

MARK WATNEY'S STRUGGLE TO LIVE ON MARS IN ANDY WEIR'S *THE MARTIAN*

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Abstract. Human beings have various needs in their life that must be fulfilled wherever they live. They must struggle to fulfill or satisfy their needs. Relating to this problem, this article deals with Mark Watney's struggle to live on Mars seen in Andy Weir's *The Martian*. This article describes the analysis of Mark Watney's struggle while he gets stuck on Mars by fulfilling his needs. In doing the research, the descriptive qualitative method is used to remain focused on the data and interpretation. The data source of the research is the novel entitled *The Martian* written by Andy Weir. Abraham Maslow's theory of hierarchy of needs is used to analyze Mark Watney's needs and his struggle to fulfill his needs. As a result, it is found that Mark Watney has all five stages of Abraham Maslow's Hierarchy of Needs and he struggles to fulfill each of these needs one by one. The followings show the result of the research. The physiological needs Watney has is mainly needs of food because he has a shortage of food. Watney struggles hard to fulfill his needs with the available supplies by going on a diet. The second is safety needs, Watney feels unsafe because on Mars, to overcome this need, Watney struggles to try to contact the crews on Earth. The third need is love and belongings needs. Living alone on Mars without love from friends and family and he is considered dead makes him depressed. The fulfillment of the needs relates to the finding of the pathfinders which enables him to communicate with the crew of NASA. He no longer feels lonely and depressed and then feels happy. The fourth one is Esteem Needs. He becomes proud of himself knowing that he is highly appreciated and valued as a hero to the team since he is the only one who masters all the engineering parts of the mission. The last one is self-actualization needs. Watney must struggle to survive, which shows the fulfillment of his need. In conclusion, Mark Watney's struggle finally can make him fulfill all his five needs on Mars and land on Earth safely.

Keywords: esteem, love & belongings, physiological, safety, self-actualization.

INTRODUCTION

Humans as living beings cannot be separated from their social relationships since they are closely related to relationships among themselves in society. Human beings also have various needs which must be satisfied. Humans cannot live alone to get

their daily needs, therefore they need other people. To get something they need, humans have to make efforts so that what they need can be obtained. They must make social interaction. According to Braun, Linder, & Asimov (in *Psychology Today*: 1979), in people's life, there are many life events happening. Every life event will make people force themselves to make some struggles in their life. Whereas people attempt to bargain with all these problems and challenges of life, they will have to be compelled to adjust themselves. Struggle can be deciphered as a person's technique to secure him from problems in life. According to Bernard (1980: 481), in some conditions people have rationally and consciously implement strategies that enable them to survive toward stresses or problems of life. When they try to face problems, they usually will seek some strategies or ideas to survive toward their problems. Every effort made certainly cannot be separated from needs, one of which is the need to live. Humans basically can not be separated from every need

The above problem is found in the novel *The Martian* by Andy Weir through the main character, Mark Watney. This novel tells about the crew of NASA's Ares 3 mission who have arrived at Acidalia Planitia for a planned month-long stay on Mars. After only six sols, an intense dust and wind storm threatens to topple their Mars Ascent Vehicle (MAV), which would trap them on the planet. During the hurried evacuation, an antenna tears loose and impale astronaut Mark Watney, a botanist, and engineer. He is flung out of sight by the wind and presumed dead. As the MAV teeters dangerously, mission commander Melissa Lewis has no choice but to take off without completing the search for Watney. However, Watney is not dead. His injury proves relatively minor, but with no long-range radio, he cannot communicate with anyone. He must rely on his resourcefulness to survive. He lives alone on Mars without any companion. He lacks food. He lacks safety since the condition and situation on Mars are dangerous for him for it is an uninhabited place. He must struggle to fulfill his needs on Mars to stay alive and to be able to come back to Earth. In other words, Watney must *live to struggle* (Kaban, 2018) to survive on Mars. Watney has some good and important characters which support his struggles such as hard work, creativity, determination, toughness, and resilience. (Prastiti, 2019)

Mark Watney has some needs which must be obtained when he gets stuck on Mars. His needs and the problems he must face on Mars and his struggle to satisfy his needs and to solve his problems are analyzed by using Abraham Maslow's theory of hierarchy of needs. It is a motivational theory in psychology comprising a five model of human needs, from the bottom to the upwards. According to Maslow (1943), everyone has different needs, and these are divided into five categories of needs. The needs are physiological, safety needs, love and belonging needs, esteem needs, and self-actualization needs. The five categories have different standards of fulfillment in each person, so everything will be different from one to another person. Needs lower down in the hierarchy must be satisfied before individuals can attend to needs higher up. Maslow (1943) states that people are motivated to achieve certain needs and that some needs take precedence over others. Our most basic need is for physical survival, and this will be the first thing that motivates our behavior. Once that level is fulfilled, the next level up is what motivates us, and so on.

The research relating to the struggle to fulfill needs has been done by Nuri Tri Jayanti (2019). In her research which is entitled *Wen's Struggle to Fulfil Her Needs in Xinran's Sky Burial*, Abraham Maslow's theory of the hierarchy of needs is also used. However, in this research, Wen, the main character, only fulfills two of the five hierarchy of needs.

They are safety needs as well as love and belonging needs. While in this research, Watney struggles to fulfill five needs. Jayanti's research and this research use different novels. This research focuses on Mark Watney's struggle with how to fulfill his five needs based on the theory of hierarchy needs by Abraham Maslow. Several studies also discuss Maslow's hierarchy of human needs in literature. Previous research has explained that Maslow's hierarchy of needs can shape human characteristics and personality, or in literature, characters (Putra, 2022; Afifi & Amelia, 2021; Ghozali, 2020). Meanwhile, Setiawan (2018) stated that conflict is an aspect that influences the formation and fulfillment of human needs. Other studies have also indicated that human needs are influenced by social factors within a community (Dong & Tian, 2022; Xing & Jian, 2019).

Based on previous studies, several studies have focused on using Maslow's theory to examine the characteristics of main characters in literary works. On the other hand, other studies have attempted to explore how human needs are influenced by conflicts, both social and physical, within a story. None of the mentioned studies have utilized the novel "The Martian" as a source of data. Additionally, this study also examines how the setting and situations in the story influence the fulfillment of human needs or character development, by applying Maslow's theory, and how individuals can survive in different environments.

METHOD

The descriptive-qualitative method is used to analyze the novel. According to Peck & Coyle (in Nurhadi, 2019), it is utilized to depict data that are descriptive in nature. The data are quotations in the form of sentences or groups of sentences which relate to the topic of analysis, that is Watney's struggle to live on Mars. The researchers use literary criticism to discover every aspect that is found in the data. It is utilized to analyze and portray the data of this research logically because this research is focused on the statement of the study.

The approach used is a psychological approach since the topic of analysis, in this case, Mark Watney's hierarchy of needs is a psychological problem that can be analyzed by using psychological theory from Abraham Maslow. According to Maslow's theory (in Ahmed, 2017), human needs can be categorized into five levels, forming a hierarchy. This implies that once the needs at a particular level are met, the needs at the next level, which holds greater power or influence, will emerge and become the primary focus of human consciousness until they are satisfied. In analyzing Maslow in *The Martian*, the focus of the researcher is on how the main character is shaped and how the role of the setting influences the state of the main character in fulfilling human needs. Similar to Maslow's thinking (Dong & Tian, 2022) the environment affects human needs. Additionally, the success of individuals in fulfilling human needs is influenced by human motivation and habits, thus the researcher also examines the motivation of the main character in the novel. After that, the researcher categorizes the main character's human needs into the five levels of Maslow's hierarchy.

The source of the data in this research is the novel entitled *The Martian* written by Andy Weir. It was published in 2011 and it contains 399 pages. The data taken from the novel are in the form of quotations. The data relating to Mark Watney's needs are collected and classified based on the problem statements. They are Mark Watney's struggle to fulfill his needs. After being classified, the data are then

identified, analyzed, and related to the theory of the hierarchy of needs by Abraham Maslow. Finally, the conclusion is drawn based on the result of the analysis.

RESULT AND DISCUSSION

A. Mark Watney's Needs When He Lives on Mars

Living alone on Mars without a companion, Mark Watney must struggle to fulfill the needs he has. His needs can be categorized into 5 needs, based on the theory of the hierarchy of needs by Abraham Maslow. They are physiological needs, safety needs, love and belongings needs, esteem needs, and self-actualization needs, each of which is elaborated on below.

A.1 Physiological Needs

Physiological needs are the primary things for humans to survive, such as food, clothing, and shelter. In this case, Mark Watney desperately needs food to survive, clothes to protect himself, and a place to live as a shelter, as the safest place from all threats that may occur at any time, including the weather on Mars. There is no other threat than the weather on Mars because there are no other living things that live there besides Mark Watney. For food, at least Mark Watney needs supplies for 3 years because he must survive at least 3 years until Ares 4 mission is carried out and he can come back to Earth. He said, "Start to finish, including supply missions, a Mars mission takes about 3 years." (Weir, 2011: 3).

"The surface mission was supposed to be 31 days. For redundancy, the supplies probes had enough food to last the whole crew 56 days...We were six days in when all hell broke loose, so that leaves enough food to feed six people for 50 days. I'm just one guy, so it'll last me 300 days." (Weir, 2011: 9)

The quotation above explains that each Ares mission to Mars takes about 3 years. That means if at that time Mark Watney is left on Mars, at least he has to survive for 3 years to be able to return to Earth with the Ares 4 crew. With the available food supplies, at least he can survive for about 300 days by adopting a diet that must be saved to minimize the possibility of bad things happening to him. Seeing this, Mark Watney is still confused because 300 days are not enough to wait until the Ares 4 crew arrives on Mars. Therefore, he reconsiders the food supplies he has and finally, he finds the results that his food could be enough to fulfill his food needs for 400 days and he also calculates the number of calories he needs every day to keep him active.

A.2 Safety Needs

Safety needs are the second need. This need primarily refers to the need for security. If we look at Mark Watney's position, at that time of course he needs peace and security. This is none other than because Mars has extreme temperatures, low oxygen levels, and extreme weather that can change at any time without being predictable, and the main problem is that Mars is an uninhabited planet. Mark Watney, as an astronaut trusted by Nasa, is fully equipped and facilitated, such as the Hab as a place to live and the Mars Descent Vehicle as a vehicle that can be driven to explore the area around Mars. However, the problem is that he only lives alone, without friends, and connections for communication. This is certainly very dangerous for his psyche.

Mark Watney has difficulty communicating with the team due to a weak signal, which prevents him from communicating with the rest of the crew on Earth. From that, we can see that Mark Watney feels he has to fend for himself because no one knows that

he is still alive. Even if he tries to contact the rest of the crew but if the signal is weak, then it is impossible to do. As a human being, experiencing something like this will certainly make Mark Watney feel frustrated because no one knows his whereabouts and circumstances. Therefore, it is certain that Mark Watney feels insecure and that he needs security, both physically and mentally.

A.3 Love and Belongings Needs

Love and belongings refer to the need for affection. Being alone on Mars, of course, he needs love, from his family, friends, and his own team. Unfortunately, Mark Watney feels that no one cares about him because he is left alone and considered dead when a storm hits Mars. He says, "Maybe there'll be a day of national mourning for me, and my Wikipedia page will say "Mark Watney is the only human being to have died on Mars"." (Weir, 2011: 1). It can be seen that Mark Watney feels that no one cares about him, and he feels that he is alone and lonely. He feels that his name would be remembered in the world as the only person who has died on Mars, without any additional food supply or pickup to return home because everyone thinks that he has died in the great storm of Mars. Seeing Mark Watney's condition, it can be said that Mark Watney is depressed at the beginning of his stay on Mars. He feels that he will die slowly because he knows that Mars is a planet that is not yet suitable for humans to inhabit.

Mark Wattney is depressed. Seeing everything that has happened to Mark Watney, it can be concluded that he is depressed because of several things, such as the same routine every day, living a seemingly aimless life, and feeling that no one cares for him, including the NASA crew on Earth who do not try to contact him, and the most important thing is that Mark Watney does not feel affection. Affection can not only be interpreted as love from the closest people such as family, even more than that, affection can also be obtained from a team that fights together. Like the Ares 3 team that is then intact, they work together and love each other because they work as a team for the same goal on the same mission. It can be seen from the items in the Hab brought by Commander Lewis, one of which is a TV. Commander Lewis brings the item to share when they are bored at the Hab, and it is a form of a commander's concern for the crew on.

A.4 Esteem Needs

Esteem needs to refer to the appreciation of each person. In this case, Mark Watney needs esteem as his encouragement to live. He feels the need for esteem because he is fighting for a very noble and very big task for the company and the country. Knowing that NASA is not aware of his whereabouts, Mark Wattney feels that there is absolutely no credit for him. He feels that NASA does not look for his whereabouts and leaves him to die alone on another uninhabited planet. He also feels that NASA does not try to contact him because NASA thinks that Mark Watney has died in the big storm that is hitting Mars, especially at Acidalia Planitia, where Mark Watney and his team landed on a mission. He says, "For the record... I didn't die on Sol 6. Certainly the rest of crew thought I did, and I can't blame them." (Weir, 2011: 1). This quotation reveals that Mark Watney has been abandoned by his teammates. He feels that it is a big mistake, but he cannot blame them.

"Ares 3. Well. That was my mission. Well, not mine per se. Commander Lewis was in charge. I was just one of her crew. I was the very lowest-ranked member of

the crew. I would only be “in command” of the mission if I were the only remaining person. What do you know? I’m in command.” (Weir, 2011: 1)

From the quotation above, it can be seen that Mark Watney feels that he is the lowest-ranked member of the crew. Psychologically, he feels that his position is very low compared to the rest of the crew. That is the reason why he feels he is not valued by the team. He feels that he is very backward regarding the mission they are carrying out because he is only a botanist, not a real scientist. Therefore, it is assumed that Mark Watney needs esteem, both from his teammates and from NASA, the company where he works. He feels that he is also one of the crews that has to be saved, regardless of his position as a botanist and occupied in the lowest rank in the team. This is no longer a matter of rank or duty in the mission, but about saving a human who has contributed greatly to the company and the country in the context of developing research carried out. There should be no more thinking about titles, duties, and so on, but NASA must think from a human perspective. Mark Watney spends more time on missions than on family, which is why NASA has to save Mark Watney. Besides that, there is a huge cost that NASA has to pay to pick up Mark Watney on Mars.

A.5 Self-Actualization Needs

Being trapped on Mars, he feels that he will die before the mission is over. The inclusion of Mark Watney in the mission is to assume the role of engineer and botanist. As an engineer, he can carry out the necessary repairs for the smooth running of the team in carrying out the mission. As a botanist, he is not needed at all because, in their mission, there is no task for planting or other activities related to botany. Therefore, he feels that he could not do self-improvement. As the crew with the lowest rank compared to the others, he often feels insecure about himself.

Mark Watney is proud that his friends have saved themselves and avoided the storm. It means that it is very likely that the remaining crew will return to Earth safely. From the words spoken by Mark Watney, there is an implied message that he feels proud because the survivors are people who are ranked higher than him. He thinks that NASA would appreciate the surviving team because they could save themselves from a very dangerous situation. In addition, Mark Watney also feels that he will not be picked up by the NASA crew on Earth because it will cost a lot of money just for people who are not very important like him.

B. Mark Watney’s Struggle to Fulfill His Needs

B.1 Fulfilment of Physiological Needs

When Mark Watney is stuck on Mars, he has some needs, which include primary needs such as food, clothing, and shelter. At that time Mark Watney experiences a shortage of food because the food supply is only sufficient for 400 days, and even then he has to go on a diet where every day he has to cut 500 calories, from 1500 calories to 1000 calories. This of course will not be able to meet Mark Watney's food needs because the Ares 4 crew will only arrive on Mars 3 years later. This makes Mark Watney has to think harder to make his food ingredients. As an intelligent and creative botanist, he has an idea of growing potatoes there. His goal is to increase his food stock, so he can get more so that he can survive longer and even until the Ares 4 crew gets to Mars.

The food problem can be solved by Mark Wattney. However, he then makes another mistake which makes Hab explode, destroying all the potato plants and the clothes he is wearing. For the matter of clothes, he then wears the clothes of Martinez, his teammate.

He is wearing his friend's astronaut suit that is in the wardrobe. For the destroyed Hab, he replaces the Hab's door using used plastic which he then seals using insulation so that the temperature and air inside the Hab return to normal. Even though everything is back to normal, Mark Watney still feels worried because the door he closes using plastic will not last very strong, especially if there is a big storm hitting. It is helpful to save Mark at the time, but in the long run, it would be very dangerous.

B.2 Fulfillment of Safety Needs

Seeing the conditions of Mars that are very different from Earth, Mark Watney needs security. The only way to keep him safe is to live in a Hab that is specially designed to match conditions on Earth. With food, clothing, and shelter available, it is not enough for Mark Watney to feel safe because there are still many things to watch out for on Mars, one of which is unpredictable extreme weather and large storms that can arrive in a short time to certain locations. Therefore, Mark Watney tries to keep contacting the NASA crew who are on Earth to save him. However, doing that is not easy because he has a signal interference that is not connected so he cannot contact the rest of the NASA crew. This does not deter Mark Watney's determination to contact his partner on Earth, and he keeps trying.

Mark Watney finds a Pathfinder that can help him communicate with the crew on Earth. Pathfinder will send a signal and NASA Crew on Earth will be easy to find the position he is in and can be directly connected. From this, we can see that success cannot be achieved easily. Sometimes the way we think is right is not the best way. Even ways that we do not expect before can be the best way to solve problems that occur. The message that we can take is, as humans we can only find ways that we can take to solve existing problems, but the best decision remains in the hands of God.

B.3 Fulfillment of Love and Belongings Needs

Fighting alone on another planet is certainly a very hard thing since there are no other lives, no friends, not even family. In that situation, Mark Watney can only surrender to God. He just asks at least to be able to communicate with the rest of the crew on Earth. He says, "Jesus Christ, I'd give anything for a five-minute conversation with anyone. Anyone, anywhere. About anything. I'm the first person to be alone on an entire." (Weir, 2011: 117). From the quotation, we can see that Mark Watney leaves everything to God, and he asks God to communicate with anyone, anywhere, about whatever he wants to say. In this case, it can be concluded that Mark Watney is very depressed because there is no communication with anyone. Like someone lecturing in an empty field, that is how Mark Watney feels.

"Mark, this is Venkat Kapoor. We've been watching you since Sol was 49. The whole world's been rooting for you. Amazing job, getting Pathfinder. We're working on rescue plans. JPL is adjusting Ares 4's MDV to do a short overland flight. They'll pick you up, then take you with them to Schiaparelli. We're putting together a supply mission to keep you fed till Ares 4 arrives." (Weir, 2011: 138-139)

The quotation above shows the concern of the NASA crew on Earth toward one of their best astronauts. The words sent by Venkat Kapoor via live chat show that NASA does not want to lose its best astronaut. Apart from being a form of concern for Mark Watney's safety, the message also indicates that NASA cares about its

astronauts. NASA is not going to let its astronauts die in silly starvation and fright on another planet. Being able to communicate with the crew on Earth makes Mark Watney very happy, especially when he can communicate with his teammates who have traveled to Mars together.

B.4 Fulfillment of Esteem Needs

Referring to the previous explanation that Mark Watney feels he is not appreciated is wrong. He is highly valued, both by his teammates and by NASA the company he works for. Mark Watney is a hero to the team because he is the only one who masters all the engineering parts of the mission. Although he feels that he is not appreciated, he will be remembered forever by the people on Earth.

NASA crew on Earth care about Mark Watney so much that they go the extra mile to take pictures and research whether Mark Watney is still alive. With this fact, it can be concluded that Mark Watney is highly valued because he is one of the best crew that NASA has. Because the Ares mission is huge and very important, NASA could not have chosen just anyone to be on the crew. Mark Watney is one of the best people in NASA and his country.

B.5 Fulfillment of Self-Actualization Needs

Seeing the problems that have occurred, Mark Watney feels he would die slowly on Mars without being picked up by the rest of the NASA crew, he feels that his skills would be in vain because he would face his death which might not be long. However, that thinking is a big mistake. Finally, Mark Watney thinks harder to survive. Mark Watney is finally able to think about those who at first feel hopeless lives and becomes inspired again to survive in a difficult situation. In this case, it can be seen that Mark Watney is motivated to survive because he is aware of the Ares 4 mission which all the crew will arrive 3 years later. Therefore, Mark Watney finally decides to try to survive and fulfill his food needs by trying to use his skills as a botanist to plant potatoes on Mars.

Mark Watney uses his intelligence in mathematics to calculate the amount of space he needs and the available space, and he also calculates the distance of each potato plant he will plant. In this case, it can be seen that Mark Watney is very serious about surviving at least until the Ares 4 team arrives at Schiaparelli Crater. To plant potatoes, Mark Watney still has difficulty growing them because he does not have enough water to water his plants. However, with his intelligence, he decides to create his water.

CONCLUSION

After analyzing the novel *The Martian*, several things can be concluded. First and foremost, the main character, Mark Watney, dominates in this novel. He struggles hard to fulfill his needs when he is getting stuck on Mars. In living life, every human being certainly has their own needs, and they all have different ways of fulfilling them. Some people will choose to simplify all things related to their needs. Some others may give up on the situation and there are even those who do not strive at all to meet these needs. Everything certainly has its consequences, and when one decides to choose a path, then he or she must be prepared for all the consequences. One of them is the struggle of life to meet all existing needs. In this novel, Mark Watney chooses to struggle to fulfill his needs although at first, he has doubts about all the possibilities, but with his tenacity and intelligence, he is finally able to survive by fulfilling all his needs. In addition, he is also able to show the world that nothing is impossible if we keep trying.

In the novel, Mark Watney has needs that all fulfill Abraham Maslow's Hierarchy of Needs, such as physiological needs, safety needs, love and belongings needs, esteem needs, and self-actualization needs. Although at first Mark Watney has difficulties, in the end, he can fulfill all his needs one by one due to his persistence to struggle. The lesson we can take from the novel is to keep fighting under any circumstances, because no matter how difficult the problem is, when we know that God is with us, everything will pass well.

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