

Reading Behaviour Base on Biological Information of Blood Groups

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Abstract: Biological information in the present study is limited to four types of blood groups namely A, B, O, and AB blood groups. Type of blood groups is genitive in nature and will not change the rest of man's life. A blood group is one of genetic biological structures which has influence on human behaviour a great deal. Blood group type proves to be the easiest and cheapest genetics identification tool. Practical implication of blood type has been developed to deal with personality since the year of 1992 in Japan. Blood group is considered functioning as a prognosis and pseudoscience. Empirical finding following research shows that there is a behavioural pattern of reading book representing similarity to an individual with similar blood group type in a classical session. This phenomenon needs to be proven. The method used in the present study was a cross-sectional survey. Sampling was done on 80 individuals of 100 student population aged between 17 and 22 years. Random sampling was chosen with stratification. Population was grouped in the strata with homogenous sample unit from blood group type. Each sample's blood group was obtained from medical records at laboratory examination at the University Health Center. The focus of survey on reading behaviour comprise the habits emerged when reading book takes place of which aim is to put book reading behaviour pattern on individuals into a mode of mapping based on their type of blood groups. Result from the study as expected is firstly, a scientific base on a reading book theory. Secondly, an identification model of user's profile to develop reading services program at various kinds of libraries. Thirdly, a way of making it easier for librarian to conduct a reader's advisory work in reading interest. Fourthly, collecting a reading book as it is presented to the users appropriate with individuals' behaviours.

1 INTRODUCTION

Since 2002, UNESCO has noted the data related to the lack of reading interest in Indonesian society. The index of reading interest in Indonesia is only 0.001. It means that there is only one person out of 1,000 who has high reading interest. UNDP released the number of literacy of Indonesian adult that is only 65.5%. According to Mundi index, the number of Indonesian literacy is below Zimbabwe, Lithuania, Serbia, Albania, and Palestine. In the same year, Indonesia is in 124th position out of 187 countries in the world based on the assessment of Human Development Index including the needs in education, health, and literacy. There are approximately 165.7 million people in Indonesia with 50 million of book publications per year. It means that one book publication is read by five people.

In 2015, the data from National Library of Indonesia shows that only 10% of Indonesian people,

who are above 10 years old, have reading interest (Wibowo 2015). Furthermore, Kurniasih (2016) criticizes that as the form of characteristic changes in reading culture in Indonesia, the parameter of reading interest should adjust current transformation. She thinks that the essence of reading is the language skill through text comprehension aiming at collecting information, gaining knowledge, having entertainment, and developing individual. Any kind of text stimulating the readers' thought to achieve particular purpose is considered reading activity. The next step is to analyze reading material, sources, media, and purposes.

A study conducted by John Miller, President of Central Connecticut State University in New Britain reveals that Indonesia is in 59th position out of 61 countries that are categorized based on the literate behavior characteristics. On the other hand, Finland, Norway, Island, Denmark, and Sweden are in the top five positions. The data of PISA (Program for

International Student Assessment) in 2016 reveals that Indonesia is in 60th position. Literate behavior significantly contributes to individual and national success, especially in the knowledge-based economic sector. The community who is considered illiterate (does not practice reading behavior) tends to put a little attention to cleanliness, good nutrition, and the way they think so that they tend to repress human right and human dignity where they express their behavior by being brutal and cruel.

In 2016, the former Education Ministry of Indonesia, Anies Baswedan states that in the late ten years, the illiterate percentage has significantly decreased. In 2005, the illiterate percentages have also decreased –i.e. from 10.5% to 3.7%. Indonesia has already had libraries. However, the attempt to make reading habit seems hard to do due to lack of interest in reading. The reading habit has been a major problem in Indonesia even though there are many libraries available. Based on the number of the libraries, Indonesia is in 36th position, which means Indonesia is a way ahead of the other countries such as Portugal, New Zealand, Korea, Germany, Netherland, and Singapore.

Gerakan Literasi Sekolah (GLS) has been stated in Ministerial Regulation No 23/2015 where the students are allowed to read any kind of book they love for 15 minutes before they start the class. Moreover, the local government has an important role in encouraging the people to make the habit of reading. The leader should actively look for and create communities loving books.

An interview –where the participants are the ninth grader of SMA Tangerang Selatan- shows that the school has applied a reading session where the students are forced to read for an hour every two weeks. Yet, the teacher are frequently absent so that the students do not spend their time to read. They prefer doing other activities. The interviewed student loves reading manga (Japanese comic book). Likewise, a college student, majoring communication program, loves reading novel. The college student says that he loves novel with the genre of science fiction. The college student says the s(he) does not like historical book and news because they are boring. This reading interest is influenced by individual's personality. The main factor is gene.

The most fundamental reading is to read yourself; that is, reading the information related to yourself including biological information such as DNA and RNA, physiological information, psychological information, and sociological information that is complicated. Thus, if someone has already been able to read him/herself, (s)he has already found his/her

identity. Through reading and biological information exploration, an individual can position her/himself according to his/her natural tendency. When education and teaching is given based on every individual natural tendency, s(he) will get happiness.

Therefore, the problem of reading habit should be viewed from different points of view –i.e. from the uniqueness that every individual has. The approach that is used should be return back to the human natural tendency. This study explores the main factor of the reading problem, which is attributed to the individual's less awareness of his/her identity. Identity –so far it functions as data documented in identity card- has yet to be used as the directing information. Whereas, all the private data related to the biological information will make an individual to be happy (success) and helpful person if s(he) is able to read her/himself. Name, date and place of birth, gender, blood gene type, address, religion, marital status, occupation, and nationality will be the basic information.

When every individual among different groups understands biological information, a harmonized social life will come into existence. In the context of reading training in the community, understanding self should be started from the ability of reading his/her self then reading things that s(he) likes. Thus, the reading habit will be repeatedly done. This repetition will create a reading habit pattern. The pattern of reading habit will create a culture. Reading culture will make someone perfect, because, in that point, s(he) has make his/her brain keep working.

Every individual is unique. A thesis by Farid Poniman since 1999, someone focusing on psychological and human resource science, reveals that every individual has single intelligence since s(he) was born. He believes that the dominant intelligence is a treasure that every individual has for living his/her life. In 1993, three experts named K. Anders Ericsson (deliberate practice), Ralf Th. Krampe, and Clemens Tesch Romer conducted a research in Berlin Academy of Music (Poniman, 2011). They found an answer of how an individual can be an expert at his/her own field. They found that individual that allocates 10,000 hours to keep practicing will be the best. This 10,000-hour practice is introduced by Malcolm Gladwell (2008) in his book, *The Outliers*. By finding out genetic intelligence since s(he) was a kid as well as deliberate practice –i.e. at least 10,000 hours-, the individual will have a big potential to get success for his/her carrier. Deliberate practice should be supported by the reading activity.

This study does not intend to connect blood type to personality, but some typical patterned types from personality theory of blood types in Japan and genetic strata theory of STIFIn concept covers this research analysis.

Finally, this study aims at mapping individual's reading behavioral pattern based on blood types through survey. The survey is conducted to 17-22 year-old adults, who are college students or the members of reading community. Both populations are the samples since those fulfil demographic aspects in qualification and competence. Academician is considered the one who has high order thinking skills.

The data are collected by survey with trend study. The main population is 192 students of Library and Information Study Program. Thus, according to Krejcie and Morgan (1970), if the population (N) is identified to examine, the credibility of the study is 95%. Therefore, the used samples are 127 people in which each stratum of four blood types has sample unit of 30-33 people. There is the test of blood type to the sample. The sample is asked to answer the questionnaire. Then, the result of the survey is collected, mapped based on most dominant behavioral pattern, analyzed, and constructed to be a model of the reading behavioral model with blood types-basis. The urgencies of the study are:

- This survey research provides positive contribution to education and teaching in the context of reading, where we involve genetic aspects in creating learning environment (reading-interest guidance) that makes the individual happier in reading. This study also verifies the theory of blood types and discovers innovative theory related to reading behavior.
- This study is the further analysis of previous research about reading method with hypnosis-basis. Both will give real contribution to librarianship to socialize reading interest. It shows how information and library science are multidisciplinary.
- This study will solve the social problems by strengthening ideas in the approach of learning model for reading by using easy and cheap identifier based on blood types.

2 BIOLOGICAL INFORMATION: BLOOD GENE TYPE

Biological information becomes the basic science to learn the other science such as chemistry, physics, and math. A study that explores the detail of living

things; that is, how children receive their characteristics from their parents is known as genetics. Genetics is also known as the study of heredity. Literally, the word "genetics" stems from Latin. Genos means the origin of traits.

Genetics, as the basic science, has concepts that can support the other applied science such as biological information.

In the concept of STIFIn proposed by Farid Poniman (2012), there are three theories that become the references. They are:

- The basic functional theory proposed by an analytic psychology from Switzerland, Carl Gustav Jung states that there are four basic functions that human has. They are sensing, thinking, feeling, and intuition. Among those four functions, one of them becomes the most dominant one.
- Hemisphere theory proposed by a neuro scientist Ned Hermann divides brain into four quadrants. They are left and right limbic as well as left and right cerebrals.
- The triune brain theory proposed by an American neuro scientist Paul MacLean divides brain based on its revolutionary results. They are human's brain, mammalian's brain, and reptile's brain.

Meanwhile, the concept of STIFIn does not only change three boxes (MacLean) into four (Jung and Hermann) but also adds one more box. Thus, there are five boxes of STIFIn in total. Furthermore, STIFIn has:

- Crossed theory as the superior and inferior in a package
- Intersection equation theory (between two different poles quadrant and diagonal)
- The unique and logic pentagon social relationship (STIFIn Circulation Theory)
- The body metabolism conformity based on the intelligence machine
- Calibration theory based on the intelligence machine
- Genetics based on the intelligence machine
- Genetic strata theory started from the intelligence machine – intelligence drive the capacity of hardware – blood gene type

This study focuses on the 7th theory Genetic strata theory as the form of biological information that needs to be "read" by every individual so that s(he) can know her/himself better. The classification of behavior pattern based on blood gene type using STIFIn theory (Poniman, 2012) is the focus of this study.

The last genetic factor in STIFIn theory significantly influences the spontaneous stimuli. Yet, it does give big influences on the strategy of decision making.

The influence of blood gene type can be detected when an individual has paper and pencil test. For example, an individual, with type T (Thinking) whose blood type gene O, will select the option “love helping” when she has the paper test. Her/his option reflects her/his intelligence. The factor of blood gene type is spontaneous, not stable, and temporary in nature (Poniman and Mangussara, 2012, p. 27).

The temporary influence of blood gene type will be categorized by the similarity to the type of the intelligence machine type using the concept of STIFIn. This categorization will be used to explain reading behavior as the temporary responds to blood gene type. The classification can be seen below.

- Blood group O controls brain to be an individual with type F (Feeling)
- Blood group A controls brain to be an individual with type T (Thinking).
- Blood group AB controls brain to be an individual with type S (Sensing)
- Blood group B controls brain to be an individual with type I (Intuiting)

Therefore, blood group only consists of four types. Type In (Insting) in the concept of STIFIn does not appear. However, the characteristics of in will further be analyzed based on the spirituality side related to the context of reading behavior.

Meanwhile, the analysis of personality based on blood gene type that is considered to be pseudoscience and astrology is debatable due to lack of facts (Yamaguchi, 2005), (Rachel, 2011). However, the relative truth should be continuously tested. One of the reasons for Japan to develop blood gene type is because blood gene type is an indicator of the personality theory used as the responds to the ethnical stereotype coming from Europe (Takeji Furukawa, 1927) as well as to the popular faith (Masahiko Nomi, 1970).

Some studies show significant relationship between blood gene type and personality (Sakamoto A., and Yamazaki, K., 2004), Cosy Muto, Masahiro Nagashima et al, 2011), Yamazaki, K., and Sakamoto, A., 1992). The studies are considered to be

able to produce predictions. There are medical hypothesis used to support the personality of blood gene type theory (Donna K. Hobgood, 2011), Shoko Tsuchimine, Junji Saruwatari, Ayako Kaneda, Norio Yusi-Furukori, 2015).

Blood type is one of genetic biological structures, which influences human behavior. However, in theoretical concept of STIFIn genetic strata—Intelligence Machine-Intelligence Drive, Hardware Capacity-Blood Types, blood type influences spontaneous response. When it is processed further, intelligence machine will be more dominant. An individual should recognize the genetic potency. The circumstance should be improved in order to be the best one.

Every individual has specific preference in interpreting the experience and knowledge to the reading behavior based on its importance, needs, values, motivation, and biological information.

3 ASPECTS OF READING BEHAVIOR: READING HABITS

The results of some studies conducted in the late 15 to 20 years conclude our identity –based on behavior– is 50% determined by genes and the rest of other 50% by our surroundings. This conclusion is sufficient yet, it still needs improvement. Some empirical evidences show that brain system is directly related to personality (Gale, 1983 cited in Mangussara, 2012).

A German psychologist Hans Eysenck relates introvert-extrovert directly to the center of neurological system. The theory refers to the personality theory based on biological condition.

Every individual has different parts of dominant brain. The dominant brain contributes to the individual. The characteristics of those hemispheres then will make the body constitution match other body’s functions that genetically attach to certain individual. The table of the conformity of STIFIn operational system with some functions and typologies and some former theories that are still used today is shown below (see table 1).

Table 1: STIFIn operational system and classic theory.

Hemisphere Intelligence Operational System (STIFIn)	Body Fluid System (Galenus)	Body Temperature System (Hippocrates)	Body Universal System (Empedokles)	Body Stimulation System (Pavlov)	Body Functional System (Sigaud)	Body Organ System (TCM)	Body Constitution System (Kretschmer)
Sensing-left limbic	Choleric	Dry	Soil	High excitation, low inhibition	Muscular	Spleen	Athletic
Thinking-left neocortex	Phlegmatic	Cold	Metal	Low excitation, high inhibition	Cerebral	Kidney	Pyknic
Intuition-right neocortex	Melancholic	Wet	Wood	Low excitation, low inhibition	Digestive	Liver	Asthenic
Feeling-right limbic	Sanguine	Hot	Fire	High excitation, high inhibition	Respiratory	Heart	Dysplastic
Instinct-midbrain	-	-	Water	No excitation and inhibition	Circular	Circular Organ	Sthenic

Source: (Poniman, Magussara, 2012)

To know someone, an individual only needs to explore the basic function, or the basic tendency (McCrae and Costa, 1996). Thus, according to McCrae and Costa (1996), knowing someone does need complicated psychometrics. According to McCrae and Costa (1996), the tendency is the only element that is stable while the adjustment of character and self- concept is changing. The basic function concept that Jung proposes is in line with the basic tendency Mc Crae and Costa do. The basic function is considered stable, eternal, genetic, and attachable to someone’s intelligence.

This study explores behavior based on genetic biological information that has been explained based on the basic concept, the genetic strata theory of STIFIn. According to the genetic strata theory of STIFIn, the first dimension describes brain operational system and the position of human’s dominant intelligence machine. After conducting the mapping based on the similar characteristics, the character of blood gene type appears to be the same as type of intelligence machine. Therefore, this study determines reading behavior based on five aspects including reading habit, the selection of reading materials, reading style, book layout, and the aim of reading books (hybrid). Those five aspects are

mapped into five brain operational system (intelligence machine and intelligence drive) that is similar to four blood gene types, as the inventor indicators that will be analyzed. By determining reading behavior, this study attempts to obtain the correct goal; that is to explore the pattern of reading behavior based on blood gene type. This scientific reference is adapted from the theory of STIFIn brain operational theory.

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Therefore, this study determines reading behavior based on aspects of reading habit. This aspect mapped into five brain operational system (intelligence machine and intelligence drive) that is similar to four blood gene types, as the inventor indicators that will be analyzed. By determining reading behavior, this study attempts to obtain the correct goal; that is to explore the pattern of reading behavior based on

blood group. This scientific reference is adapted from the theory of STIFIn brain operational theory.

4 SURVEY DESIGN

The data are collected by survey with trend study through cross-sectional survey. The survey is conducted to 17-22 year-old adults, who are college students or the members of reading community. Both populations are the samples since those fulfil demographic aspects in qualification and competence. Academician is considered the one who has high order thinking skills.

Steps in survey research (trend study) are as follows:

- Formulating the research problems
- Preparing the technique of data collection
- Determining the amount of research sample
- Collecting the data
- Analyzing and interpreting the result of data analysis

The sample is determined randomly (Random Sampling). It is intended to give the same opportunity for every respondent to be selected as the sample. The stratification of the random sample is selected by doing these following steps.

- We stratify the population to be strata based on blood type A, B, AB, dan O, thus each stratum contains homogeneous sample unit.
- The population is categorized in the strata that contains homogenous sample unit. For example, strata consist of blood group A1-A25, blood group B1-B20, blood AB 1-AB9, and blood group O1-O21.

We determine the sample by using formula in the table (Krejcie and Morgan, 1970) with the credibility level of 95%. According to the table, if the sample unit is 20 people, the sample needed is 80 people. Thus, the available population fulfils the credibility level of 95%. The student Samples in Library and Information Study Program from batch 2013 to 2016 are 74 people in which each stratum of four blood types has sample unit of 20-25 people, except AB blood group, which just 9 person from population-sample. There is the test of blood type to the sample. The sample is asked to answer the questionnaire. Then, the result of the survey is collected, mapped based on most dominant behavioral pattern, analyzed, and constructed to be a model of the reading behavioral model with blood types-basis.

- We determine the amount of sample from each stratum based on its proportion, thus the total amount of the sample is the same as the sample determined in the table.
- We prepare random numeral table.
- Sample from each strata is taken randomly by using random numeral table.
- The amount of total sample is the accumulation of samples selected from all strata.

5 MAPPING AND PATTERN ANALYSIS

The data are collected by using percentage measuring tool, close questionnaires, observation, interview, and pattern analysis. Below is the result of data collection instrument obtained in the second step of detailed mapping on reading behavior adjusted to five types of STIFIn intelligence machine as the reflection to blood type.

There are 9 respondent from AB Blood Group, as a Sensing (S) on STIFIn Concept as biological information, has Self-Perception about Reading Behavior in Reading Habits which results "I read the book by highlighting all paragraphs with highlighter/marker since I think that all information is important", approximately 55,6 % says (yes) and 44,4 % says (no) (see figure 1).

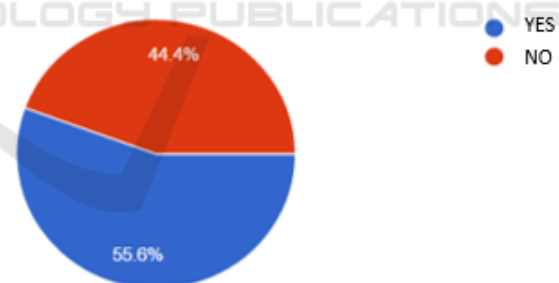


Figure 1: The reading pattern of blood group AB.

There are 25 respondent from A Blood group, as a Thinking (T) on STIFIn Concept as biological information, has Self-Perception about Reading Behavior in Reading Habits which results "I often read only some parts of chapters that I consider important and necessary. However, I consider that I have completely read all parts of the book". Approximately 60 % says (yes) and 40 % says (no) (see figure 2).

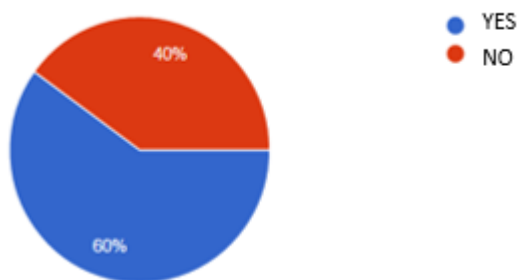


Figure 2: The reading pattern of blood group A.

There are 22 respondent from B Blood group, as a Intuiting (I) on STIFIn Concept as biological information, has Self-Perception about Reading Behavior in Reading Habits which results “I usually read book quotation in the box. A good quotation is written in my social media status, book, or special note”, approximately 81,8 % says (yes) and 18,2% says (no) (see figure 3).

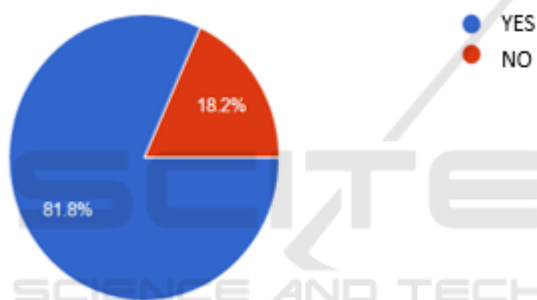


Figure 3: The reading pattern of blood group B.

There are 20 respondent from O Blood group, as a Feeling (F) on STIFIn Concept as biological information, has Self-Perception about Reading Behavior in Reading Habits which results “I am unwilling to read book directly. I usually watch something through audio-visual and book discussion”, approximately 75 % says (yes) and 25% says (no) (see figure 4).

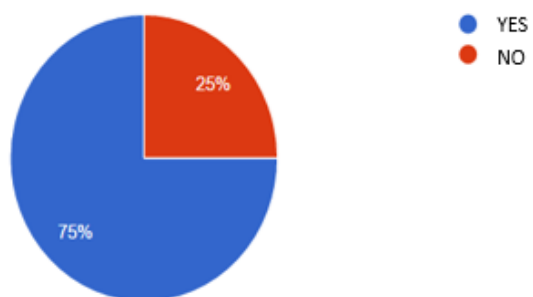


Figure 4: The reading pattern of blood group O.

The last genetic factor in STIFIn theory significantly influences the spontaneous stimuli. Yet, it does give big influences on the strategy of decision making.

The influence of blood gene type can be detected when an individual has paper and pencil test. For example, an individual, with type T (Thinking) whose blood type gene O, will select the option “love helping” when she has the paper test. Her/his option reflects her/his intelligence. The factor of blood gene type is spontaneous, not stable, and temporary in nature (Poniman and Mangussara, 2012, p. 27).

- The application of a reading habits/ behavior pattern based on blood type can be developed in other contexts, such as products and services that elevates literacy as a library program for sustainable community development.
- Facilitation of identifying a reading pattern through similarity of blood group to construct a reading culture in university library is needed.
- The mapping of information content in the form of a biological information that uses multimedia is needed.

6 CONCLUSIONS

The temporary influence of blood group will be categorized by the similarity to the type of the intelligence machine type using the concept of STIFIn. The classification can be seen below.

Blood group AB controls brain to be an individual with type S (Sensing), they have a pattern of reading habits are read the book by highlighting all paragraphs with highlighter/marker, since they think that all information is important. We assume that 44,4 % of respondents who answered “no”, the possibility of giving answer to the bias based on the type of machine intelligence which used for decision making, such as (

Blood group A controls brain to be an individual with type T (Thinking). They have a pattern of reading habits are often read only some parts of chapters that they consider important and necessary. However, they consider that they have completely read all parts of the book. We assume that 40 % of respondents who answered “no”, the possibility of giving answer to the bias based on the type of machine intelligence which used for decision making, such as (Sensing, Intuiting, Feeling, or Instinct)

Blood group B controls brain to be an individual with type I (Intuiting) they have a pattern of reading habits are usually read book quotation in the box. A good quotation is written in my social media status, book, or special note. We assume that 18,2 % of respondents who answered “no”, the possibility of

giving answer to the bias based on the type of machine intelligence which used for decision making, such as (Sensing, Thinking, Feeling, or Instinct)

Blood group O controls brain to be an individual with type F (Feeling) they have a pattern of reading habits are unwilling to read book directly. They usually watch something through audio-visual and book discussion. We assume that 25% of respondents who answered “no”, the possibility of giving answer to the bias based on the type of machine intelligence which used for decision making, such as (Sensing, Thinking, Intuiting, or Instinct). The individual with type In (Instinct) they have a pattern of reading habits are usually process the information by using instinct, select book spontaneously and incompletely, and understanding the content generally. Every type of machine intelligence have these pattern.

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APPENDIX

Biological Information		Self-Perception about Reading Behavior			
MK STIFIn Types	Blood Types	Reading Habits	Pattern	Percentage (Yes)	Percentage (No)
S	AB 9 responses	I read the book by highlighting all paragraphs with highlighter/marker since I think that all information is important.		55,6 %	44,4 %
T	A 25 responses	I often read only some parts of chapters that I consider important and necessary. However, I consider that I have completely read all parts of the book.		60 %	40%
I	B 22 responses	I usually read book quotation in the box. A good quotation is written in my social media status, book, or special note.		81,8 %	18,2%

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Biological Information		Self-Perception about Reading Behavior			
MK STIFIn Types	Blood Types	Reading Habits	Pattern	Percentage (Yes)	Percentage (No)
F	O 20 responses	I am unwilling to read book directly. I usually watch something through audio-visual and book discussion.		75 %	25%
In	~	I usually process the information by using instinct, select book spontaneously and incompletely, and understanding the content generally.	-	-	-

Source: Construction by author (2017)

