family residence, age of the head of household, number of children, family of single parents, etc. Extracurricular tutoring has a significant impact [1]. Jelani and Tan analyzed the influence of family background factors of Malaysian pupils on extracurricular tutoring opportunities, and found that students' family income had a significant impact on family extracurricular tutoring opportunities. [2] Kim (Kim) explored the influence of Korean extracurricular tutoring on students with different academic performances by adding pre-school academic scores and whether to participate in the interactive project of shadow education. The results show that the positive impact effect of shadow education on the

top academic students is significant. Higher than the impact on students who are ranked lower in academics. [3]

Xue Haiping and Ding Xiaohao's analysis of the factors influencing whether urban students participate in extracurricular tutoring in China shows that family capital factors such as family economic income and education level of heads of household have a significant impact on whether urban students participate in extracurricular tutoring; [4] Chu Hongli research finds families Family capital factors such as economic income, parental education, and parents' educational expectations significantly affect the probability of extracurricular tutoring. [5] The research conclusions of Zeng Manchao et al. showed that family background factors had a significant impact on the choice of extracurricular tutoring for junior high school students. [6] Hong Yanbi and Zhao Yandong examined the impact of family capital on the opportunities for tutoring in urban compulsory education in China, and found that family cultural capital, economic capital and social capital have a significant positive impact on whether compulsory education students participate in shadow education. . For parents with higher education, their children are significantly more likely to participate in shadow education than their parents have no higher education. The higher the monthly income per household, the higher the probability that their children will participate in shadow education. Parents' occupational skills in the lower middle and upper middle classes are significantly higher than those in the parental occupation. [7]

### 3. Research Design

#### 3.1. Method of the Research

The grounded theory was first proposed by the two American scholars Barney Glaser and Anselm Strauss in 1967, *The Discovery of Grounded Theory*. [8]. Following the bottom-up research logic, there is a systematic coding idea, which gradually summarizes and refines the theory from the data, and finally achieves the purpose of understanding the world, instead of using the data verification theory, to avoid relying on empirical and theoretical models under the empirical paradigm. The one-sidedness produced. Therefore, the grounded theory is suitable for analyzing theoretical phenomena with local characteristics and immature. At present, grounded theory has been widely used in the fields of management, psychology, sociology and education.

#### 3.2. Data Collection

In-depth interviews are the most commonly used method in classical grounded theory research. Chen Xiangming believes that through verbal communication, individuals can express their own ideas, and different individuals can achieve certain mutual understanding. Through questions and conversations, people can transcend themselves and approach the fusion of the fields of view between subjects to construct new ones. Social reality that is meaningful to both parties.[9] This study used open-ended questions, self-designed semi-structured in-depth interview outlines, and interviewed parents of children who had obtained the amateur 5-session certificate. The interviews mainly focused on the following aspects:

1. Please give a brief evaluation of your child. What advantages do you have compared with other children in Go.
2. Please tell us about your help and influence from the perspective of parents.
3. How have you encountered your child on the road to learning Go, how did you overcome it?

During the interview process, the author maintained a listening attitude throughout the process and strived to create a relaxed interview atmosphere. In order to avoid missing important information, after the consent was obtained, the interview was recorded throughout the whole process, and finally the effective data of 26 parents was obtained. Each interview sample lasted

for 15 to 20 minutes. The 26 sample data were randomly divided into 20 and 6 copies, the former used for rooted theoretical data coding and the latter used for theoretical saturation test.

**3.3. Data Analysis**

**Table 1.** Open coding

| original material   |   |
|---|---|
| <p>Our family is amateur 5 in 2016. I learned from the kindergarten class to the fifth grade. Although I changed a few Go schools in the middle, I have never stopped. Our children are not smart children, and they are not particularly talented in Go. The key is still interested, love, and win. I remember that when I first started studying, my interest was not high. Especially when I learned the life and death, I didn't want to learn. I was at home with my children and my mother, and after I had played for 1 paragraph, I remember They have a child named A in the Go class, which is similar to the children of my family. Especially during the summer vacation, they basically stay in the Go classroom for one afternoon and afternoon, playing 4 and 5 games every day, every time 1 to 3 , 2 to 3 lost, not happy all day. peaking of our help as a parent to the children, it is really impossible to talk about it. In our family, only his uncle will go down. When I first started studying, I can still guide. After half a year, I am not an opponent. When I have time, I urge him to do the work and put the title on the board. I hold the answer and watch him do it.</p> <p>When it comes to the help and influence of children, the most influential is the teacher. There are a lot of Go schools now, but there are not many good Go teachers. Although some teachers teach well, but the chess power is not good, some, chess can be, but can not teach, my family is still relatively lucky in this regard, met a good Go teacher. The communication between the teachers is also very important. It is not only the teaching experience but also the chess strength. The influence on the children is subtle. As a parent, I feel that the main reason is to encourage children. As long as the children want to learn, they will support them. Our family is actually not very generous. From enlightenment to playing amateur 5, more than 100,000 is definitely there, which is actually a lot of money for our family. The main thing is to insist that the children who have studied with him basically do not insist on the last. At the end of each game, they have given up a lot. There are many good seedlings, and I really feel sorry for them.</p> <p>Recalling the experience of children learning Go in the past few years, I feel that the biggest difficulty is to learn the conflict between Go and normal coursework. After the children have gone to elementary school, especially after the fourth grade, they usually leave school at about 5 o'clock every day.</p> | <p>a1years of learning<br/>a3 love playing Go</p> <p>a4 Equal level opponent<br/>a5Concentrated training<br/>a6Ambition</p> <p>a7Family guidance</p> <p>a8Family supervision</p> <p>a9Teacher chess<br/>a10Teacher teaching ability</p> <p>a11Teacher exchange</p> <p>a12High training costs<br/>a13Persevere</p> <p>a14Conflict with culture class</p> <p>a15Heavy classwork</p> <p>a17Online practice</p> |

Open coding was performed in the manner of Table 1, and a total of 61 concepts were obtained. Through further analysis of the concept, 10 new and more general categories are obtained, as shown in Table 2.

**Table 2.** Categorization of concepts

| Number | Concept  | Category                              |
|--------|--|---------------------------------------|
| 1      | Careful, steady, sensible, competitive, and post-production,<br>Willing to study, love thinking  | character                             |
| 2      | Failure, resistance, tenacity, perseverance  | Will quality                          |
| 3      | Talent, love to play chess, do more questions, score   | Combination of<br>interest and effort |
| 4      | Years of study   | Academic pressure                     |
| 5      | Big and small competitions   | Competition<br>experience             |
| 6      | Family support, parental encouragement, family harmony, family<br>income, family with parents, family guidance, parental supervision                       | family environment                    |
| 7      | Teacher's chess ability, teacher's teaching level, teacher's<br>responsibility, teacher-student exchange, teaching method, teacher-<br>to-teacher exchange | Teacher quality                       |
| 8      | Equal level opponents and classmates   | opponent                              |
| 9      | The size of the chess house and the quality of the school  | Training institution<br>environment   |
| 10     | High cost, conflict with cultural classes, extracurricular tutoring<br>classes, extracurricular interest classes, and more homework<br>assignments         | Obstruction factor                    |

Linked logins are designed to discover and establish relationships between concepts to represent the organic associations of the various parts of the original material. Through association registration, on the basis of existing concepts, categorize it, and extract the main categories and categories, and finally get Go literacy, self-quality, tempering, family environment, teacher quality, learning chess environment and learning chess willingness Seven main categories. The relationship between the main categories and the connotations of the categories are shown in Table 3.

### 3.4. Saturation Test

The theoretical saturation test aims to find out if there are new concepts and categories. The six interviews were reserved for the saturation test according to the above three steps. No new concepts and categories were found. Therefore, the study believes that based on the parents' interview data, the model of the influence factor of parents' shadow education input selection is theoretically saturated.

**Table 3.** Main category extraction

| Number | Main category               | category                            | Category connotation   |
|--------|-----------------------------|-------------------------------------|--|
| 1      | Go Literacy                 | Basic work                          | Mastery of the basic theoretical knowledge of Go   |
|        |                             | Use of Go knowledge                 | Put Go theory into practice  |
|        |                             | Various training methods            | Multi-channel practice of chess and chess  |
| 2      | itself Quality              | character                           | Good Go, need meditation, the character of the child plays a decisive role in whether or not to play Go.                                       |
|        |                             | Will quality                        | Winning, tough children can often play Go  |
|        |                             | Combination of interest and effort  | Interest is the best teacher. With interest, there is initiative, and with hard practice, it's logical to make Go.                             |
| 3      | Hone                        | Time accumulation                   | Often take a long time to learn  |
|        |                             | Competition experience              | Need to participate in various competitions such as the promotion stage to obtain the qualification certificate issued by China Go Association |
|        |                             | Obstruction factor                  | Faced with a series of unfavorable factors such as high cost and conflicts in learning time  |
| 4      | family surroundings         | family environment                  | The warm and welcoming family environment is the cornerstone for children to play Go   |
| 5      | teacher Quality             | Teacher quality                     | A good teacher is a necessary factor for a child to achieve results.   |
| 6      | Learning chess surroundings | Go training institution environment | Training institutions with excellent environment and rich teaching hardware and software resources will often train excellent players.         |
|        |                             | Equal level opponent                | a reference for children's continuous improvement  |
| 7      | Learning chess Willingness  | excitation                          | The social preferential policy for Go masters and the superiority of a skill   |
|        |                             | Learning chess                      | The child is not satisfied with learning to play chess, but hopes to be able to make good progress.  |

#### 4. Conclusions

(1) Four types of factors that affect the formation of the skills of children's Go. External factors include teacher quality, family environment and learning chess environment. The internal driving factors include their own quality and Go literacy. Their own quality is the internal driving force. Go literacy is the basic factor. The intermediary factor is the willingness to rise, which represents the child's subjective attitude. The adjustment factor is tempering and is the catalyst for becoming a master of Go.

(2) The path of action between the four types of influencing factors. Both external factors and internal factors play a role in promoting the formation of the skills of children's Go players. The regulatory factors play a positive role in regulating the relationship between mediating factors and skill formation. The three external factors reveal the influence of the environment on individual behavior from three levels: teacher, family and chess environment. The two internal factors, namely, their own quality and Go literacy, are individual-level factors. The mediating factor, that is, the influence of the ascending willingness on the formation of skills is in line with the basic logic of the theory of planned behavior. "The behavioral intention positively affects the actual behavior", further supporting the research findings. The adjustment factor is tempering, and the formation of skills is inseparable from long-term learning and competition experience.

Based on the above research, the following revelations are obtained: 1 Give full play to the promotion of external factors. First of all, parents should create a good family environment for children to learn chess. This kind of good is not only the material level, but more importantly, it encourages and supports the spirit level, so that children have no worries about learning chess. In addition, the selection of excellent training institutions and teachers for children will affect the child's entire learning career. 2 Give full play to the promotion of internal factors. Although the internal factors are derived from the children themselves, they can be gradually improved under the cultivation of the day after tomorrow. Parents can find a level of opponents for their children and stimulate their pursuit of chess. In addition, parents can listen to the experience of other chess parents to learn from. 3 Give full play to the promotion of regulatory factors. In the face of difficulties and frustrations, learn to face, participate in the competition, exercise the child's ability to resist stress through the competition, and give positive encouragement through the results of the competition.

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