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Reading material selection for bibliotherapy based on blood type in young adult groups

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Abstract

Blood type as biological information is still considered a prophecy and pseudoscience that still needs to be proven. It is the easiest and cheapest among other genetic identification tools.This study aimed to map reading material selections based on blood type personality. This study was a quantitative approach through cross-sectional survey. Identification was obtained from data in identity cards and laboratory blood type tests. The study population was 100 UPI LIS students with 80 samples of young adults aged 18-22 through random sampling with stratification. The samples were: 9 respondents with AB blood type and 25 with A blood type. Respondents of O and B blood types each followed the selection of the expected sample was 20 people. Each homogeneous sample filled out a questionnaire on reading material selection aspects. Results showed that 55.6% of the AB blood type chose non-fiction books such as 'how-to' related to hobbies, and 52% of A blood type tended to select non-fiction books that support their tasks and work. Also, 81.8% of B blood type chose fiction books and adventure stories opening up fantasy horizons, and 80% of O blood type chose books that did not always have to be brought to the big screen/filmed; however, they were recommended and told. In conclusion, this blood type personality model can identify young adult clients' profiles to develop bibliotherapy service programs in different types of libraries and make it easier for librarians and bibliotherapists to recommend reading materials suitable for the benefit of preventive-curative bibliotherapy.

Keywords: Bibliotherapy; Biological information; Information needs analysis; Blood type; Reading material

Pemilihan bahan bacaan untuk biblioterapi berdasarkan golongan darah pada kelompok dewasa muda

Abstrak

Golongan darah sebagai informasi biologis masih dianggap sebagai ramalan dan pseudosains. Fenomena ini perlu dibuktikan. Golongan darah dipilih karena merupakan yang termudah dan termurah di antara alat identifikasi genetik lain. Penelitian ini bertujuan untuk memetakan pemilihan bahan bacaan berdasarkan kepribadian golongan darah. Metode yang digunakan dalam penelitian ini adalah pendekatan kuantitatif melalui survei cross-sectional. Identifikasi golongan darah dilakukan menggunakan data dalam kartu identitas dan hasil pengujian golongan darah di laboratorium yang ditentukan oleh peserta. Populasi penelitian ini adalah 100 mahasiswa UPI dengan 80 sampel dewasa muda, berusia 18-22 tahun yang diseleksi menggunakan random sampling dengan stratifikasi. Sampel terdiri dari 9 responden yang memiliki golongan darah AB. 25 responden golongan darah A. Responden golongan darah O dan B masing-masing sesuai dengan pemilihan sampel yang diharapkan, yaitu sebanyak 20 orang. Setiap sampel homogen mengisi kuesioner survei tentang aspek pemilihan bahan bacaan. Hasilnya: 55,6% golongan darah AB memilih buku non-fiksi seperti buku 'bagaimana cara' yang berkaitan dengan hobi 52% dari golongan darah A memiliki kecenderungan untuk memilih buku non-fiksi yang mendukung tugas dan pekerjaan mereka, 81,8% golongan darah B memilih buku fiksi, cerita petualangan yang membuka cakrawala fantasi, 80% golongan darah O memilih buku yang tidak selalu harus dibawa ke layar lebar atau difilmkan, tetapi cenderung yang telah direkomendasikan dan diceritakan. Simpulan penelitian adalah model golongan darah mampu mengidentifikasi profil klien dewasa muda untuk mengembangkan program layanan biblioterapi di berbagai jenis perpustakaan dan memudahkan pustakawan dan biblioterapis merekomendasikan bahan bacaan yang cocok untuk kepentingan biblioterapi preventif-kuratif.

Kata Kunci: Biblioterapi; Informasi biologis; Analisis kebutuhan informasi; Golongan darah; Bahan bacaan

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INTRODUCTION

Librarians, counselors, social workers, psychiatrists, psychologists, and educators take part in reading material such as fiction and non-fiction through bibliotherapy. Their role is to propose the selection of library materials that identify problems and read related books that have similar stories so that it is possible to grow emotionally. Noordin, Husaini and Shuhidan (2017) said that clients would reflect on their situation when they finish reading a book. Bibliotherapy or reading therapy uses books or reading materials in counseling to support the client's change (Trihantoro, Hidayat, & Chanum, 2016).

Reading for therapeutic purposes through bibliotherapy requires a holistic understanding of whom we are dealing with. The idea of bibliotherapy grew from the understanding that reading can influence an individual's attitudes and behavior. "Bibliotherapy is a fun step in shaping positive behavior in the family" (Agustina, Rusmono, & Johan, 2017). Understanding the client's entire personality is essential. Through the client's personality, the librarian-bibliotherapist can know the real needs, goals, and even actual conflicts.

Bibliotherapy has been widely recognized as an approach that helps librarians better address emotional, behavioral, and social concerns (Husaini et al., 2017). The author believes that this is where the role of Information Science is to find the right formula in identifying basic information from an individual's personality, one of which is to increase the study of biological information. It opens basic answers to problems through biological information.

Agustina (2020) said that failure to understand the client's personality makes it difficult for the bibliotherapist to enter the client's honest thoughts and feelings. It will hinder the process of building a relationship with the client. In addition, it is crucial to understand the individual development of each age stage. Human development is a series of processes throughout life, from physical, behavioral, cognitive, and emotional growth and changes, which occur from conception (the meeting of sperm and ovum) to death. The term development is not limited to physical growth to become more prominent or heavier. Development is a process of change that is progressive, regular, and continuous (coherent) towards maturity.

The term 'progressive' refers to changes that are more towards progress, not setbacks. The words 'regular' and 'continuous or coherent' indicate that development does not occur haphazardly but that there is a relationship between each phase of the developmental sequence. Remember that every change depends on everything that preceded it and affects what comes after. It is essential to document and archive individual developments, from personality, mental, moral, to spiritual growth (Agustina, 2020). Age 18-40 years as an early adult phase. The developmental tasks of early adulthood are choosing a life partner, achieving social roles, being responsible, achieving emotional independence, and learning to build a home life with a partner (Putri, 2018).

In this phase, the characteristics that potentially already exist in the individual develop due to hereditary factors. Development in early adulthood is more comprehensive, physical, social, intellectual, emotional, moral, and spiritual. Physical growth usually stops at

18-22 years old, while mental, moral, and spiritual development never stops.

So far, bibliotherapy studies are still focused on mental problems, of course, by using certain reading materials. Thus, it is appropriate that bibliotherapy is synonymous with psychology and counseling. So, what is the point of view of bibliotherapy in information science and libraries? The answer lies in selecting, determining, and assessing appropriate reading materials for bibliotherapy purposes. Agustina (2018) calls it *didactic bibliotherapy*. The bibliotherapist's experience assessing and analyzing reading materials for bibliotherapy through didactic bibliotherapy may increase the reader's understanding. Every book has a reader, and every reader has a book, one of the five laws of Ranganathan librarianship (Agustina, 2015).

Bibliotherapy is one of the developments of library services as a vehicle for therapy for people with various socio-cultural backgrounds regardless of physical and mental limitations. Libraries in educational environments implement disability-friendly bibliotherapy services to support the educational mission for all (Agustina, 2014). Librarians have long collaborated with other professions in applying this therapeutic model (A'yunin, 2017).

With their stock of knowledge and information, libraries and reading rooms can become therapeutic service points for people affected by applying bibliotherapy methods. Bibliotherapy refers to the use of reading materials for assistance in solving personal problems or for psychiatric therapy (Hasfera, 2018). So, reading materials have become a vital part of bibliotherapy practice.

Agustina (2018) states that the term reading material has developed in bibliotherapy. Not limited to books, but also reading materials from various media currently developing. As long as it is a text or literature, it can be a therapeutic medium. When the reading material is obtained from social media platforms or websites, it can still be called bibliotherapy as long as the principles of bibliotherapy are used, namely reading-writing-reflecting-documenting activities textually, storytelling, or narrative, and follow-up strategies.

The uniqueness of individuals can be seen in their biological and chronological age. Biological age reflects generally accepted standards of individual development, while chronological age reflects unique and authentic individual experiences and references. In biological age, a person's cognitive and affective development is considered a general standard that must be achieved at a particular stage of development, while chronological age is not. Environmental stimuli in which individuals grow and develop have affected the chronological age, showing the individual's uniqueness.

A person of a certain chronological age can have a mindset that exceeds that of individuals of the same biological age. This is supported by the experiences and references of individuals during their life. Individuals accustomed to reading from an early age experience accelerated changes in their reasoning, which impacts how individuals respond to problems in their lives. Unfortunately, when individuals have not read themselves but have read others through books, they often face resistance to the changes they experience—difficulty reflecting on the

results of reading because they do not know themselves.

The client's need to know oneself and the bibliotherapist's need to identify their clients is present in the first of the five phases of bibliotherapy, namely the client focus phase or building rapport (Lathifah, R. A. S., & Irhandayaningsih, 2018). Also, Agustina, Rusmono, and Johan (2017) mention that there are challenges in this relationship-building phase. The challenge is that the bibliotherapist librarian needs tools to help get to know the client more deeply. The bibliotherapist librarian is prepared to deal with the client's behavioral patterns and build effective communication for mental healing through the client's biological information.

Self-knowledge using personal information has not been widely studied. In fact, the most basic reading is reading the self-code or persona code (Agustina et al., 2017). Without knowing themselves, individuals experience mental problems and feel spiritual aridity. Persona information from biological information is interesting to be investigated further in the study of Information Science. Information and Library Science can take part in aspects of data, analysis of existing information patterns, to documenting and storing persona documentation, which is helpful in the future.

So far, we know about the existence of medical records. Still, not many people care about the need for personal, mental, and spiritual records, which can be a record of leaps and bounds of life transformation and life for the better in the future. The archival documentation can also be additional information for clinical treatment. Agustina et al. (2017); Moinuddin (2017); Hamid (2017) state that physical pain comes from mental illness. It is reinforced by Moinuddin (2017) and Hamid (2017) that a relationship exists between physical health and a person's mental health. This approach to health and disease is known as a holistic approach—the clinical experience of a cardiac surgeon in exploring conventional wisdom for holistic health.

Mansyah (2020) indicates that mental health cannot be separated from understanding physical health and illness. Meanwhile, Saputri, Rahman, and Kurniadewi (2012) state that loneliness can harm a person because of depression, which can be physically harmful. So, with personal records or documents, mental-spiritual records are beneficial in recovering from physical illness in the future. Including references to reading materials one reads and notes on one's experiences.

In every phase of life, individuals experience resistance and crises; to overcome them, they can read books or materials such as *Self-Help*. Putri and Aprilianti (2021) mention that a survey has revealed that young adults who are in a quarter-life crisis like books in the self-development genre. This study explored the pattern of reading material selection associated with knowledge and the individual's awareness of identifying through one's own identity. Identity-so far functions as data documented in identity cards-has not been used as directive information.

Meanwhile, all personal data related to biological information tends to make someone a happy person on the natural path to success. Biological information helps if they can read and interpret it for themselves. The information is code. Codes that become personal information: Name, date, place of birth, gender, blood

gene type, address, religion, marital status, occupation, and nationality become basic personal information. This study does not intend to link blood type with personality. Still, several kinds of patterns typical of the blood type personality theory in Japan and the genetic strata theory of the STIFIn concept assist the analysis of this study.

The theory of genetic strata, the STIFIn concept, divides the human brain into three dimensions. There are three dimensions of the human brain; the first is the capacity of the brain; second, the brain operating system; and third, brain culture. The brain capacity in the brain operating system is a gift from Allah SWT. Meanwhile, it is still possible for humans to program or engineer brain culture (Poniman, Nugroho, & Azzaini, 2011).

Everything stored in the memory of historical collections about patterns of events and forms of repetitive habits received by the dendrites of nerve cells in the brain is stored in the cultural dimension of the brain. That is, this brain culture results from exposure to the environment in which it develops. Meanwhile, there are dimensions which are containers or memory storage containers. Like a train carriage that accommodates its passengers, the human brain also has an 'information storage carriage', called the dimension of brain capacity. We can see the size of the human brain's capacity from the head's diameter. A person is considered intelligent when he/she has a wide head diameter. Ordinary people call it IQ (*intelligence quotient*). The frequency of dendrites in the brain nerves determines the human brain's capacity.

There is a fundamental difference in the density of brain dendrites between men and women. The dendrites of the female brain are denser than that of the male. Comparing the brain capacity of men and women can use a ratio of 0.8 so that a woman's head measuring 0.8 of a man's head, then her brain capacity is considered equal to that of men. The scale can measure brain capacity, vertically oriented, such as small to large, low to high, and limited to more comprehensive. We can say that the brain's power is like computer hardware (Poniman et al., 2011).

Brain operating system as a second dimension. Computers require hardware and software. An operating system can make a piece of hardware work properly, like the brain. Machine intelligence as the operating system of the brain that makes DNA successful exists in humans. The analogy is that a train cannot move forward if it is not equipped with a locomotive engine, even though the carriages are large.

Which part of the intelligence machine is dominant? It can be known through the Intelligence Machine (IM) analysis through fingerprint patterns. In the STIFIn concept of intelligence machines, there are five brain hemispheres whose functions are quite contrasting (Poniman & Ariesta, 2019). That is, which part of the brain is the most dominant in driving the thought process and processing information. STIFIn is an acronym for S (Sensing) located in the left lower limbic hemisphere and T (Thinking) in the left upper neocortical hemisphere. Both can be said to be the left brain. While the location of I (Intuiting) is in the right upper neocortical hemisphere and F (Feeling) is in the right lower limbic hemisphere. Both can be said to be the right brain. At the same time, In (Instinct) is located in the midbrain. Thus, we can think of all the brain's hemispheres as

biologically coded information that can reveal the secrets of an individual's life. Genetics is the factor of intelligence given by God that does not change from birth to death. The author calls it biological information. Until now, genetics-neurology is still investigating genetic non-heredity. However, one of the research goals on brain operating systems is to find the right place to live according to the intelligence machine so that it develops according to its nature.

Furthermore, human chronological age constructs brain culture as a third dimension. All forms of information stimulation like habits, experiences, and references greatly determine a person's life. Brain culture can shape one's destiny because destiny is determined by how one thinks, acts, and behaves; accessing only one's good potential means picking up a promising future and vice versa. By knowing one's code, humans have their pattern of success and are wiser in managing the information that enters their brain because it will become a habit. Whatever one thinks, how one acts and behaves, and the decisions one makes in life and work are products of brain culture.

Negative brain culture can be a barrier that shackles a person from achieving outstanding achievements in life and work. Brain culture can be changed, though not easily. The trick is to build positive new habits. By recognizing the machine of self-intelligence, we read ourselves to determine the brain's culture according to nature.

The concept of the STIFIn intelligence machine (Sensing, Thinking, Intuiting, Feeling, and Instinct) is constructed using three theories. First, according to Carl Gustav Jung, a primary function is the determination of four basic human functions, including sensing, reasoning, feeling, and imagining. Of these four basic functions, one is the most dominant. Second, the theory from a neuroscientist named Ned Hermann divides the four quadrants of the brain hemisphere, namely the left and right limbic, and left and right cerebral. Third, the theory of Paul MacLean, from the evolution of the human brain called the Triune brain strata (three fused heads), namely the human, mammalian, and reptilian brains (Poniman et al., 2011).

The concept of the STIFIn intelligence machine was constructed from these three fundamental theories. Along with the development of the STIFIn research, the intelligence machine added a part of the brain called the midbrain or instinct. The STIFIn theory of intelligence machine complements the discovery of a set of crossed ideas that act superior and inferior: Slice of equation theory (between the poles of difference in quadrants and diagonals; Circulation theory which shows unique and logical pentagonal social relationships; the Theory that is useful as health information through the body's metabolic alignment pattern based on the intelligence machine; Calibration theory based on the type of intelligence machine; Genetic theory; The theory of genetic strata starting from intelligence machine-Drive Intelligence-Hardware Capacity-Blood type.

This study focuses on the seventh order, namely the theory of genetic strata as a form of biological information that individuals must 'read' to get to know themselves better. Mapping behavior patterns based on blood type based on the STIFIn theory is the focus of this research.

As a genetic factor, blood type in the STIFIn concept shows a fairly dominant

role in spontaneous stimuli. However, it is very limited in strategic decision-making and requires much consideration. Blood type affects instantaneous response. For example, individuals with type T (Thinking) who have blood type O when filling out a reading behavior questionnaire prefer to talk about books rather than reading books to help complete their work, such as the nature of their intelligence machine. This is due to blood type factors that are spontaneous, unstable, and temporary (Poniman & Mangussara, 2012).

The instantaneous response of blood type can be mapped based on similarities to the kind of intelligence machine on the STIFIn concept to describe the selection of reading material that appears as an instantaneous or spontaneous response from blood type, as follows: Blood type O commands the brain to become type F (Feeling) individuals; Blood type A to become type T (Thinking) individuals; Blood type AB to become type S (Sensing) individuals, and Blood type B to become type I (Intuiting) individuals. Since the blood type only consists of 4 types, the In (Instinct) type in the STIFIn concept does not appear; however, the In character will be analyzed based on the spiritual side in the context of choosing reading materials.

Meanwhile, amid controversy, personality studies based on blood type are considered pseudoscience and astrology due to insufficient evidence or test criteria (Tsuchimine, Saruwatari, Kaneda, & Yasui-Furukori, 2015). One of the reasons Japan developed blood type as an indicator of personality theory in reaction to ethnic stereotypes originated in Europe from Takeji Furukawa (1927), as well as the widespread belief from Masahiko Nomi (1970). The development of studies on blood type with personality showed a statistically significant relationship. They are also considered to produce predictions, followed by several medical hypotheses supporting the blood type personality theory (Hobgood, 2011; Tsuchimine et al., 2015). Eventually, this study aims to know reading material selection for bibliotheraphy based on blood type in young adult groups through mapping the pattern that helps the librarian or bibliotherapist choose the genre of reading material according to the personality characteristics of the blood type.

RESEARCH METHODS

The research used a quantitative approach through survey research methods. This method asks several respondents about their beliefs, opinions, characteristics, and behaviors that have occurred or are currently happening (Adiyanta, 2019). This type of research is a survey with a trend study approach.

Data was collected through the google form link for informants who were prepared to fill out a survey and were willing to show their identity cards and blood type card. The population was members of the Indonesian Bibliotherapy Community, whose samples were taken based on the need for blood type units. The 47-50 respondents represent each type of blood group—young adult research subjects aged 18-22 years, male or female.

Laksmi (2021) states that the stages of activities in survey research (trend study) are formulating research problems, preparing data collection techniques, determining sample size, collecting data, and analyzing and interpreting the results of data analysis. So that each respondent could be selected as a sample, the sample selection was performed by random

sampling. The stages of selecting samples at random stratification were first, classify the population stratification into strata based on the type of ABO blood group so that the sample is homogeneous; each stratum contains homogeneous sample units. Second, use the Krejcie and Morgan table formula to determine the 95% confidence level sample. The table shows that if the specified sample unit was 20 people, the sample required was 80. The existing population was sufficient for a 95% confidence level; the total population was 100 people.

Third, group the population into homogeneous sample units; for example, strata containing blood group A were coded A1-A25, blood group B1-B20, blood group AB1-AB10, and blood group O1-O22. The sample of blood type AB is the least because it is rare to find people with blood type AB. Fourth, determine the sample size from each stratum according to the proportion. Fifth, create a table of random numbers. Sixth, conduct a random sample using a random number table from each stratum; seventh, add the samples taken from all strata into a total sample.

RESULTS AND DISCUSSION

All living things are physically and chemically organized, grow, metabolize, regulate their internal environment, react to the external environment, and produce and use nucleic acids to store genetic information. Nucleic acids store and transmit all living things' basic genetic and biological information. One of the nucleic acids is DNA or *deoxyribonucleic acid*.

The complete genetic information of an organism is called its genome. Organisms inherit this genetic, biological information, in the form of DNA, from their parents and pass it on to their offspring. DNA chains are often tens or hundreds of millions of nucleotides long, but nucleotides contain only four different types of nitrogenous bases: adenine, guanine, thymine, and cytosine. Water is called the universal solvent because it can dissolve more different substances than any other liquid. The STIFIn hypothesis is that Sensing (S) has a predominance of Adenine DNA code, Thinking (T) predominately Guanine code, Intuiting (I) predominantly thymine code, and Feeling (F) predominantly cytosine code. Instinct (In) is predominantly balanced (uranine or RNA), which is also the concept of water as a universal solvent.

Adenine (Sensing) or blood type AB always pairs with thymine (Intuiting) or blood type B. This is information from Allah SWT when creating humans in pairs, complementing one another with a real difference. They are opposite each other in pairs; in the concept of the STIFIn hypothesis, both are in the production diagonal.

Likewise, it pairs Cytosine (Feeling) or blood type O with Guanine (Thinking) or blood type A and loving people pairs with people who are easy to bear. The principle is that the more different, the better. Studying and understanding the functions of each nucleobase when it is processed as a DNA code, it turns out that it is in line with the characters S, T, I, and F, which represent blood groups AB, A, B, and O.

When adenine pairs with thymine, and guanine pairs with cytosine, both form a zipper or spiral staircase. In simple terms, during cell regeneration, RNA polymerase comes to the DNA zipper strand and unzips the DNA. After opening, then this RNA completes the codes that have been separated. This RNA

or Uranine goes to adenine alone and adapts to thymine to pair with adenine. When thymine is isolated, uraninite comes in and adapts to adenine. The same is true for guanine and cytosine. After the transcription process is complete, the DNA zipper is closed again. This confirms why RNA, similar to Instinct (In) people in their lives, has a role as a complement, adapting, and uniting the other four types. It acts as a harmonious figure (Poniman & Ariesta, 2019).

The carbohydrate structure of RNA is small, so the 'resistance' of In to its principles is weak. It is easily distracted or diverted. Research in the laboratory, Poniman and Ariesta (2019) has proven that the Instinct type has a balanced nucleus or nucleobase. DNA tests carried out in the laboratory can determine whether a person is an instinct type or not, only through tests of hair, blood, saliva, or bones. This further reinforces that blood type is genetic, just like the Intelligence Machine (IM) and Personal Genetics (PG).

The study results were based on survey answers with closed questions to each respondent with their blood type, as follows. The perception of blood type AB which was similar to the Sensing (S) machine intelligence type in choosing the kind of reading material: "I choose non-fiction books such as 'how-to' books related to hobbies such as automotive, tourist destinations, chronology, centric facts, as well as biographies/autobiographies of figures." This statement answered a closed question to determine the sample's choice of behavior pattern in choosing the reading material.

There were nine respondents with blood type AB who represented machine intelligence type Sensing (S) on the concept of biological information based on STIFIn: having self-perceptions about the choice of reading material "I choose non-fiction books, such as 'how-to' related to hobbies, for example automotive, destinations tours, chronologic, centric facts, and biographies/autobiographies of characters." About 55.6% replied 'Yes', and 44.4% replied 'No'. This can be accepted as an answer to the AB blood type pattern because more than 50% of respondents answered 'Yes".

Poniman and Ariesta (2019) state that individuals with blood type AB tend to dominate the lower left (limbic) brain and thus master more vocabulary because of complex sensing results. Non-fiction books make it like a walking encyclopedia, always ready to answer environmental questions supported by strong memory chemistry. When looking at the tendency of type S, in which the five senses dominate, writing in a reading book means stimulating the motion and work of the five senses, visually, cognitively, and psychomotorically. Meanwhile, the remaining 44.4% indicated other factors that influenced the answer to the perception of decision-making.

In this case, blood type AB, which is similar to type Sensing (S), with the dominance of the lower-left brain (left limbic), is characteristically adventurous and can be a walking encyclopedia for those around him/her. The statement showed the pattern of the type of book they chose to support the characteristic of Sensing (S), which referred to the five more active and dominant senses. Poniman and Ariesta (2019) supports this finding that the concrete and practical, adventurous Sensing (S) mindset is caused by stimulation from the movement of red

muscles to affect the nerves that connect to the brain.

Characteristics of Sensing (S), similar to blood type AB, is said to be a walking encyclopedia because of one's strong memory, although sometimes he loses ideas. The (S) practices memory by summarizing. Therefore, 'how-to' books related to hobbies such as automotive, business, tourist destinations, chronology, centric facts, and biographies/autobiographies of characters can be an option for reading material needs. Blood type AB, as 'the messenger' paid attention to the choice of the book, gave an instant response, momentary, and tended to appear at the beginning. In contrast, the following process was visible and dominant in the Intelligence Machine (IM). Despite the possibility of being fooled by the instantaneous response, the pattern generated by blood type is beneficial in Information Need Analysis (INAs) for library service providers and bibliotherapy service providers in providing reading materials.

> "Information needs analysis is the process of making value judgments regarding solutions to an information-related problem faced by client group, service provider or facility in order to facilitate fulfillment on a necessary, useful and defensible purpose" (Dorner, Gorman, & Calvert, 2017).

It can be said that information needs analysis is a process of assessing the values of solutions to information problems faced by groups of clients, service providers, or facilities to fulfill necessary, helpful, and defensible objectives. If this blood type pattern is studied to the level of written language style, the context of the content, such as the pattern that tends to require blood type AB, will be significant for the client group. The provision of services or facilities offered is tailored to unique individual needs. This is in line with the three perspectives of information managers when determining various information needs. Abraham Maslow's theory of needs is perhaps the best known of all categories of needs. Maslow theorized that needs motivate people. Individuals must meet their basic physical and emotional needs before advancing to higher levels of needs, such as esteem and self-fulfillment.

Maslow's original hierarchy of needs listed five levels. First are the biological and physiological needs. The most basic physical needs are air, food, drink, shelter, warmth, sex, sleep, and so on. If it is unfulfilled, humans feel hungry, thirsty, sick, tired, in pain, and so on. Second is the need for security, comprising security needs, order, law, boundaries, safety, and stability. It is a psychological need for protection from chaos and dysfunction. The third is the need for love and a sense of belonging: the need to be part of a work group, family, and others. Fourth is the need for esteem: the need for self-esteem based on achievement, mastery, independence, and for status based on recognition from others. Fifth is the need for self-actualization: the need to maximize personal potential. Thus, realizing self-fulfillment, pursuing personal growth, and peak experiences (Dorner et al., 2017).

Based on Maslow's structure, biological and physiological needs become basic needs, so information professionals need knowledge and understanding of individual biological information. It is helpful to conceptualize the variety of information needs a client group may have due to their human needs. Instead, when

individuals experience problems, difficulties, or are under stress, their cognitive and emotional needs can be met, at least half of which are completed through obtaining and applying appropriate information through reading material, known as bibliotherapy.

The perception of blood type A was similar to the Thinking (T) intelligence machine type: "I choose non-fiction books that support my duties and work, such as textbooks, textbooks, motivational books, and self-development books". Closed questions to discover the pattern of selecting books from the A blood type, similar to the Thinking (T) type, was the tendency to select non-fiction books, especially scientific reading sources. Blood type A, as a representation of the Thinking (T) intelligence machine type, tended to choose non-fiction books that support their tasks and work, such as textbooks, textbooks, motivational books, and self-development books, mostly answering "yes", that was as much as 52%.

The answers of respondents who disagreed were not far apart, which was 48%. This could indicate that blood type A also chose fiction books to read, depending on the priority scale. The personality was based on logical, rational, and objective intelligence and the ability to reason deeply through technological mastery. The Thinking (T) learning pattern was reasoning from reading to obtain logic and its essence.

The location of the Thinking (T) brain operating system is in the upper left hemisphere, in the left cerebrum. The steering wheel of intelligence is in the gray layer located on the outside or surface of the brain. The T intelligence machine is sucked in by the head, which has more energy (Poniman & Ariesta, 2019). Therefore, the way of learning of this type is to reason from reading by drawing easy structures or schematics. They get this from non-fiction books, scientifically shown by blood type A as a transient response. Then if the IM (Intelligence Machine) is known, the more dominant one will determine the choice of reading.

The perception of blood type B was similar to the type of intelligence machine Intuiting (I): "I prefer fiction books, adventure stories that open the horizon of fantasy". Instant or temporary response of Type B blood type tended to be similar to the type of intelligence machine Intuiting (I). Blood type B had a dominant pattern of book selection in fiction books and adventure stories that opened up fantasy horizons, those who agreed were 81.8%. This is in line with the concept of the STIFIn intelligence machine theory in type I (Intuiting), whose location is in the upper right hemisphere. The texture is denser on the inner brain's white layer due to more brain cell content.

The intelligence steering wheel moves from inside to outside because the inside density is higher than the outside. If someone has a brilliant idea, it is like a rocket engine that flies into space with the idea. Fiction books, which open up fantasy information horizons, hone creative intelligence in this type. The selection of these books helps blood type B in composing flying words.

One's intelligence is based on the sixth sense (intuition) for Intuiting (I) and being a creative brain. This intelligence moves from inside to outside, so it tends to be a trendsetter in the professional environment. Learning Intuiting (I) is understanding concepts through illustrations, graphics, films, and body language. In order to find a program to

incubate their creations and find their chemistry in flying words, the tendency to choose fiction books, adventure stories, and fantasy can be an option, as determined by respondents with blood type B. This is in line with the opinion of Poniman and Ariesta (2019), that blood type B has a positive thinking character, but at the same time likes to fantasize as if anything can happen, even though they are good at making concepts but also mastering downstream work. This type who does not care about the environment is open to differences of opinion but remains stubborn with their beliefs.

Intuiting (I) looks intellectual and classy, symbolic, and uses analogies and metaphors; therefore, desire is a transient response similar to blood type B. Fiction books and adventure stories that open up fantasy horizons create 'desire'. Desire is part of the preparing process to read, where blood type B focuses the mind on the reading material and puts aside things that might burden the mind.

The perception of blood type O, which was similar to the intelligence machine type Feeling (F), chose the answer, "I only choose fiction or non-fiction books, which have been adapted to the big screen, filmed, have a book review, or told & recommended by friends". Blood type O had a tendency to choose books that did not always have to be made into the big screen or filmed (80%); however, the tendency to be recommended and told was more dominant. They preferred books, articles, or biographies of successful people. They then found out how to apply their knowledge, in line with the characteristics of intelligence machine F in the STIFIn concept.

Type O blood is a transient response similar to the Intelligence Machine (IM) Feeling (F) type, referring to feelings. Type O blood type is good at understanding other people. The Feeling (F) type's intelligence is driven from the inside out so that it emits a strong influence in leading. This learning method involves listening, recording, and replaying until the individual gets the point. It is necessary to give a touch of emotion to the motive of the brief moment.

Type O blood type is reflective; they are more interested in talking about books than reading them. So, a friend's recommendation can get them to read a book. This can be an *Information Need Analysis* (INAs) for library and bibliotherapy service providers. Also, during the first phase of a bibliotherapy session (building report), when dealing with a client with type O blood, they need to feel the client's mood. Bibliotherapy librarians need to do things they like by discussing and exchanging stories to build a positive mood. According to Agustina (2014), based on the results of STIFIn, to act as a bibliotherapist, one must have a passion for reading, memorizing, and remembering.

Blood type is one of the spontaneous responses. In the STIFIn genetic strata, blood type is a genetic factor that has a large enough influence in providing a spontaneous stimulus but has a minimal role in strategic decision making and requires much consideration. The effect of blood type on their answer choices is powerful through psychological or written psychological tests. The respondents' answers in this study may also be the same; spontaneous blood type responses also play a role.

Everything the author describes from the respondents through the pattern of the tendency for a momentary effect given by

the blood type response is spontaneous, unstable, and temporary. However, blood type is quite helpful in recognizing a person's characteristic pattern. This is useful for the development of services or programs in information institutions. At least easy and inexpensive identification elements can holistically support the library services.

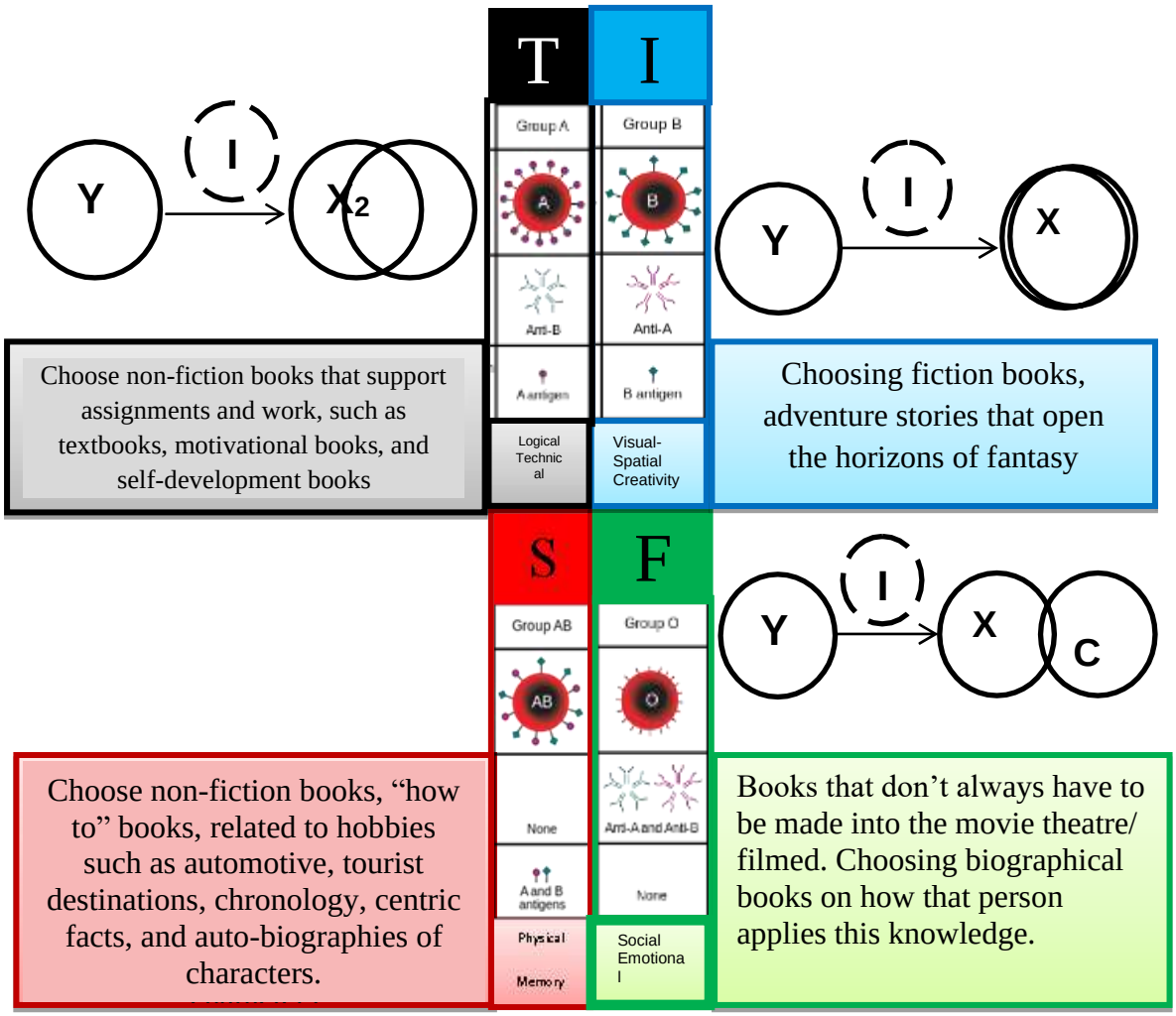

Figure 1. Model of the reading material selection pattern based on biological information on blood type
Source: Agustina, 2017 and the researcher's construction

A unique and interesting finding was that only nine respondents had blood type AB. At the same time, the most were blood type A with a total of 25 respondents. Blood types O and B followed the sample, which was expected to be selected by as many as 20 people. Samples were selected based on the population grouping blood group, after identifying the type of blood group of each individual, then classified based on the results of the blood group test. Then, each blood type group filled out a question instrument previously mapped based on the STIFIn intelligence machine pattern.

The sample did not answer research questions on the mapping of reading materials selection for other blood types but focused on self-assessment based on the results of reducing behavior patterns that had been mapped out previously by the researcher by simply answering (yes) or (no). This pushed the results of the

perception of answers in a dominant direction.

Another finding found one respondent whose blood type changed after doing a blood type test for the second time. The test results showed that initially, type B changed to type O, which was interesting. However, the researcher did not intend to explore further the cause of the change but only to identify whether respondents' answers tended to follow a pattern similar to the Feeling (F) or Intuition (I) intelligence machine type as a representation of blood group B.

Therefore, the pattern of selecting reading materials based on blood type could be further identified through the STIFIn intelligence machine test. This was because the respondent might have blood type AB, with intelligence machine Thinking (T), Feeling (F), Intuition (I), or even instinct (I). Figure 1 shows the Model of the reading material selection pattern. After going through the analysis stage of the perception and visible behavior, it turned out that a wedge occurred between the X variable and the C variable in the bias of the selection pattern of the resulting reading material.

The suitability analysis of the individual reading material selection based on the blood group type showed that the moderate variable (contingency) of the theoretical concept significantly influenced the biological information of the blood group (X). Besides, STIFIn Intelligence Machine (C) showed behavior as a result of attitude statements (cognitive, affective) and perceiving behavior (psychomotor) in selecting respondents' reading materials (Y). This occurred because other factors act as intervening variables (I) where X could not represent Y ideally 100% because X only served as a transient response that was not used as a decision-making tool.

Decision-making tools in line with the STIFIn concept are contained in five intelligence machines. Therefore, the results of mapping the pattern of selecting reading material based on blood type are truly in line with behavior based on the characteristics of an intelligence machine (XC).

The resulting reading behavior pattern reflected the nature of the instantaneous response to blood type. If there was a negative result or 'no' answer from the respondent, this was because probably the respondent had a different blood type than the characteristics of the intelligence machine. For example (X1, C4), meaning that the blood type was AB and the intelligence machine F so that when answering the questionnaire, the intelligence machine, which was F, played the role, not the transient response to blood type AB. Thus, the mapping became Y= {XC+ (I)}, X = Independent Variable, X = Blood Type Biological Information, X1= Blood Type AB, X2= Blood Type A, X3 = Blood Type B, and X4= Blood Type O.

The Moderating Variable (Contingency) is the STIFIn intelligence machine that colors the direct relationship between the independent variables (X) and the dependent variables (Y). The variables that strengthen or weaken the direct relationship between X and Y are the nature or direction of the relationship between these variables, whether positive or negative. C1 = Sensing (S) in the STIFIn intelligence machine concept, C2 = Thinking (T) in the STIFIn intelligence machine concept, C3 = Intuition (I) in the STIFIn intelligence machine concept, C4 = Feeling (F) in the STIFIn intelligence machine concept, C5 = Instinct (In) in the

STIFIn intelligence machine concept is not included in the blood type (X) mapping pattern because it is considered a type of intelligence machine 100% owned by every IM type, Y= Dependent Variable (Behavior of selecting reading material), I= Intervening variable, which theoretically affects the relationship between X and Y, becomes an indirect relationship and cannot be observed and measured.

In the basic concept of intelligence machine (IM), it is known that there are 5, while there are only four blood types. The blood type of individuals with intelligence machine (In) tends to be more dominant. Thus, if the Instinct (In) individual does not know their IM, then In may conclude that they are according to their blood type and are carried away by their blood group characteristics. It is just that the Instinct (In) people have an excellent holistic understanding ability; based on Imam Al Ghazali's Triune Brain, In is the brain of idrak or the brain of understanding. They are paying attention to something with various insights (Poniman & Ariesta, 2019). The In (Instinct) type is a person who is lazy to read books. In (Instinct) tends to like light reading and want to see conclusions, so their understanding is not deep but still comprehensive.

The functions of each nucleobase, when processed as a DNA code, are in line with the Sensing, Thinking, Intuiting, and Feeling characters that represent biological information on blood groups AB, A, B, and O. Besides, the pattern of selecting reading materials based on biological blood type information helps librarians, information managers, or bibliotherapy service providers conduct *Information Needs Analysis* (INAs), which is helpful for mapping and selecting the reading material according to the personality characteristics of the client's blood type.

After constructing the pattern of selecting reading materials for young adults based on biological blood type information, blood type A chose non-fiction books that supported tasks and work, such as textbooks, motivational books, and self-development books. These books allowed blood type A to reason the readings by drawing easy structures or schematics. They got this from non-fiction books that tended to be scientific.

Blood type B chose fiction books and adventure stories that opened the horizon of fantasy. The fantasy books in question were not small, popular books, tips, and others. For blood type B, the appropriate habit was always looking for good, quality, classy books and textbooks.

Blood type AB chose non-fiction 'how-to' books related to hobbies such as automotive, tourist destinations, chronology, centric facts, and biographies/autobiographies of characters. Due to complex sensing results, biological information from blood type AB tends to dominate the lower left (limbic) brain and master more vocabulary. Non-fiction books made them like a walking encyclopedia that was always ready to answer environmental questions supported by strong memory chemistry. The tendency for blood type AB involved the dominance of the five senses, so writing in a reading book meant stimulating the motion and work of the five senses, visually, cognitively, and psychomotorically.

A friend's recommendation could encourage blood type O to read a book. For the record, if the bibliotherapy librarian/information manager faces a client with type O blood type, during the

first phase (building report) in the bibliotherapy session, they need to be sensitive and try to feel the client's mood first. They should do things they like by discussing and exchanging stories to build a positive attitude.

CONCLUSION

The blood type personality model identify young adult clients' profiles to develop bibliotherapy service programs in different types of libraries and make it easier for librarians and bibliotherapists to recommend reading materials suitable for the benefit of preventive-curative bibliotherapy. The attention response of each blood type in the book selection process is spontaneous, instantaneous, momentary, and tends to appear at the beginning. In contrast, the following process is dominant in its Intelligence Machine (IM). The selection of books for young adults that answers cognitive, affective, and psychomotor needs are helpful when facing a life crisis phase and can be identified through the patterns that have been constructed in this study. Libraries or information agencies can reach their clients through their self-coded biological information. The categories that emerge as a pattern of genetic strata characteristics based on blood type can be the foundation for developing a holistic library service concept that can take on a role and become a sustainable solution for mental health and individual well-being. Blood type as a transient response has a role in helping to recognize a person's genetic characteristic pattern that is useful for developing services or programs at information institutions. At least easy and inexpensive identification elements can support holistic library services. This study is focussing only on the Bandung city area, and it cannot represent West Java as a whole. While the scope of respondents only concentrates more toward domestic, it is advisable to do a study on both domestic and international clients in every region in Indonesia-Malaysia to see the reading behavior pattern on every media platform based on bio-information blood type in the country in the future study.

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