Artificial Intelligence Policies Association (AIPA)
The Research of Future

Perception of Metaverse in Society: Social Impact
#AIPAFR

Certainly, Metaverse is one of the concepts we hear most frequently in the recent period. Metaverse is a very popular concept today, but do you know that this extraordinary concept was actually introduced 30 years ago? Yes, Metaverse was featured in the 1992 novel "Snow Crash" by US science fiction writer Neal Stephenson. In this novel, which predicts that the internet will evolve into a virtual reality-based form, people use their digital avatars to explore the online world. In this way, they escape from the dystopian reality of their lives.

So, how did the concept of Metaverse suddenly find a place in the middle of our lives? Actually, I think it's enough to go back to the time when Facebook wanted to be referred to as Meta. In October 2021, the whole world learned that Facebook has changed its corporate name to Meta. Facebook founder Mark Zuckerberg surprisingly announced that they will change their company name to Meta. Mark Zuckerberg also stated that Metaverse is his priority from now on. In other words, metaverse has been in our lives for a while, along with the developing technology. However, Facebook's decision was very effective in turning this concept into "hype". Speaking of evidence, when we look at the Google Trends results, we see that after Facebook's decision on October 28, the search for "Metaverse" peaked between October 24 and October 30, 2021.

Today, the digital transformation is very fast and we know that those people, who are prepared and integrated in this transformation in the best manner, will surely win. We also know that knowledge and awareness is an important turning point in order to be properly prepared and integrated. And from this point forth, the Artificial Intelligence Policies Association (AIPA) was established in February 2021. AIPA, which is one of the first non-governmental organizations in the field of artificial intelligence in Turkey, aims "to form policies in order to create, support and disseminate a new entrepreneurship culture in our country by raising awareness of artificial intelligence in the society, contributing to the increase of individual and corporate competencies, and accelerating our country's goal of being among the top 10 economies in the world through technology entrepreneurship".

AIPA has made great contributions to the technology ecosystem by announcing the researches on "Perception of Artificial Intelligence in Society" in June 2021 and the "Perception of Artificial Intelligence in Business" in October, in order to plan the right moves regarding individual and social competence in the field of technology, especially artificial intelligence.

Basically, AIPA acts with the mission of raising awareness in the society on technological issues, especially artificial intelligence. However, maintaining this mission correctly and shaping the future of our country in terms of technology depends on discussing "what we know about Metaverse" today. Because every work and step done without researching the social Metaverse perception will not have the desired effect and will not reach the right audience.

Digital transformation represents the inevitable/non-negligible for every country, company and structure that wants to strengthen its economy. Our association AIPA, which aims to "accelerate our country's goal of being among the top 10 economies in the world with technology entrepreneurship", argues that the first step at this point is to reveal the current situation. Following this assessment, appropriate actions and policies need to be developed. At this point, AIPA has clearly taken the first step by researching and analyzing the knowledge, level, opinions and perception of the society about metaverse through the research on "The Perception of Metaverse in Society: Social Impact", which is the first and only Metaverse Research in Turkey. Now, plans should be made and steps should be taken based on this research, so that the opportunities brought by Metaverse are used, and necessary precautions are taken for risks.

In today's world where digital transformation is accelerating, the concept of Metaverse is expected to have a great impact in every field, from education to economy, from culture to health. As it is seen in the research, unfortunately, our society does not know enough about Metaverse. When we look at the 4 major revolutions in history, we see that the driving force of the 1st industrial revolution is steam, the driving force of the 2nd industrial revolution is electricity, the driving force of the 3rd industrial revolution is computer, and the driving force of the 4th industrial revolution is artificial intelligence and Metaverse. Unfortunately, our country has been left behind in the first 3 industrial revolutions and has been away from many economic, social and cultural developments. Although country rankings in terms of Metaverse are different today, all countries are in the same league for now. And in order to be successful in this league, it is necessary to create awareness about the concept of Metaverse in our society and to develop policies to increase the knowledge.

It is predicted that Metaverse economy will have an economic volume of approximately 13 trillion dollars by 2030. And our country has a target of being among top 10 economies. We can achieve this goal with the initiatives we will take in metaverse area. As it can be seen in this research, there is a necessity to be active in Metaverse field and to provide the necessary regulations.

The goal of Artificial Intelligence Policies Association (AIPA) is to raise awareness about artificial intelligence in Turkey, to raise awareness of artificial intelligence in the society, and to support the acquisition of individual skills by eliminating misinformation in the field of artificial intelligence. Our main task is to produce policies, contribute to policy making processes and influence decision makers so that Turkey has a bright artificial intelligence future. We will continue to raise awareness and produce policies on metaverse, which will have a catalytic effect in the development of artificial intelligence.

I would like to thank Cerebrum Tech and Clubby Games, our AIPA Board Member and the partner of Quantum Research Company Founder Volkan Kılıç and his team, our AIPA Vice Presidents Gökhan Varan and Assoc. Dr. Şebnem Özdemir, AIPA General Secretary Selin Duru, AIPA Digital Economy Commission Member Osman Berkay Gündoğdu, AIPA Advisory Board Members Dr. R. Erdem Erkul, Dr. M. Umut Demirezen, Cem Sünbül, Assoc. Dr. Aysu Kes Erkul and our AIPA Executive Assistant Nur Pınar Diker for supporting such critical and comprehensive research.

AIPA will continue to take the responsibility for our society to learn and discover concepts such as artificial intelligence and Metaverse that will transform our lives, and most importantly, will prepare our society for these concepts.

Kind regards,

Zafer Küçükşabanoğlu

Artificial Intelligence Policies Association (AIPA) Founder and Chairman

What is Metaverse, what it should be and how it should be designed; should be defined by individuals, educational institutions and even legislators. It is observed that the rate of hearing about Metaverse was 40.1% in November 2021, whilst this rate reached 58.1% in May 2022, as a result of Facebook changing its name to Meta and the acceleration of digital transformation. Despite the rapid increase in the rate of being heard, the rate of having enough knowledge to transfer it to anyone is remarkable with 17.0%. In addition, the vast majority of society associates metaverse with a centralized and non-blockchain social media power like Facebook.

6.1% of the society states that they bought a land in metaverse. The tendency to purchase a land increases among men and especially among the Z generation. As the concept of metaverse is heard and known, it is expected that land purchase and similar behaviors will also tend to increase.

It is observed that 12.0% of the society has experienced metaverse. These experiences mainly consist of games, land purchases, shopping, concerts and similar events. It is seen that men and especially the Z generation lead the way in experiencing metaverse. In addition, the rate of those who think of having a metaverse experience is quite high with 63.9%.

According to 38.7% of the participants, there is a behavior/activity that they cannot do in normal life but can do in metaverse. Answers like "Flying / Travelling by flying / Flying from a place to a place" are in the first place with 20.3%. While the metaphor of flying represents timelessness and spacelessness, we can define it as the state of "freedom and disconnection". In addition, travelling is the most commonly observed and most studied metaphor. The roots of the travelling lies in our awareness of time, evolution, progress and maturation. It also appears as the most observed metaphor in this phase of the transformation.

The rate of choosing museum/historical city tour in Metaverse is 24.2%. Men differ statistically from women with 29.2%, while the Z generation differs statistically from X and Y generations with a rate of 25.9% in choosing a museum/historical city tour in metaverse. 52.4% of those, who prefer a physical trip, stated the feeling of "sensation" as the main reason, whilst the main cause for choosing Metaverse is "time and cost" with 36.9%. Due to financial inadequacies in the physical world, 66.7% of the D SES group's desire to perform these trips in metaverse differs significantly from other SES groups. In regard to the knowledge level, it is observed that the preference for metaverse increases as knowledge level increases. The rate of preferring a metaverse trip is 40.3% among those who state that they have knowledge, whilst this rate decreases to 18.0% when the level of knowledge decreases.

While the biggest benefit of Metaverse is the possibility of eliminating financial inadequacies in the physical world, saving time, contributing to the education sector and business life; the biggest dangers are listed as the increase of cyber threat, mixing reality with virtual / breaking away from physical life and unethical use.

The fact that Metaverse will cause a cultural change is a subject on which the society agrees with 68.1%. Especially, the rate of women and the X generation, who believe that Metaverse will cause a cultural change, is significantly high.

According to the answers given by the participants to the numerical questions, the numeric definition of Metaverse is: "Metaverse is a future where you feel more free by having an exciting and different experience. However, this future also includes danger and threat (cyber attack, data breach)".

While women's level of feeling safe in metaverse is statistically significantly lower than men, their level of thinking that the state should be involved in metaverse is statistically significantly higher. Mostly women and X generation want that the state involves in metaverse. In addition, there is a high level of correlation between the necessity of the state to be in metaverse and the level of feeling safe in metaverse. And, it is observed that the state's involvement in metaverse is a way of eliminating the low level of trust in the society.

In general, when we analyze all the data and the report, two questions come to the fore in the minds of the society:

- Will the new center of metaverse, which is built on decentralized technologies such as Blockchain, be the technology giants such as Facebook and Google with the task of new legislators?

- Will the fear, that these giants will have a serious speculation power with the addition of social data to their data pool, be eliminated by the state's involvement in this system as a lawmaker?

Kind regards,

Volkan Kılıç

Artificial Intelligence Policies Assoc. (AIPA) Board Member
Founder of Kuantum Araştırma

Zafer Küçükşabanoğlu - Artificial Intelligence Policies Association (AIPA) Founder and Chairman

Gökhan Varan - Artificial Intelligence Policies Association (AIPA) Vice Chairman

Doç. Dr. Şebnem Özdemir - Artificial Intelligence Policies Association (AIPA) Vice Chairman

Volkan Kılıç – Founder of Kuantum Araştırma & Artificial Intelligence Policies Assoc. (AIPA) Board Member

Murat Ünsal - Kuantum Araştırma, Customer Relations Director

Selin Duru - Artificial Intelligence Policies Association (AIPA) Secretary General

Osman Berkay Gündoğdu - Artificial Intelligence Policies Assoc.(AIPA) Member of the Digital Economy Commission

Doç. Dr. Aysu Kes Erkul - Artificial Intelligence Policies Association (AIPA) Advisory Board Member

Dr. R. Erdem Erkul - Artificial Intelligence Policies Association (AIPA) Advisory Board Member

Dr. M. Umut Demirezen - Artificial Intelligence Policies Association (AIPA) Advisory Board Member

Cem Sünbül - Artificial Intelligence Policies Association (AIPA) Advisory Board Member

Nur Pınar Diker - Artificial Intelligence Policies Association (AIPA) Administrative Assistant

Quantum Research conducts researches in accordance with international standards and procedures determined for market researches.

Kuantum Araştırma manages the research processes by respecting the statistics, without compromising on quality and scientific methods.
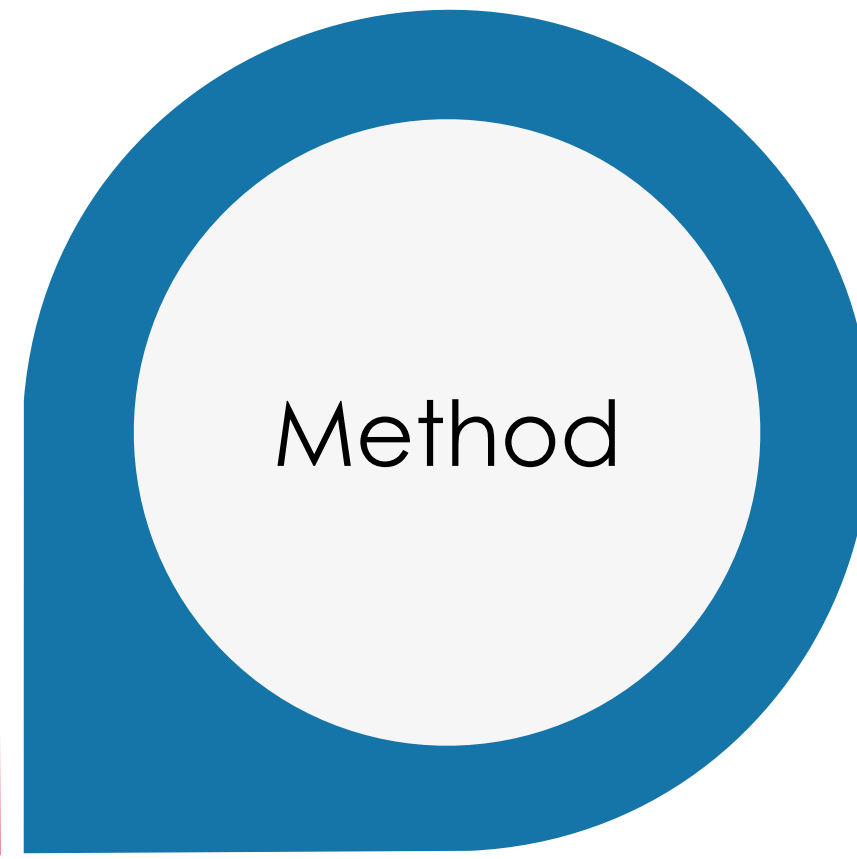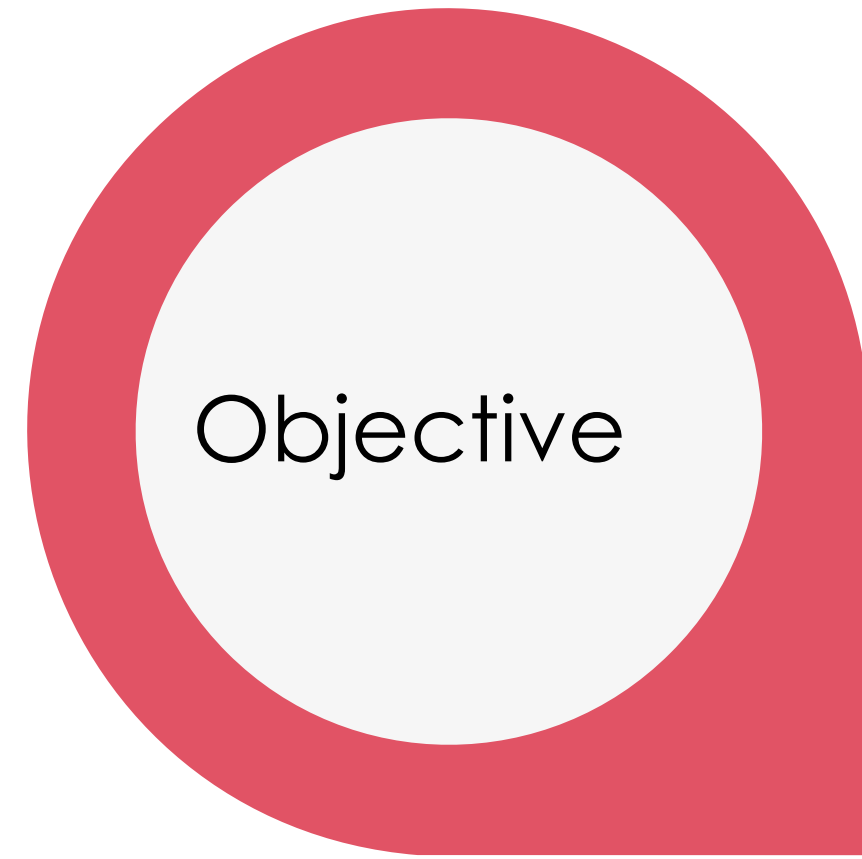
Kuantum Araştırma is a member of **Turkish Researchers' Association,**

has **Trustworthy Research Certificate** (GAB 2019-2020), **ISO 20252 Certificate of Quality** and **ISO 27001 Information Security Management Certificate**.
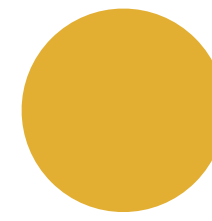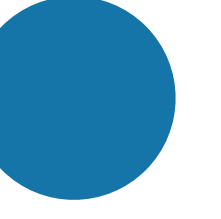
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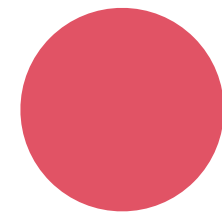
To research and analyze the community's level of knowledge, views and perception of Metaverse.

Method

Quantitative Research

Hybrid (CAWI and CATI) method was applied.

CAWI (Computer Assisted WEB Survey)CATI (Computer Assisted Telephone Survey)

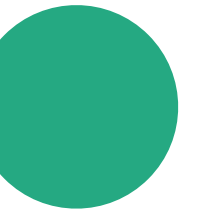**Sample**

1356 people in 12 provinces were interviewed at 95% confidence level with ±2.5 margin of error.

Calendar

Data Collection Process
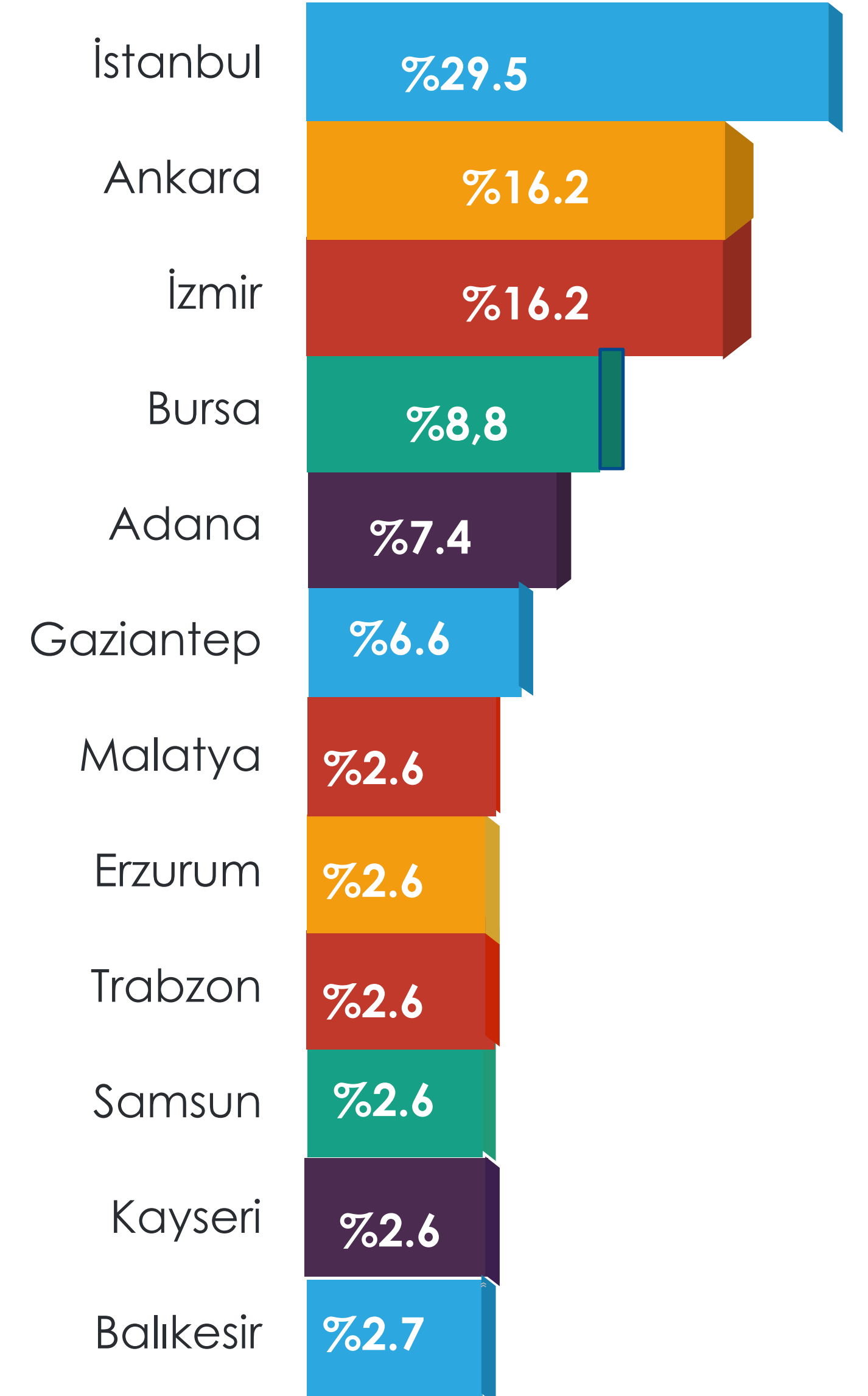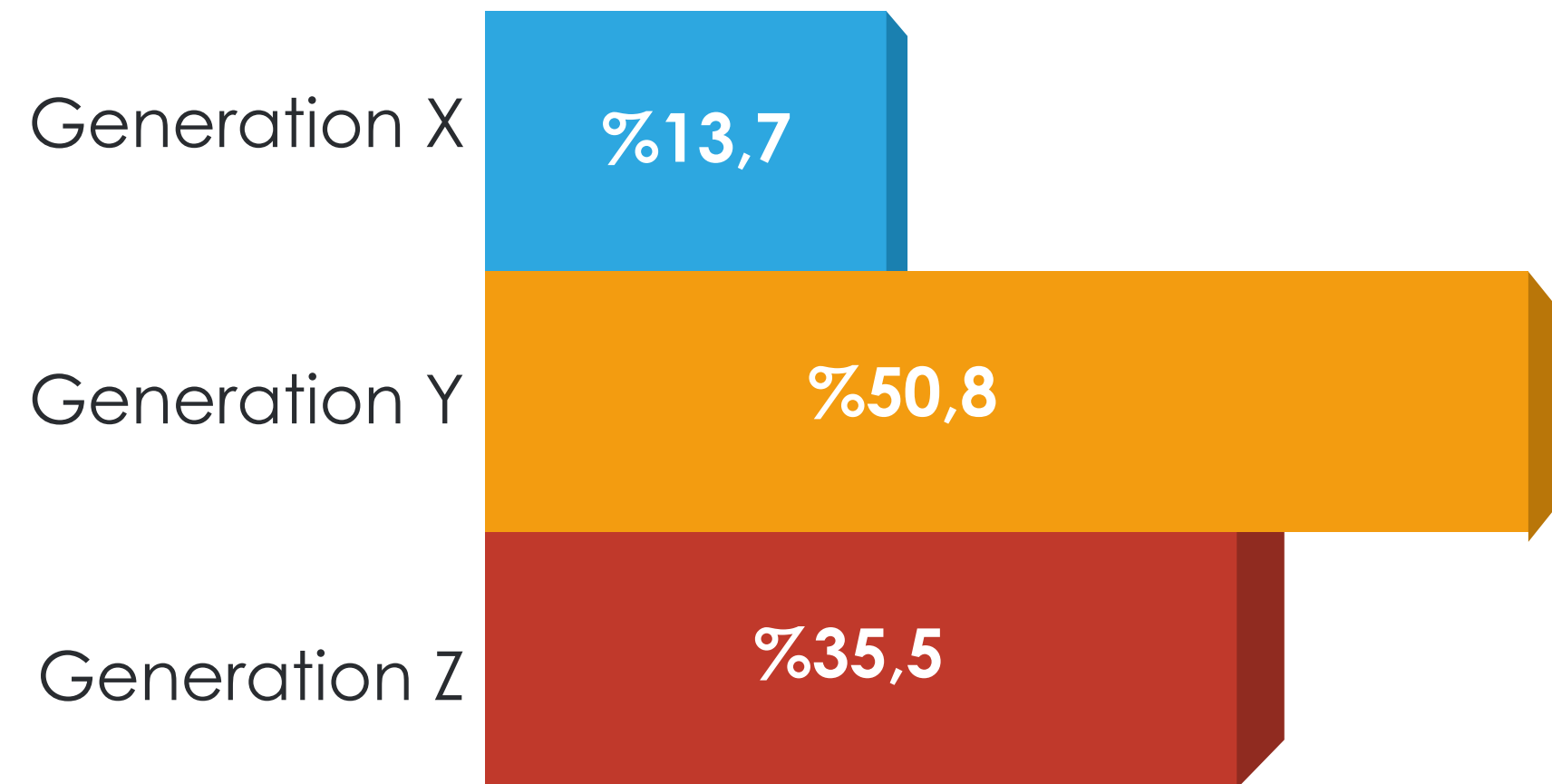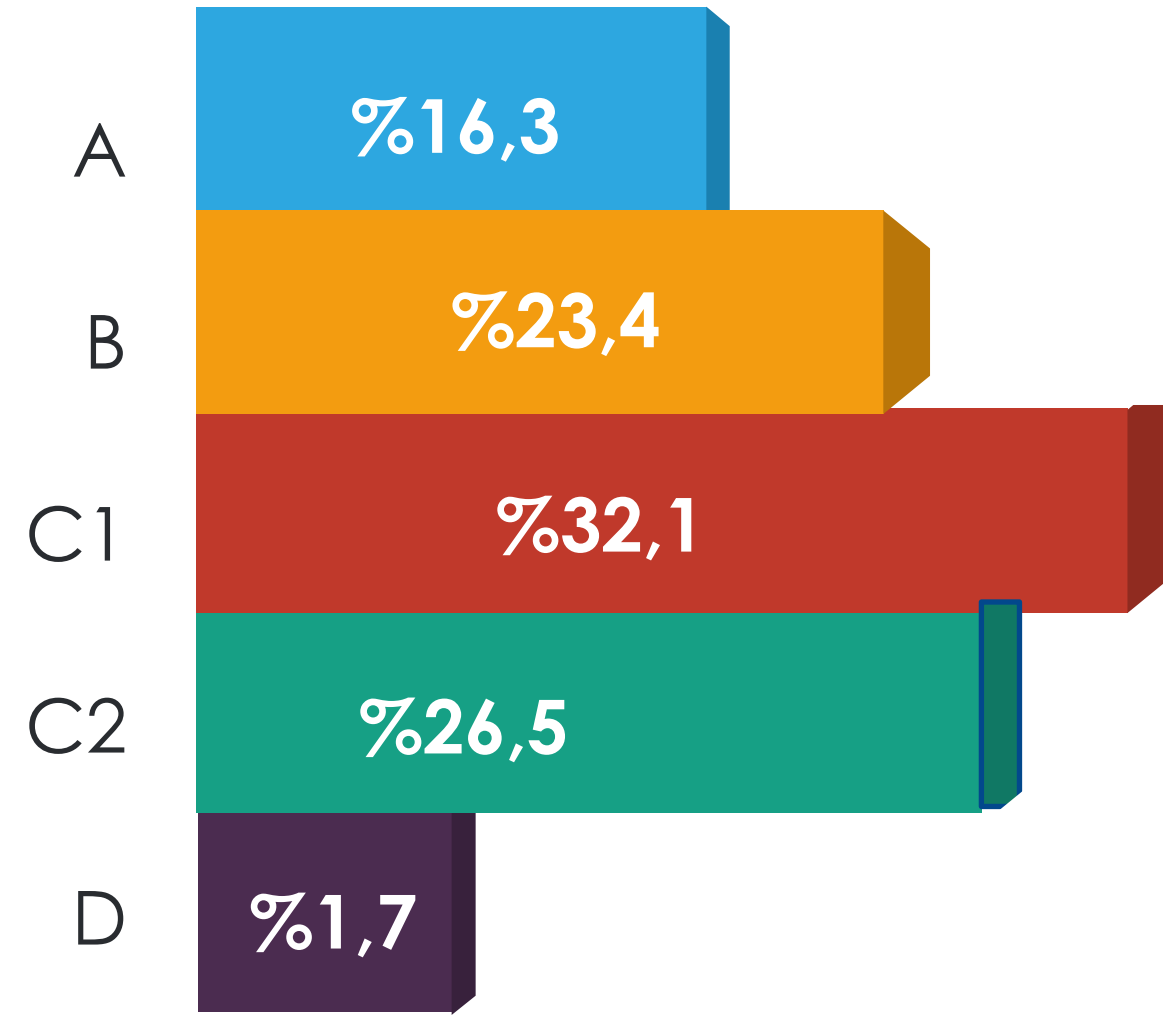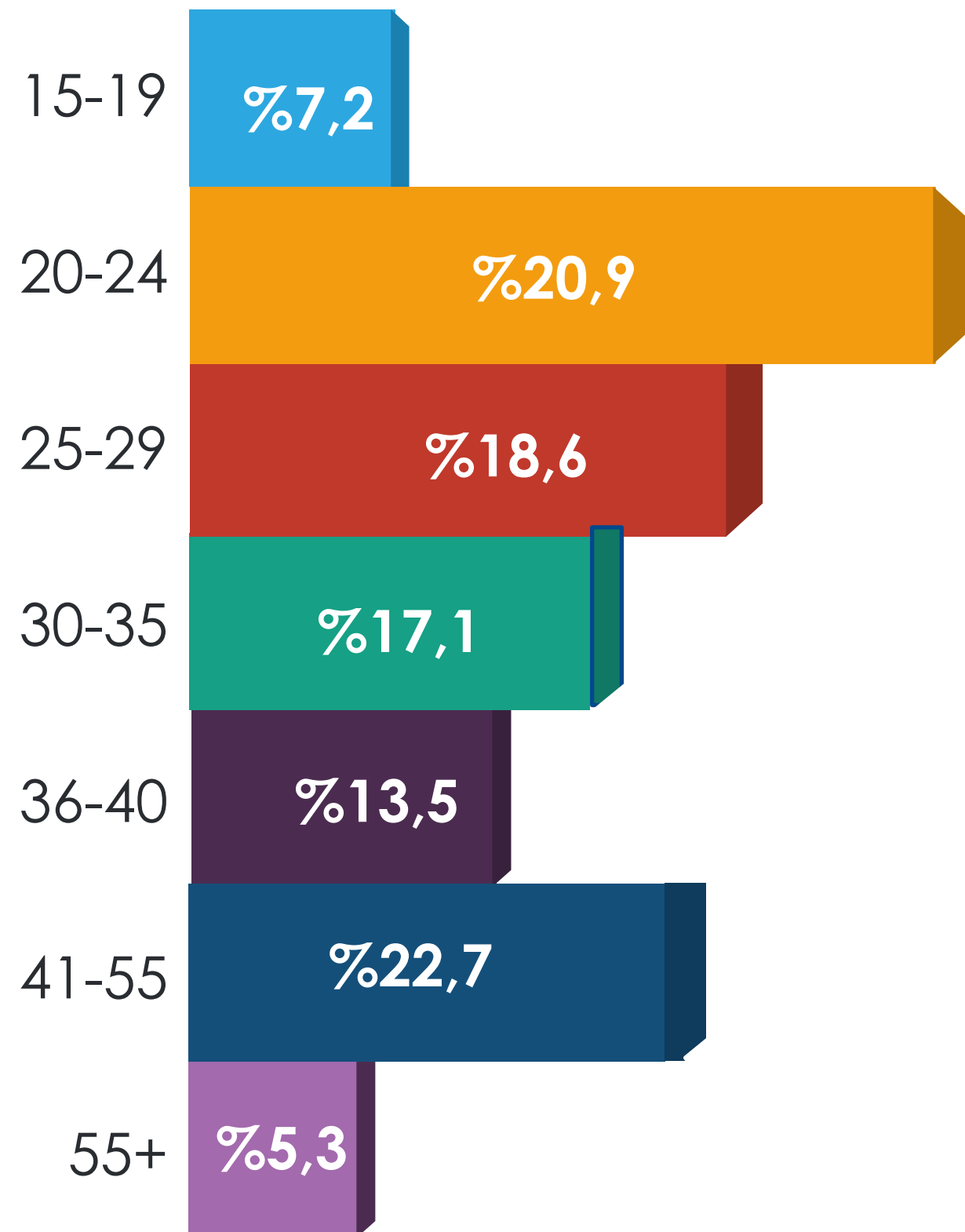May 2022

Data Control
May 2022

Analysis and Reporting
June 2022

Perception of Metaverse in Society

Sample

52.6% 713 | **47.4%** 643

Age	
15-19	%7,2
20-24	%20,9
25-29	%18,6
30-35	%17,1
36-40	%13,5
41-55	%22,7
55+	%5,3

SES	
A	%16,3
B	%23,4
C1	%32,1
C2	%26,5
D	%1,7

Generation	
Generation X	%13,7
Generation Y	%50,8
Generation Z	%35,5

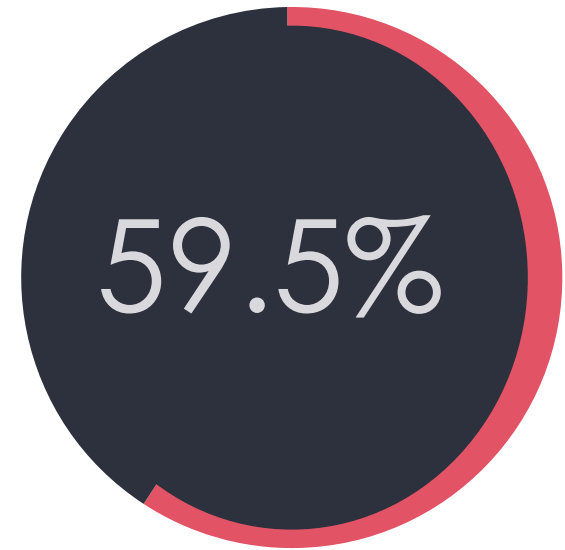| City	
İstanbul	%29.5
Ankara	%16.2
İzmir	%16.2
Bursa	%8,8
Adana	%7.4
Gaziantep	%6.6
Malatya	%2.6
Erzurum	%2.6
Trabzon	%2.6
Samsun	%2.6
Kayseri	%2.6
Balıkesir	%2.7

13
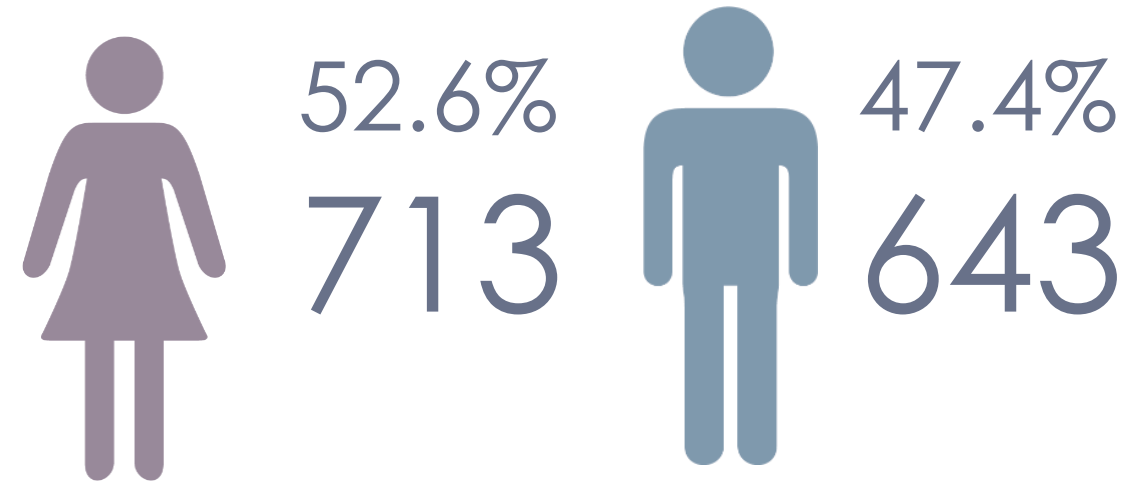
Metaverse Evaluation
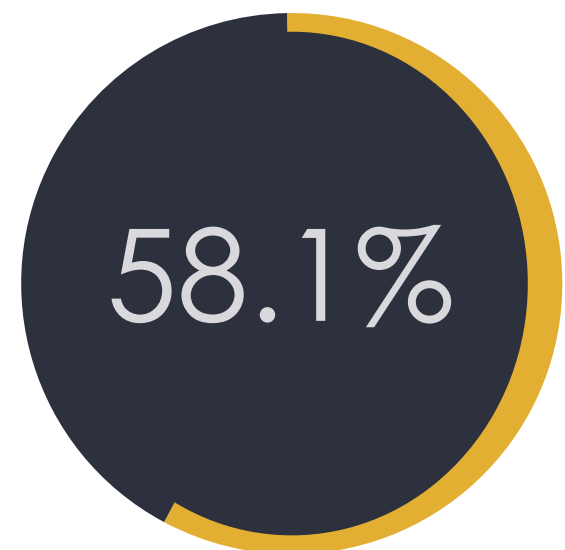
Perception of Metaverse in Society
Have you heard of the concept of virtual/augmented reality?
Have you heard of the concept of NFT before?
Have you heard of the concept of metaverse before?
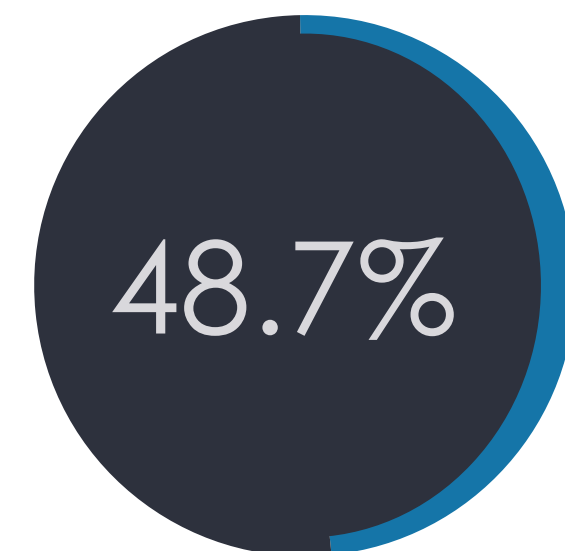How much do you know about Metaverse?

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Hearing the Concept

Virtual/Augmented Reality
59.5%

Metaverse
58.1%

NFT
48.7%

n:1356

Hearing Metaverse

November 2021 — %40.1 → %58,1 — May 2022

Level of Knowledge about Metaverse

| 6,1 | 10,9 | 33,1 | 15,8 | 34,1 |
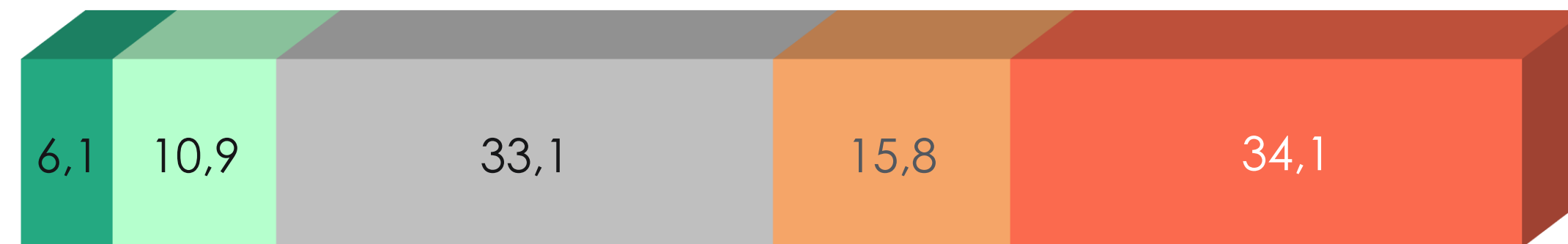
- ■ I have a lot of knowledge
- ■ I have knowledge
- ■ I have neither knowledge nor no knowledge
- ■ I have no knowledge
- ■ I have no knowledge at all

According to the survey conducted at the end of 2021, the rate of hearing Metaverse is 40.1%, while it approached 60.0% in April.

However, only 17.0% of the group, who stated that they have heard about Metaverse, had some information.
In regard to the information ownership on a province basis, especially Ankara and Istanbul (approximately 65%) differ from other provinces.

The level of knowledge about Metaverse knowledge differs statistically significantly and positively among men compared to women.

Metaverse Definition - General

	General	Generation X	Generation Y	Generation Z
Virtual world / A place that does not exist / Facebook virtual world	42.9%	34.1%	46.1%	46.5%
3D virtual environment	6.6%	3.2%	6.7%	4.2%
Virtual reality / Augmented reality / Reality perception	23.7%	35.3%	20.8%	24.3%
Merging of the real and virtual world / A virtual projection of the real world	7.6%	13.7%	6.1%	7.6%
Virtual real estate business / 3D virtual property / Land / Property purchase and sale	7.1%	5.9%	9.1%	4.9%

A centralized and non-blockchain social media power like Facebook is associated with metaverse.

31.3% of the participants define it as a combination of virtual and real.

Land-Property purchasing can be done on blockchain ecosystems. The effect of blockchain technology on the definition of metaverse in society is 7.1%.
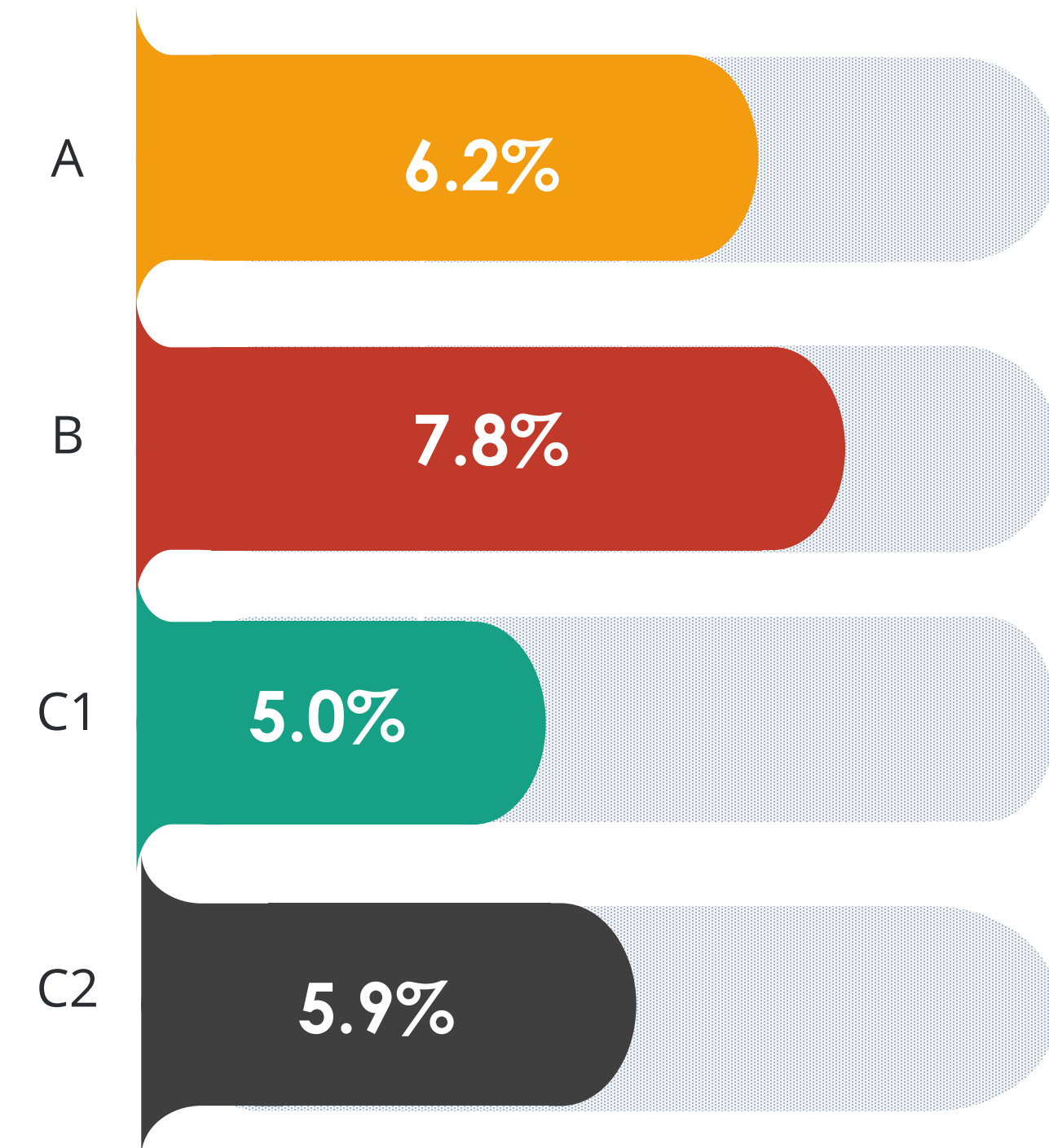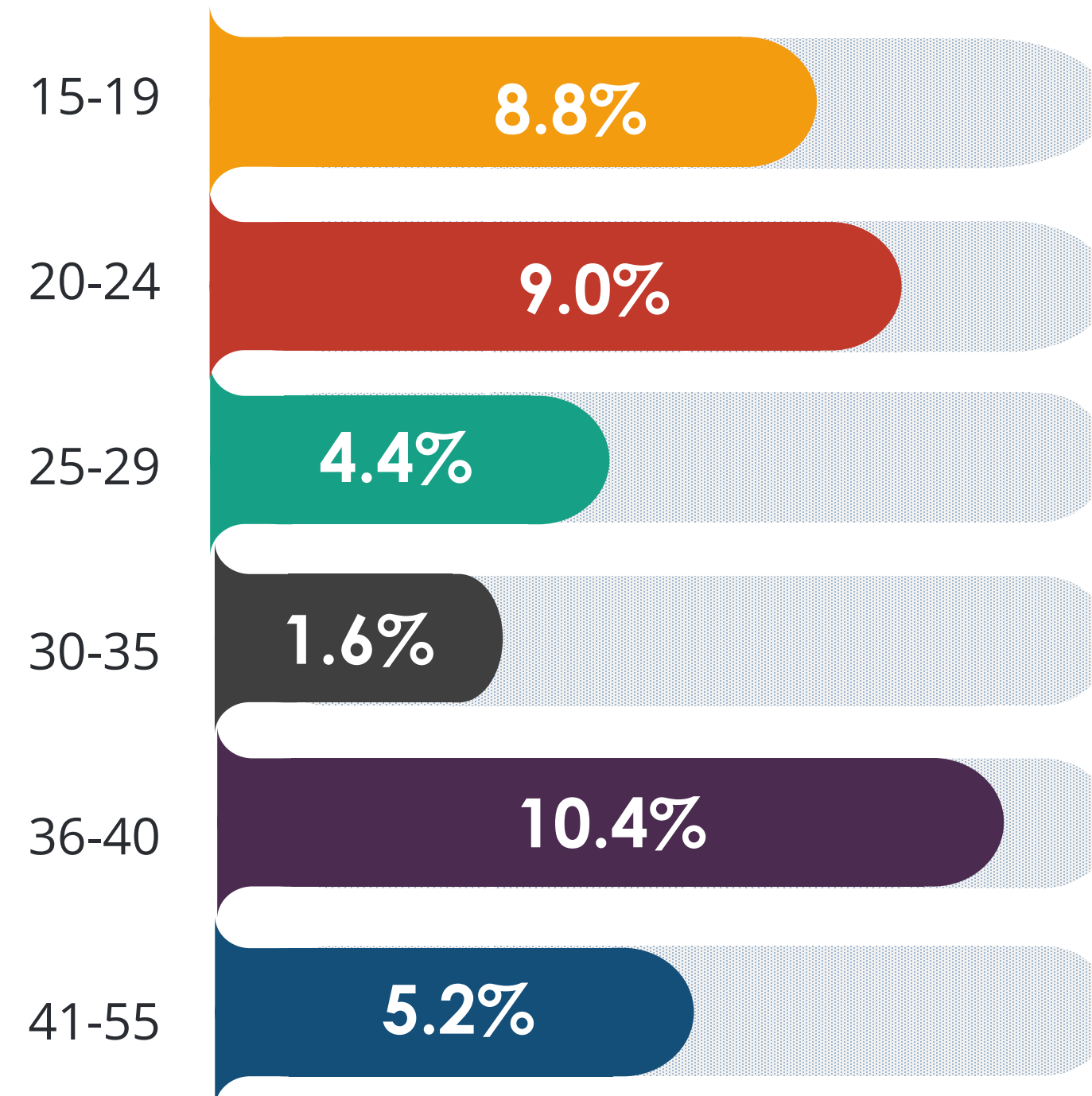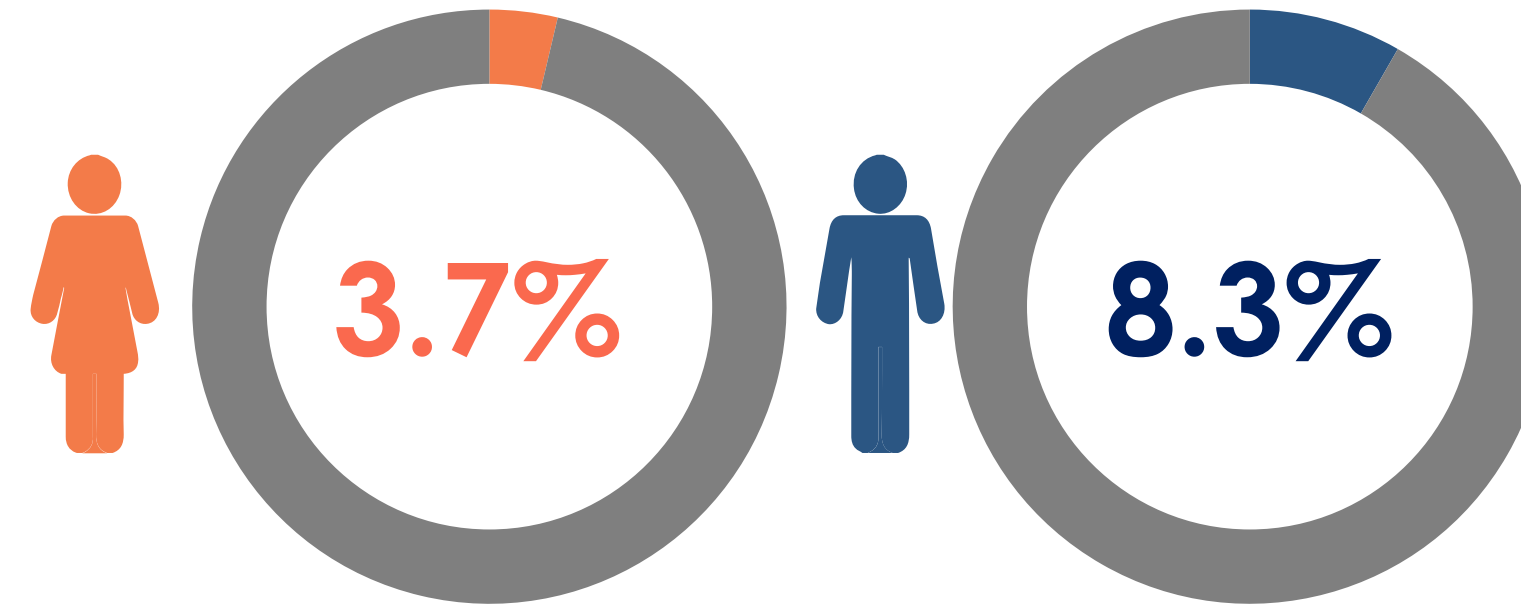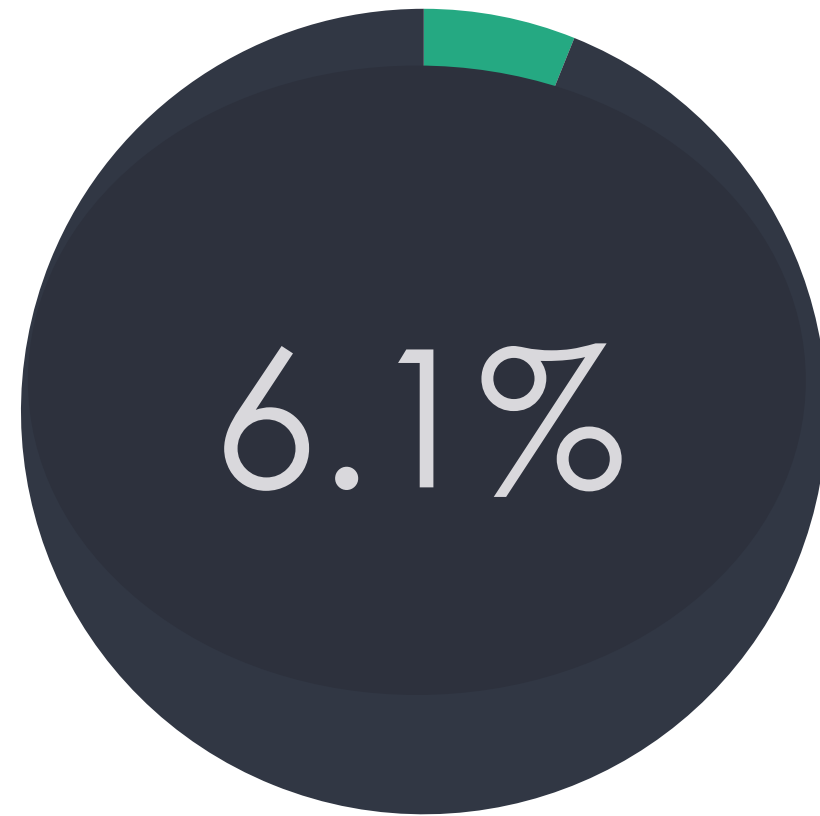
n:788

Perception of Metaverse in Society

Have you bought a land in Metaverse?

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Buying Property in Metaverse

6.1%

3.7% **8.3%**

While land purchase is 6.1% in Metaverse, it is observed that this tendency is significantly higher among men than women.
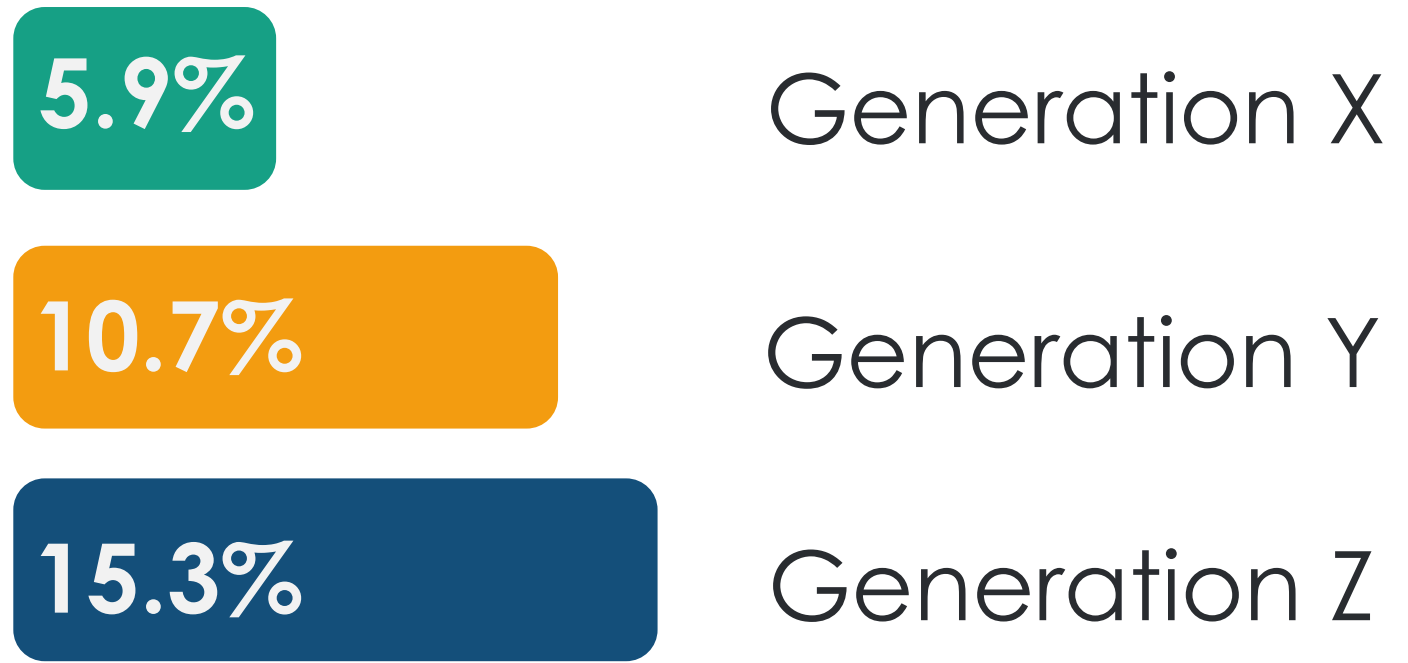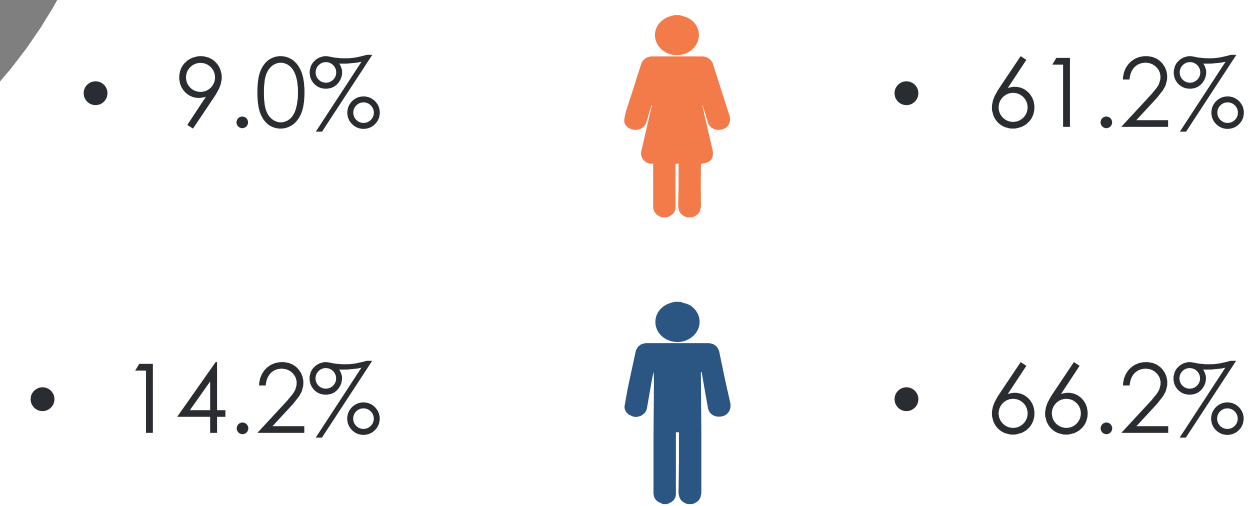Mostly, Z generation makes purchases.
"Investment" is mostly stated as the purpose of purchasing land.

Age	%
15-19	8.8%
20-24	9.0%
25-29	4.4%
30-35	1.6%
36-40	10.4%
41-55	5.2%

Group	%
A	6.2%
B	7.8%
C1	5.0%
C2	5.9%

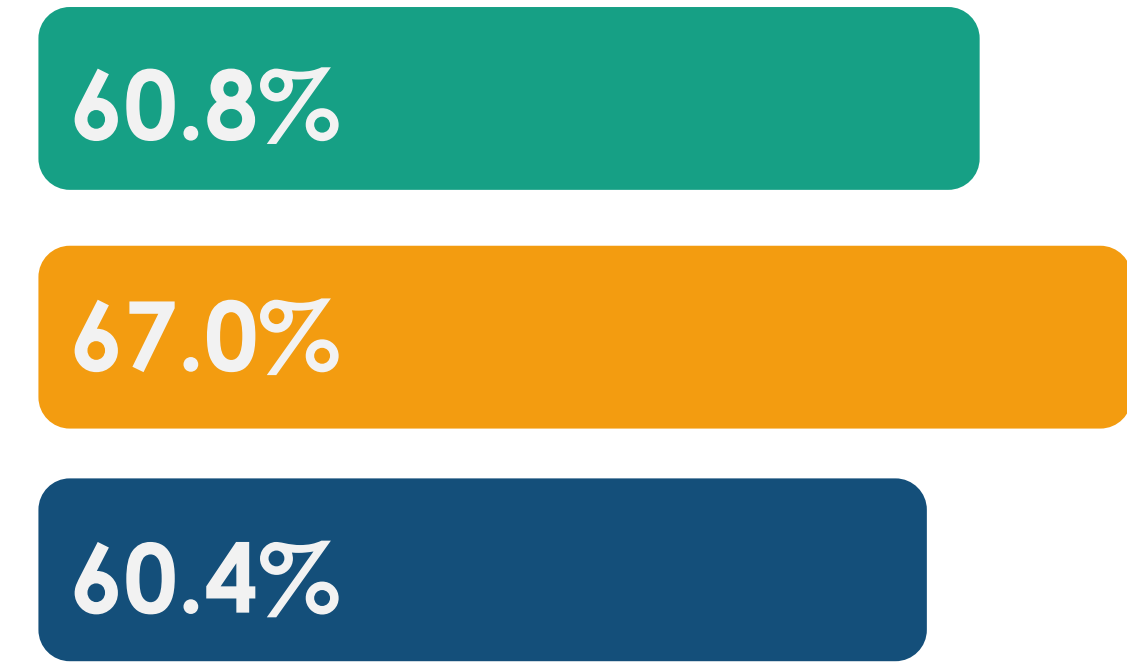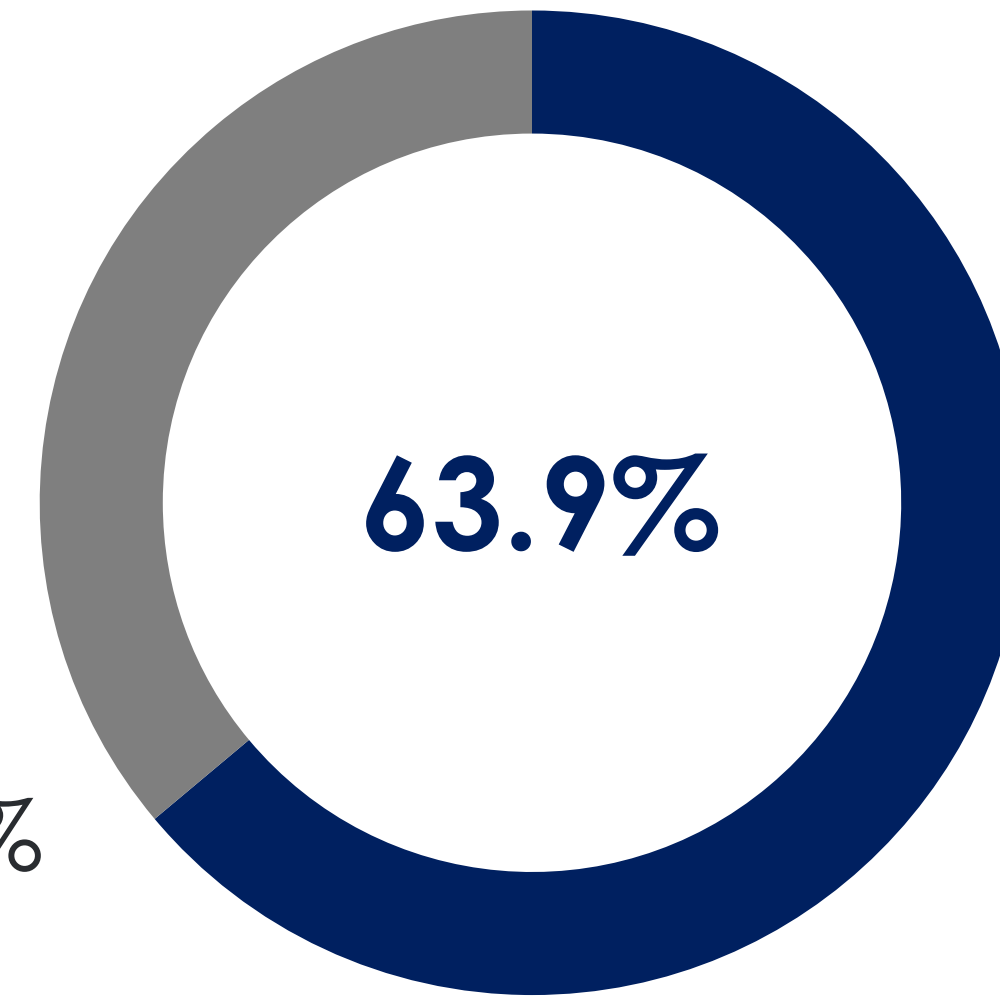n:788 (who have heard of the concept of metaverse)

17

Perception of Metaverse in Society

Have you ever experienced metaverse?
Are you planning to experience Metaverse soon?

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Experiencing Metaverse

12.0%

- 9.0% (female)
- 14.2% (male)

5.9%	Generation X
10.7%	Generation Y
15.3%	Generation Z
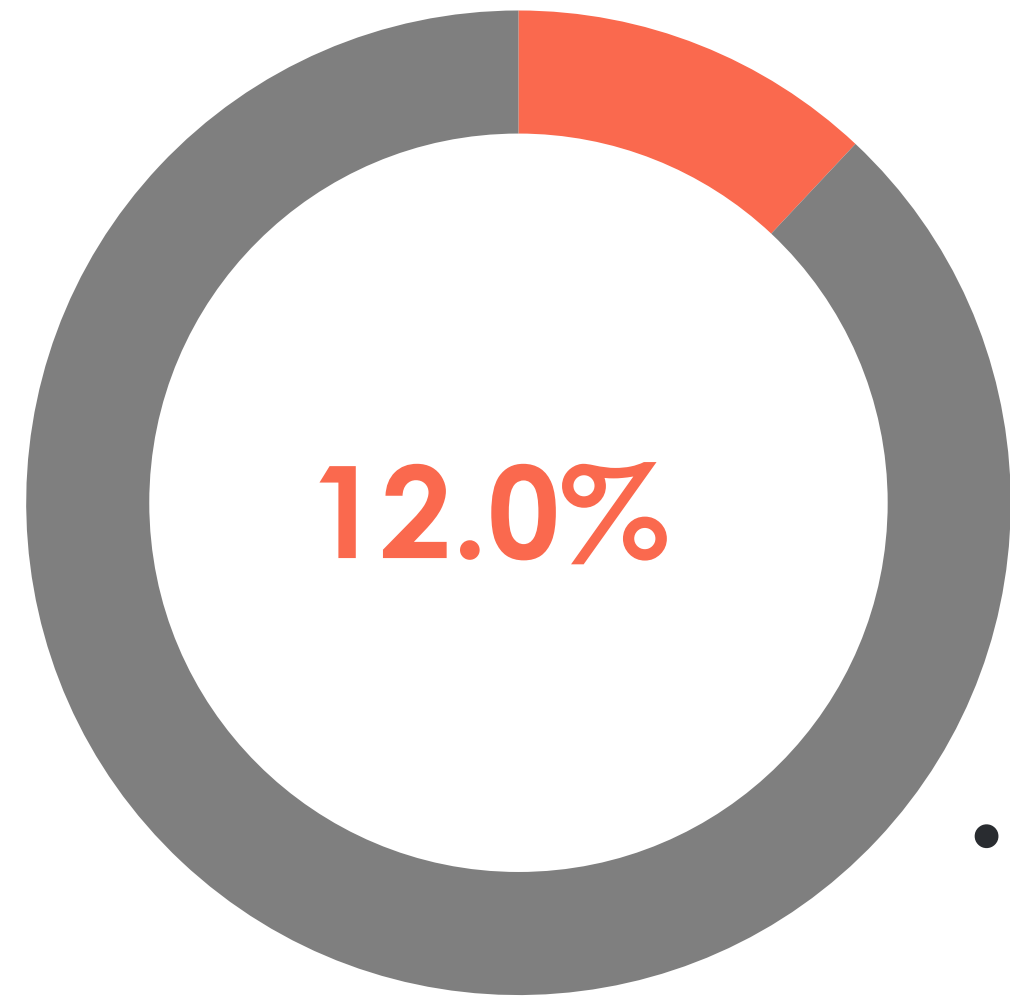
Considering Experiencing Metaverse

63.9%

- 61.2% (female)
- 66.2% (male)

60.8%	Generation X
67.0%	Generation Y
60.4%	Generation Z

12.0% has an experience in Metaverse. The rate of having an experience is statistically significantly higher among males with **14.2%** than females, and higher in the Z generation with **15.3%** compared to X and Y generations.

The majority stated that they have experienced Metaverse through games (Horizon Worlds, Minecraft, Roblox). In particular, Sandbox is preferred for the purchase of a land, Anifie for the concert experience, Glue and Spatial for meetings, and Beymen Decentraland for shopping. There is also a segment that associates metaverse experience with crypto money. In addition to these, there are participants who attended the women's day event, marketing summit and exhibitions.

n:788 (who have heard of the concept of metaverse)

18

Perception of Metaverse in Society
What kind of metaverse experience did you have?
What would you like to experience in Metaverse?
What is your reason for not wanting to have an Metaverse experience?

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ARAŞTIRMA

Experience in Metaverse

Games (Generation XY⬆)	14.3%
I bought a property/Land	8.2%
Coin	4.1%
Travel - Trip (Generation XY⬆)	4.1%
Shopping (Women⬆) (Beymen Decentraland)	4.1%

Meetings, concerts, events are other experiences.

Experience Considered to Have in Metaverse

Buying Land / Property (Generation Z⬆)	21.0%
Traveling the World/Countries (Women, Gen. XY⬆)	7.5%
Games (Generation Z⬆)	6.3%
Experiencing the 3D environment / Seeing the environment	6.3%
Going to Space / Mars	5.2%
Shopping	4.8%

Reasons for Not wanting to Experience Metaverse

I don't trust / Because I think these things are money pits (Generation X⬆)	14.6%
It is virtual / Because it is not real / I prefer real life / An imaginary environment (Woman, Generation Y⬆)	5.6%
Not interesting / Not interested (Women⬆)	5.6%
Financial possibilities / There is no budget to allocate to metaverse lands financially at the moment	3.5%
Scary (Women⬆)	3.5%
Expensive	3.5%

14.3% of those, who experienced Metaverse, has a gaming experience.
On the other hand, the most desired experience is to buy a land/property with 21.0%.
In addition, 14.6% of the segment, who do not want to experience metaverse, do not trust metaverse and believe that it is a money trap.

Perception of Metaverse in Society

Is there a behavior or activity that you cannot do in normal life but think you can do in metaverse? Why?

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Activity Considered to Experience in Metaverse

38.7%
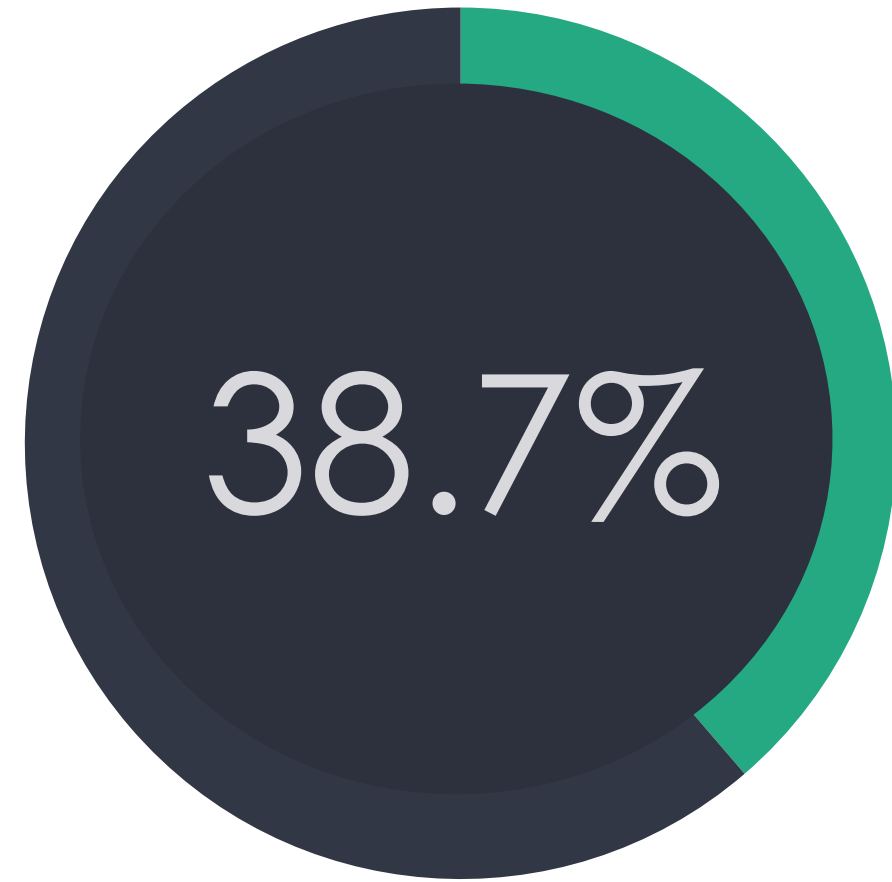
Activity	%
Flying / Travelling by flying	20.3%
Trip - Travel / Traveling the world	12.4%
Buying and selling / Buying or selling something / Getting rich / Multi millionaire	7.9%
Owning land	5.9%

Mainly X and Y generation want to be rich.

According to 38.7% of the participants, there is a behavior/activity that they cannot do in normal life but can do in metaverse.

Answers like "Flying / Travelling by flying / Flying from a place to a place" are in the first place with 20.3%. While the metaphor of flying represents timelessness and spacelessness, we can define it as the state of "freedom and disconnection".

In addition, travelling is the most commonly observed and most studied metaphor. The roots of travelling lies in our awareness of time, evolution, progress and maturation.

It also appears as the most observed metaphor in this phase of the transformation.

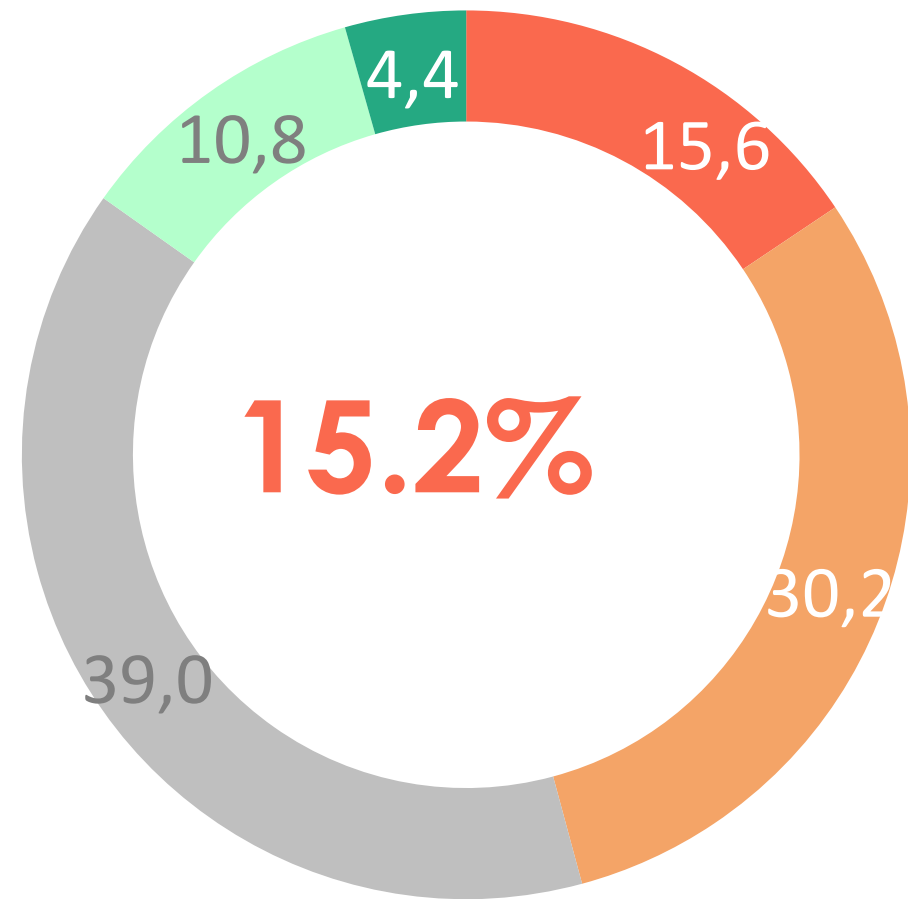It is followed by trip-travel, owning land and trade/making money.

n:788 (who have heard of the concept of metaverse)

20

Perception of Metaverse in Society
In your opinion, how ready are we for metaverse?

AIPA — YAPAY ZEKA POLİTİKALARI DERNEĞİ

Kuantum ARAŞTIRMA

Getting Ready for Metaverse

15,6

4,4

10,8

30,2

39,0

15.2%

- We are definitely not ready
- We are not ready
- We are neither ready nor ready
- We are ready
- We are definitely ready

14.5%

3,2

11,3

18,8

36,1

30
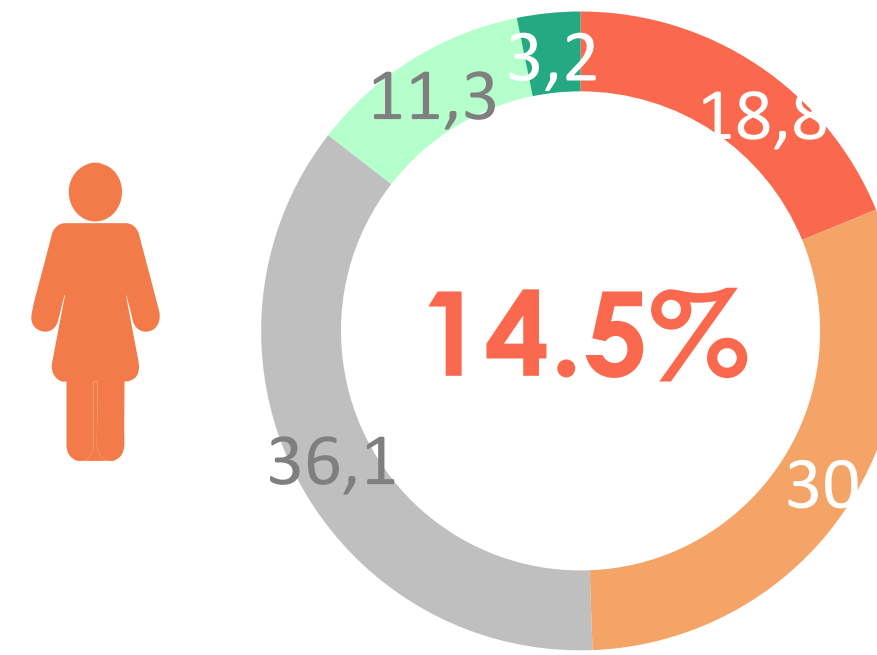
- We are definitely not ready
- We are not ready
- We are neither ready nor ready
- We are ready
- We are definitely ready
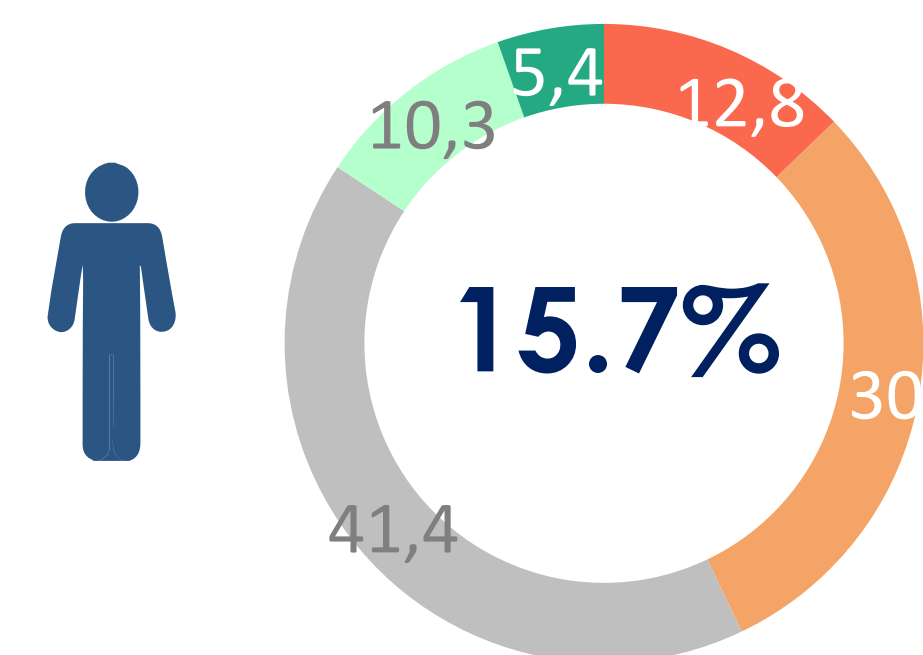
15.7%

5,4

10,3

12,8

41,4

30

- We are definitely not ready
- We are not ready
- We are neither ready nor ready
- We are ready
- We are definitely ready

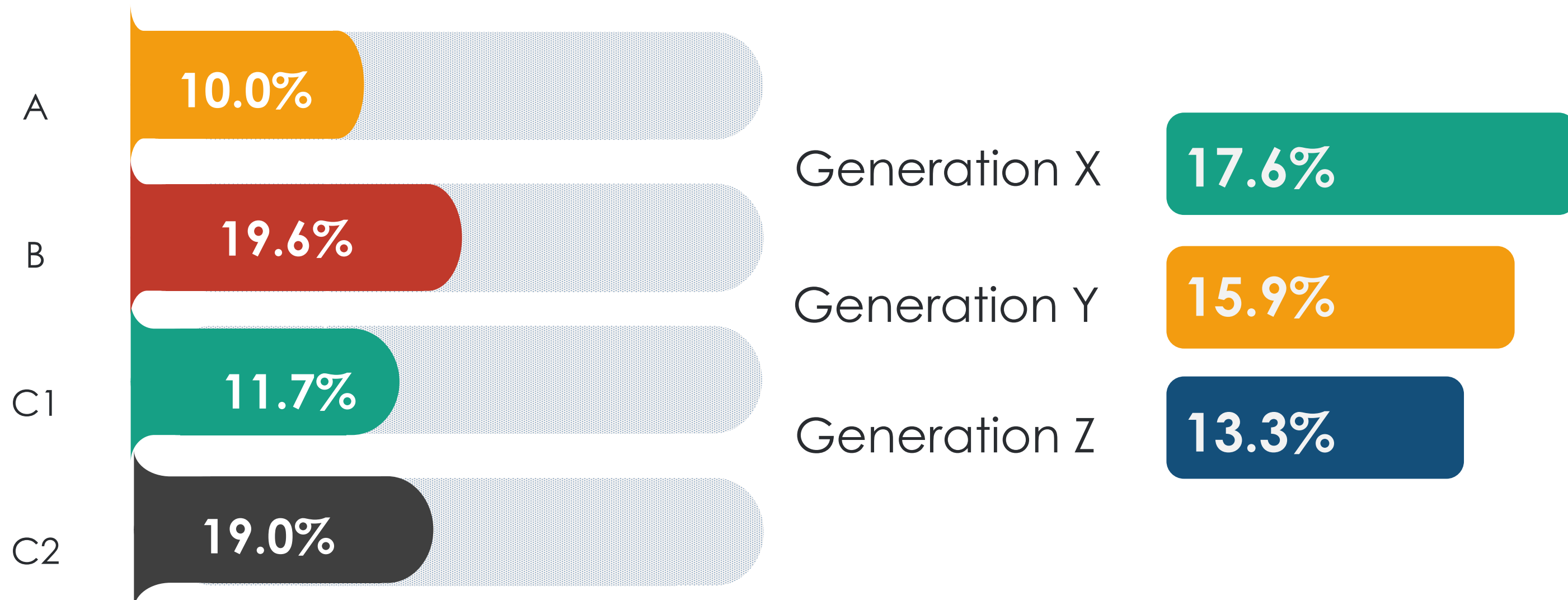The rate of readiness for Metaverse is 15.2%, and there is no significant difference between women, men and SES. The generation that is most ready for Metaverse is the X generation. The Z generation, which has the most experience, draws attention as the most cautious generation in terms of being ready.

A — 10.0%

B — 19.6%

C1 — 11.7%

C2 — 19.0%

Generation X — 17.6%

Generation Y — 15.9%

Generation Z — 13.3%

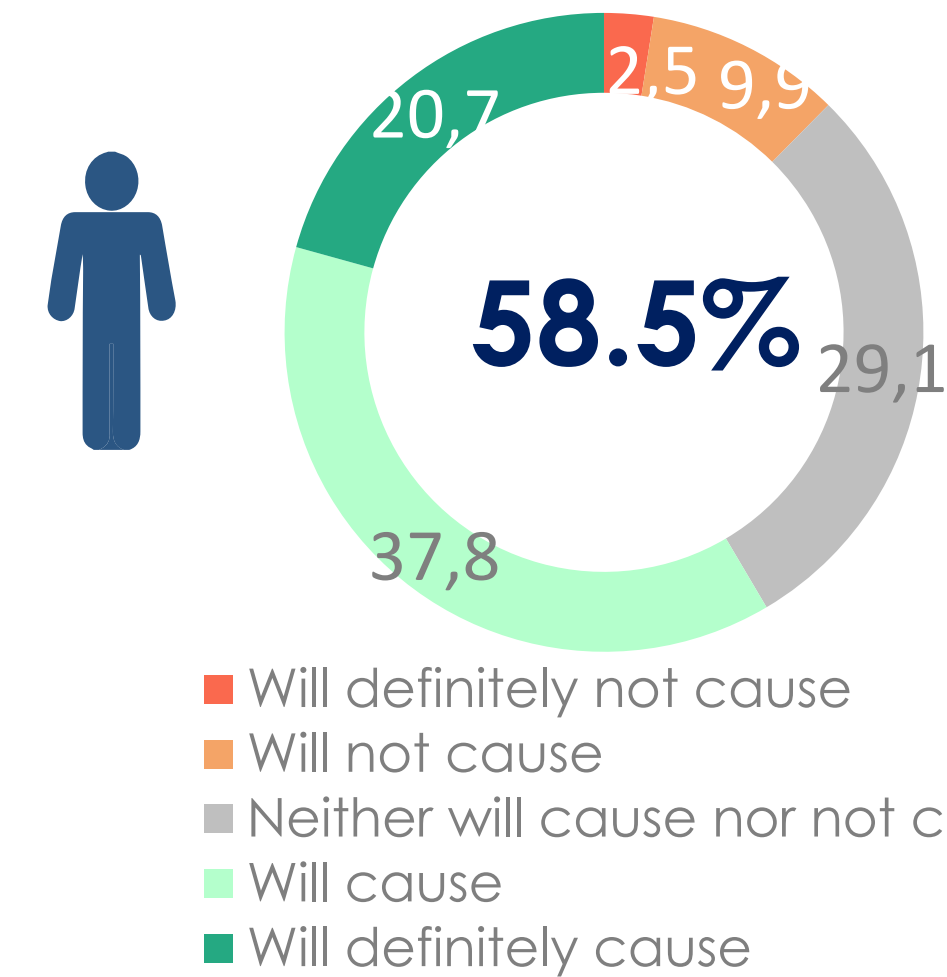n:788 (Artificial Intelligence Policies Association)

21

Perception of Metaverse in Society

To what extent do you think metaverse will cause a cultural change?

AIPA YAPAY ZEKA POLİTİKALARI DERNEĞİ

Kuantum ARAŞTIRMA

Causing Cultural Change

- 🟥 Will definitely not cause
- 🟧 Will not cause
- ⬜ Neither will cause nor not cause
- 🟩 Will cause
- 🟢 Will definitely cause

61.8%

2,8 9,5
25,9
37,4
24,4

65.6%

3,2 9,2
22,0
37,1
28,5

- 🟥 Will definitely not cause
- 🟧 Will not cause
- ⬜ Neither will cause nor not cause
- 🟩 Will cause
- 🟢 Will definitely cause

58.5%

2,5 9,9
29,1
37,8
20,7

- 🟥 Will definitely not cause
- 🟧 Will not cause
- ⬜ Neither will cause nor not cause
- 🟩 Will cause
- 🟢 Will definitely cause
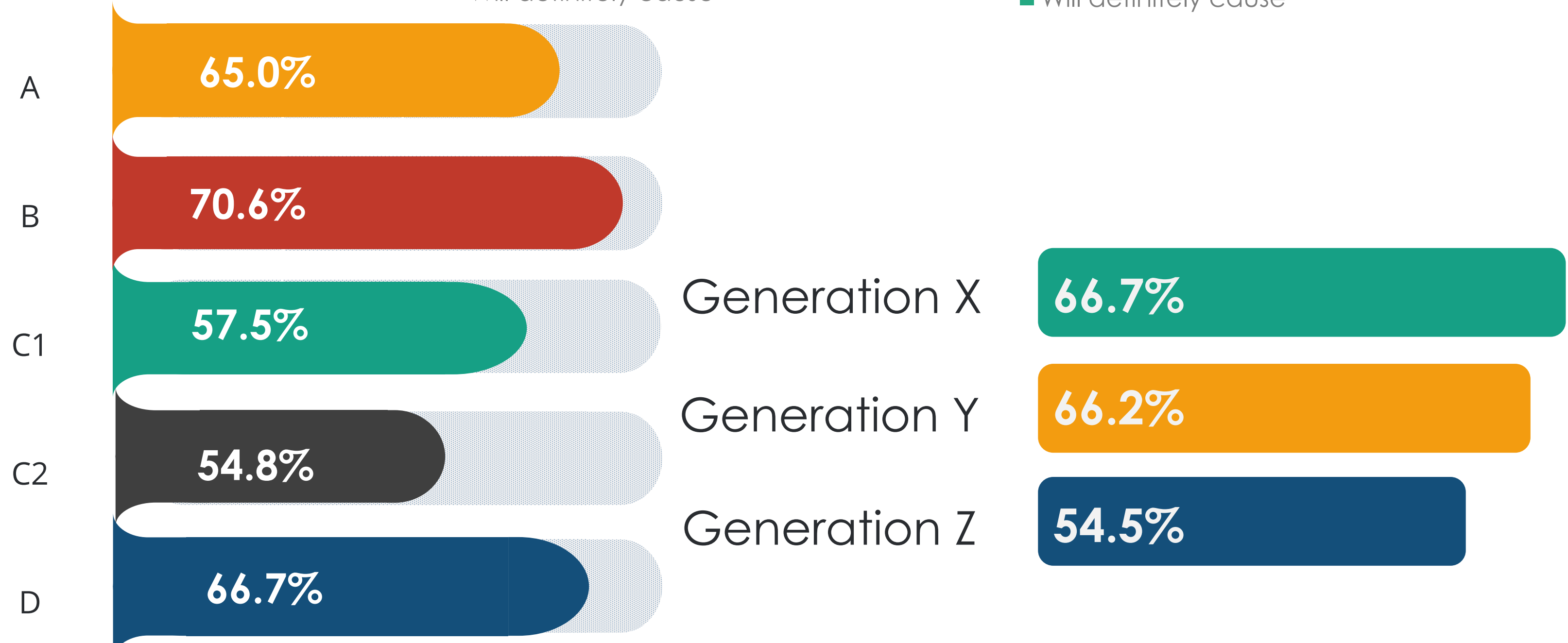
Generations X and Y think that metaverse will cause cultural change significantly more than Generation Z.

The belief of women, that there will be a cultural change, is significantly higher than men.

A	65.0%
B	70.6%
C1	57.5%
C2	54.8%
D	66.7%

Generation X	66.7%
Generation Y	66.2%
Generation Z	54.5%

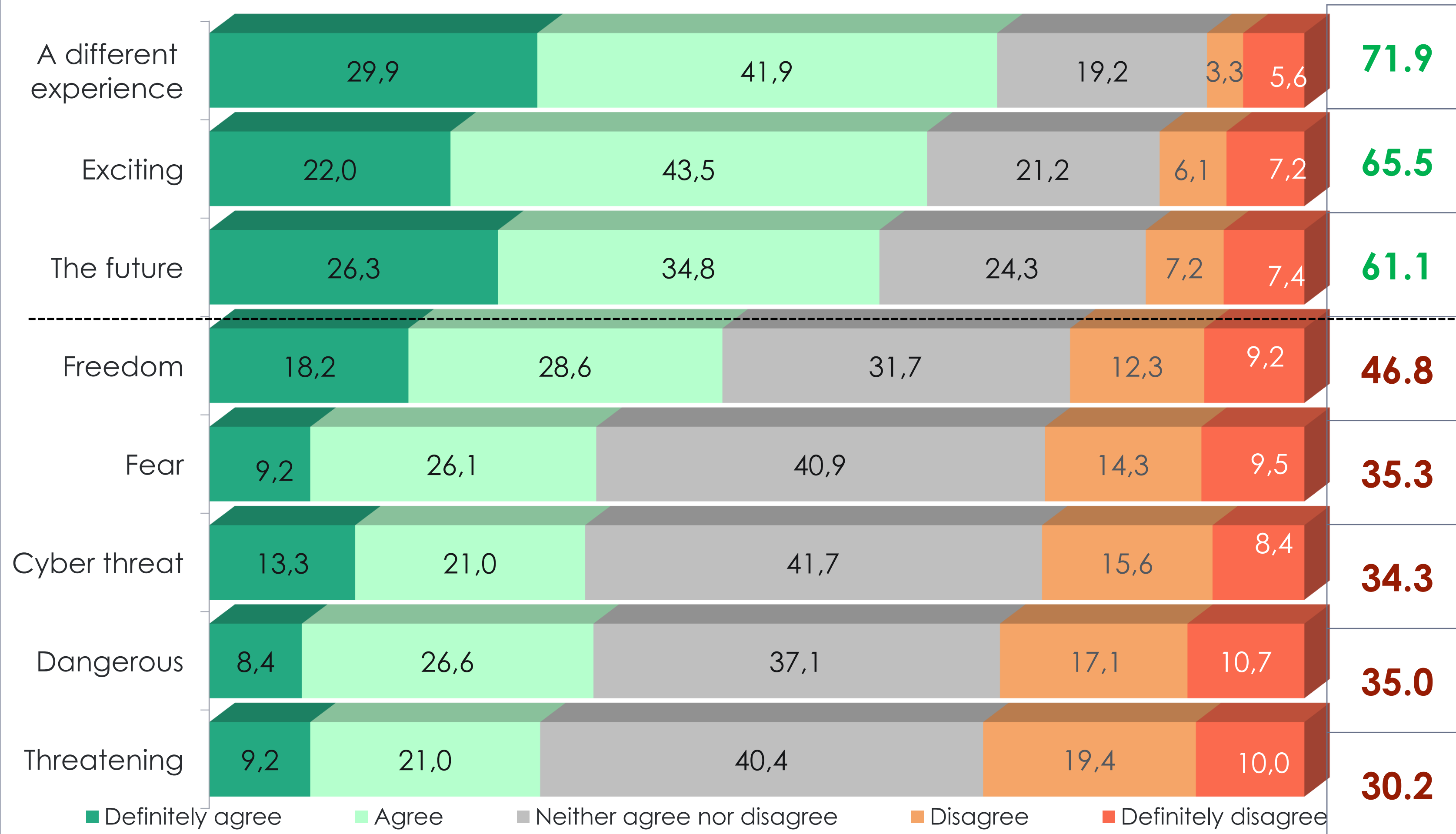n:788 (who have heard of the concept of metaverse)

Perception of Metaverse in Society

To what extent do you agree with the following statements about Metaverse?

Level of Agreement with Statements

	Definitely agree	Agree	Neither agree nor disagree	Disagree	Definitely disagree	T2B%
A different experience	29,9	41,9	19,2	3,3	5,6	**71.9**
Exciting	22,0	43,5	21,2	6,1	7,2	**65.5**
The future	26,3	34,8	24,3	7,2	7,4	**61.1**
Freedom	18,2	28,6	31,7	12,3	9,2	**46.8**
Fear	9,2	26,1	40,9	14,3	9,5	**35.3**
Cyber threat	13,3	21,0	41,7	15,6	8,4	**34.3**
Dangerous	8,4	26,6	37,1	17,1	10,7	**35.0**
Threatening	9,2	21,0	40,4	19,4	10,0	**30.2**

47.5

The majority of those who stated that they have heard of Metaverse have a positive expectation.

People state that they are worried that they will be most open to speculation when they think that they are free in metaverse.

At this point, the importance of the state regulation is an issue on which the society agrees the most.

n:788 (who have heard of the concept of metaverse)

23

Metaverse Numeric Definition

Metaverse is a future where you feel more free by having an exciting and different experience.

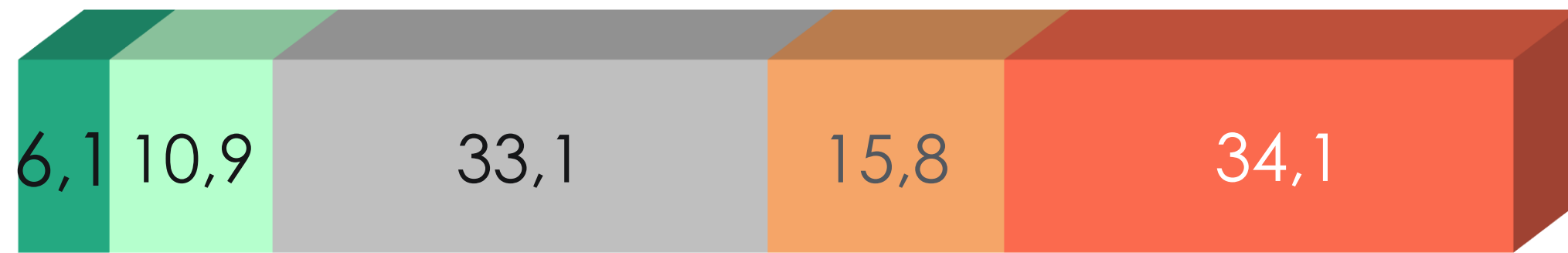However, this future also includes danger and threat (cyber attack, data breach)

Perception of Metaverse in Society

How much do you know about Metaverse?
How much would you rely on a doctor's diagnosis in Metaverse?
Do you think that the state should be involved in Metaverse as law enforcement?
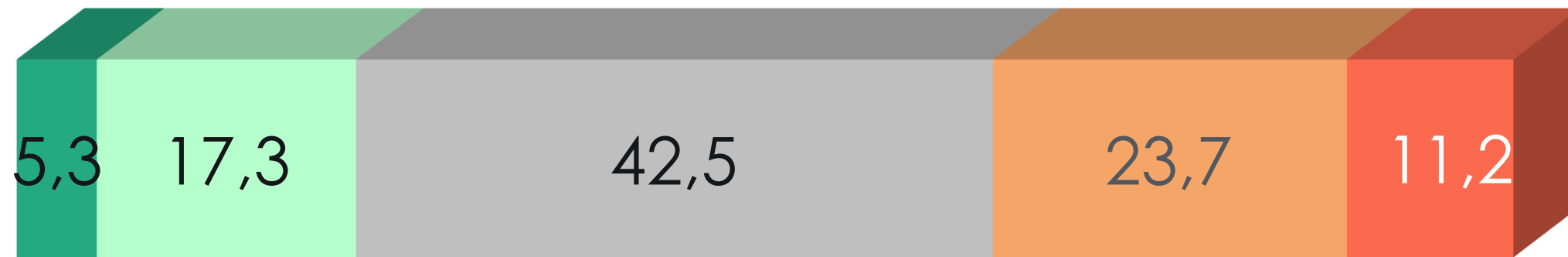How safe do you feel in metaverse?

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Kuantum ARAŞTIRMA

T2B%

Level of Knowledge about Metaverse

| 6,1 | 10,9 | 33,1 | 15,8 | 34,1 |

17.0

(Y ⬆)

- ■ I have a lot of knowledge
- ■ I have knowledge
- ■ I have neither knowledge nor no knowledge
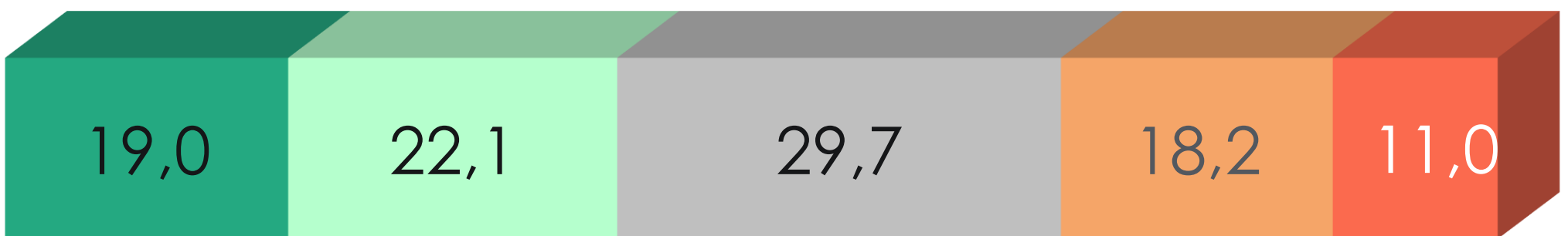- ■ I have no knowledge
- ■ I have no knowledge at all

Reliance on Doctor's Diagnosis

| 5,3 | 17,3 | 42,5 | 23,7 | 11,2 |

22.6
(XY ⬆)

- ■ Definitely trust
- ■ Trust
- ■ Neither trust nor distrust
- ■ Distrust
- ■ Definitely distrust

The State's Necessity to be in Metaverse

| 19,0 | 22,1 | 29,7 | 18,2 | 11,0 |

41.1
(X ⬆)

- ■ Definitely believe
- ■ Believe
- ■ Neither believe nor not believe
- ■ Don't believe
- ■ Definitely don't believe

Level of Feeling Safe in Metaverse

| 4,4 | 14,4 | 45,2 | 18,8 | 17,2 |

18.8
(Z ⬆)
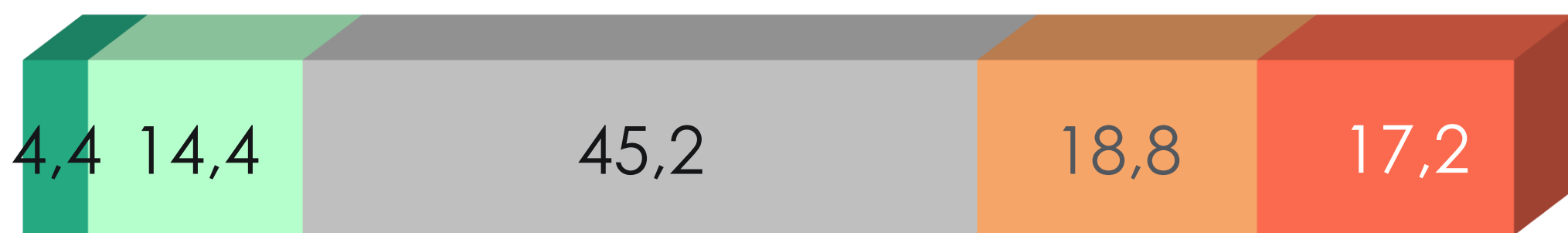
- ■ Definitely feel safe
- ■ Feel safe
- ■ Neither feel safe nor not safe
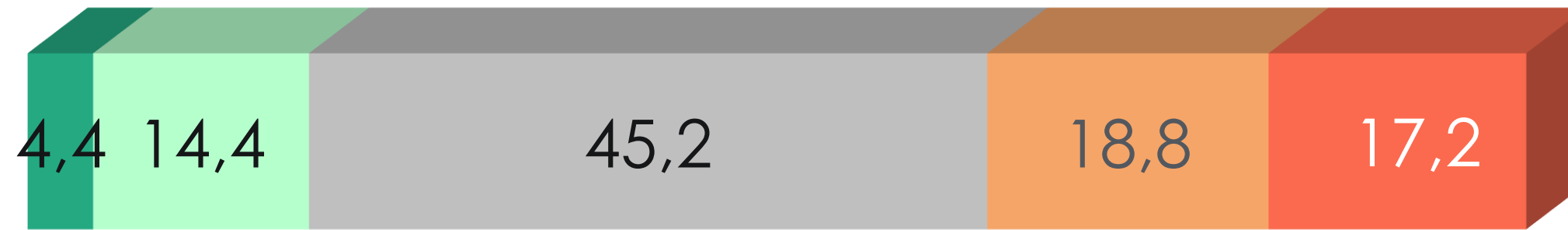- ■ Don't feel safe
- ■ Definitely don't feel safe

It is observed that the level of knowledge, trust in doctor's diagnosis, and feeling safe in metaverse are low, whilst the level of agreement with the statement that the state (Legislator) should also be involved in metaverse is highest with a T2B of 41.1%.
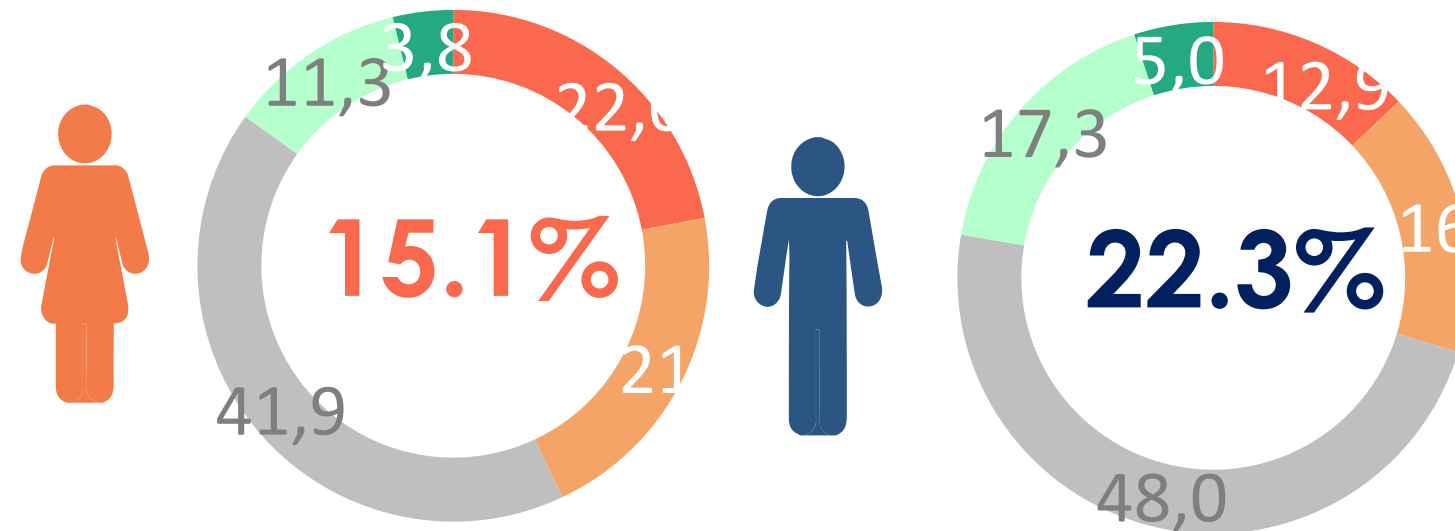
25

Perception of Metaverse in Society

Do you think that the state should involved in Metaverse as law enforcement?
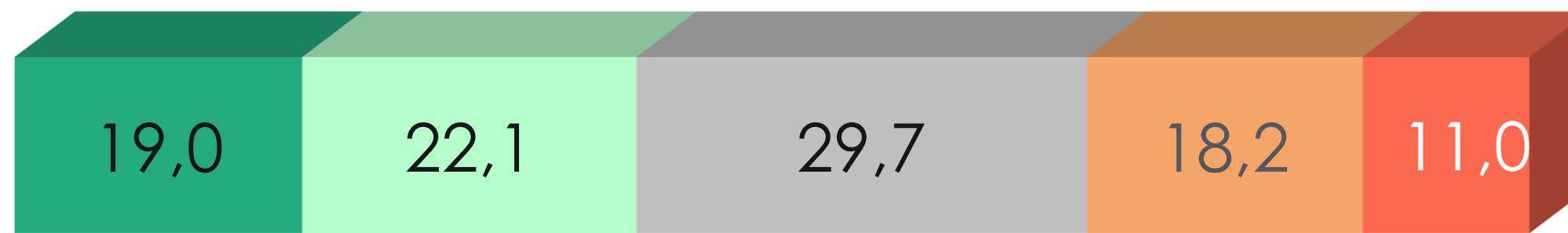How safe do you feel in metaverse?

AIPA YAPAY ZEKA POLİTİKALARI DERNEĞİ **Kuantum** ARAŞTIRMA

Level of Feeling Safe in Metaverse

| 4,4 | 14,4 | 45,2 | 18,8 | 17,2 |

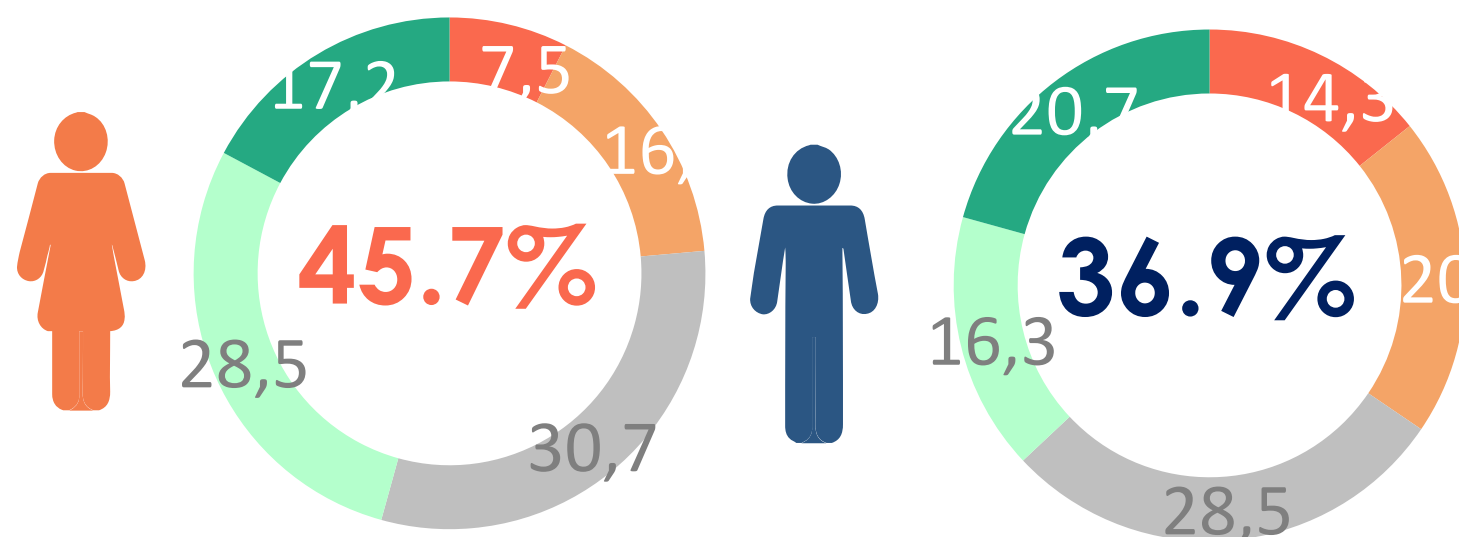- ■ Definitely feel safe
- ■ Feel safe
- ■ Neither feel safe nor not safe
- ■ Don't feel safe
- ■ Definitely don't feel safe

Women: 15.1%
- 3,8
- 22,0
- 11,3
- 41,9
- 21

Men: 22.3%
- 5,0
- 12,9
- 17,3
- 16
- 48,0

The State's Necessity to be in Metaverse

| 19,0 | 22,1 | 29,7 | 18,2 | 11,0 |

- ■ Definitely believe
- ■ Believe
- ■ Neither believe nor not believe
- ■ Don't believe
- ■ Definitely don't believe

Women: 45.7%
- 17,2
- 7,5
- 16,
- 28,5
- 30,7

Men: 36.9%
- 20,7
- 14,
- 16,3
- 20
- 28,5

While women's level of feeling safe in metaverse is statistically significantly lower than men, their level of thinking that the state should be involved in metaverse is statistically significantly higher.

Mostly women and X generation want that the state involves in metaverse.
In addition, there is a high level of correlation between the necessity of the state to be in metaverse and the level of feeling safe in metaverse. And, it is observed that the state's involvement in metaverse is a way of eliminating the low level of trust in the society.
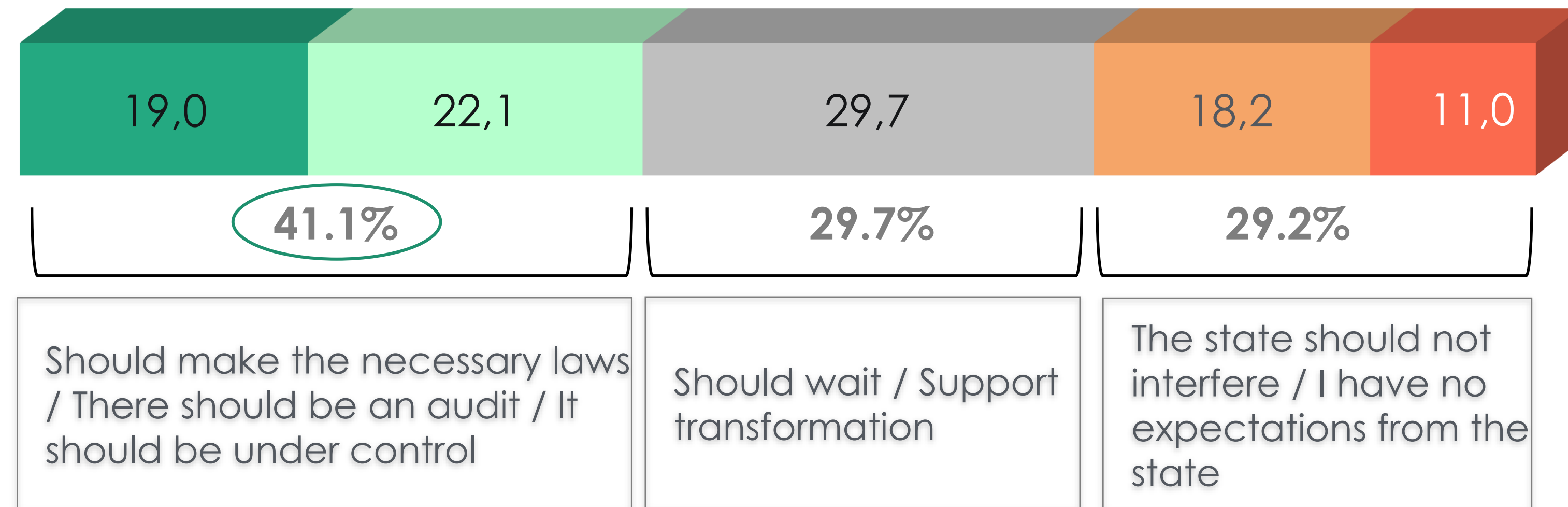
26

Perception of Metaverse in Society

Do you think that the state should be involved Metaverse as law enforcement?
What kind of an attitude should the state exhibit in metaverse right now?
What do you expect from the state?

The State's Necessity to be in Metaverse

- **Definitely believe**
- **Believe**
- **Neither believe nor not believe**
- **Don't believe**
- **Definitely don't believe**

19,0	22,1	29,7	18,2	11,0

41.1% | **29.7%** | **29.2%**

Should make the necessary laws / There should be an audit / It should be under control	Should wait / Support transformation	The state should not interfere / I have no expectations from the state

According to 41.1% of respondents, the state should be involved in metaverse as a lawgiver.

That is to say, the state should enact the necessary laws and provide an audit.
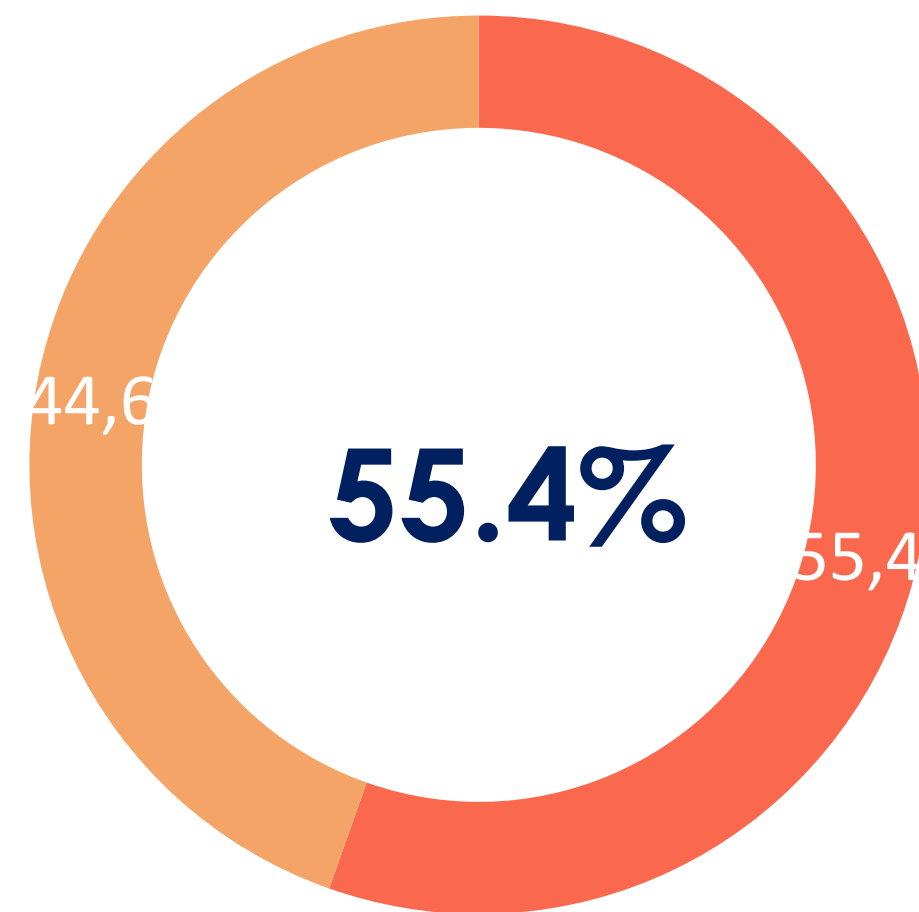
n:788 (who have heard of the concept of metaverse)

Perception of Metaverse in Society

Imagine that you are going to visit a museum/historical ancient city.
Do you prefer to travel physically, or do you prefer to travel in metaverse?

**Metaverse
Travel Preference**

24,2

24.2%

75,8

**The Ability of Metaverse
To Break
Real-World Boundaries**

44,6

55.4%

55,4

The rate of choosing museum/historical city tour in Metaverse is 24.2%.

Unlimited freedom is often the reason why people believe that metaverse will destroy borders. Those, who do not think that it will destroy the borders, believe that some things are impossible and the state will not allow them.
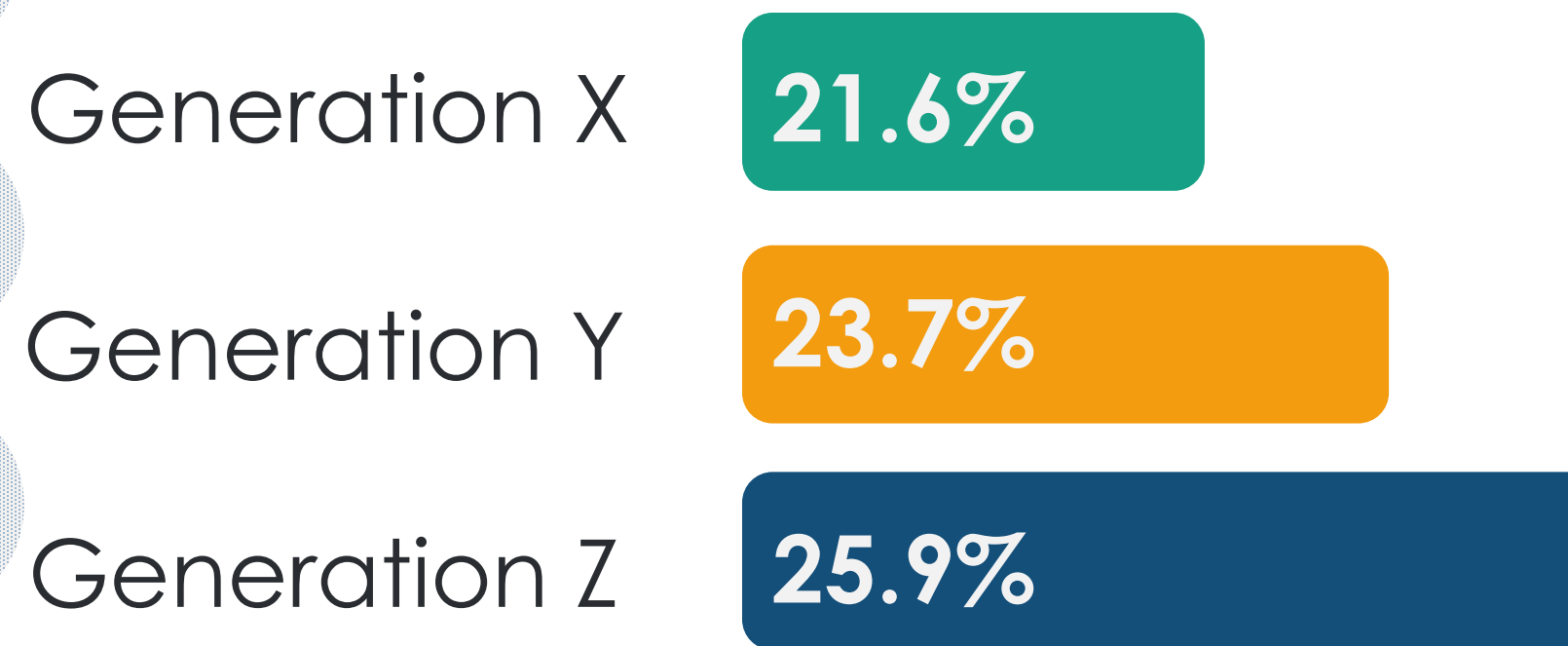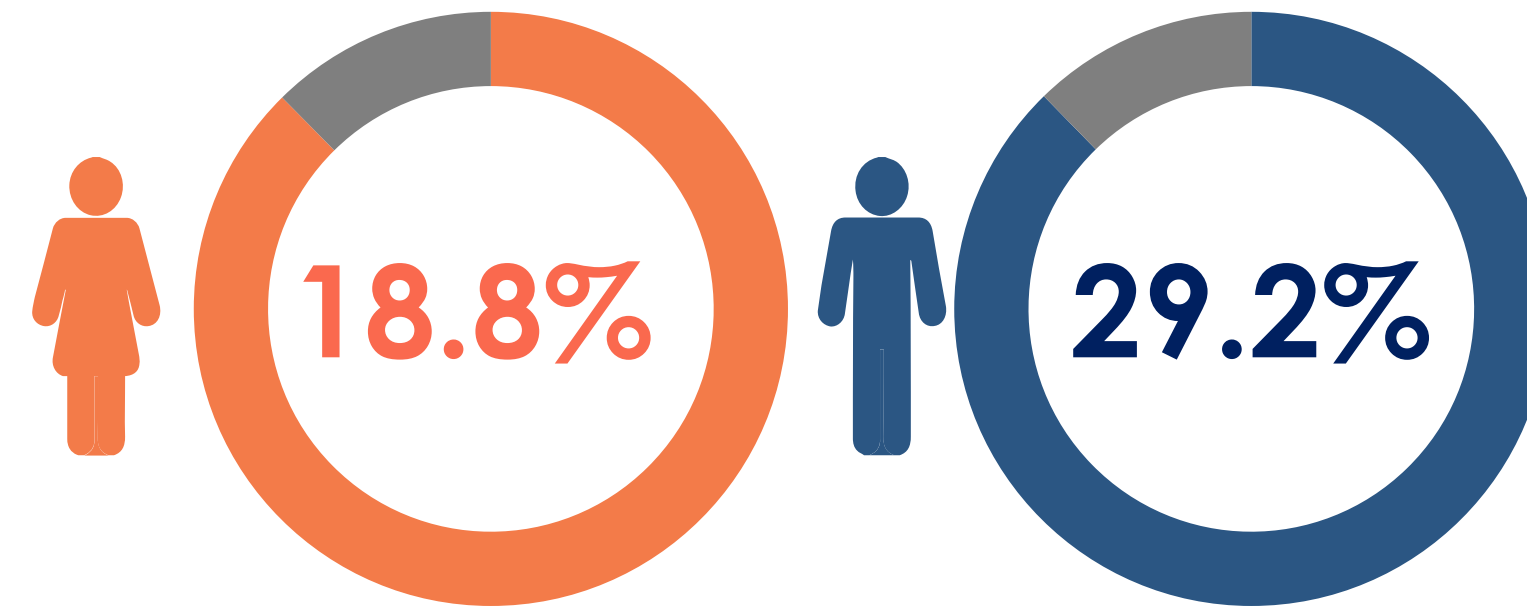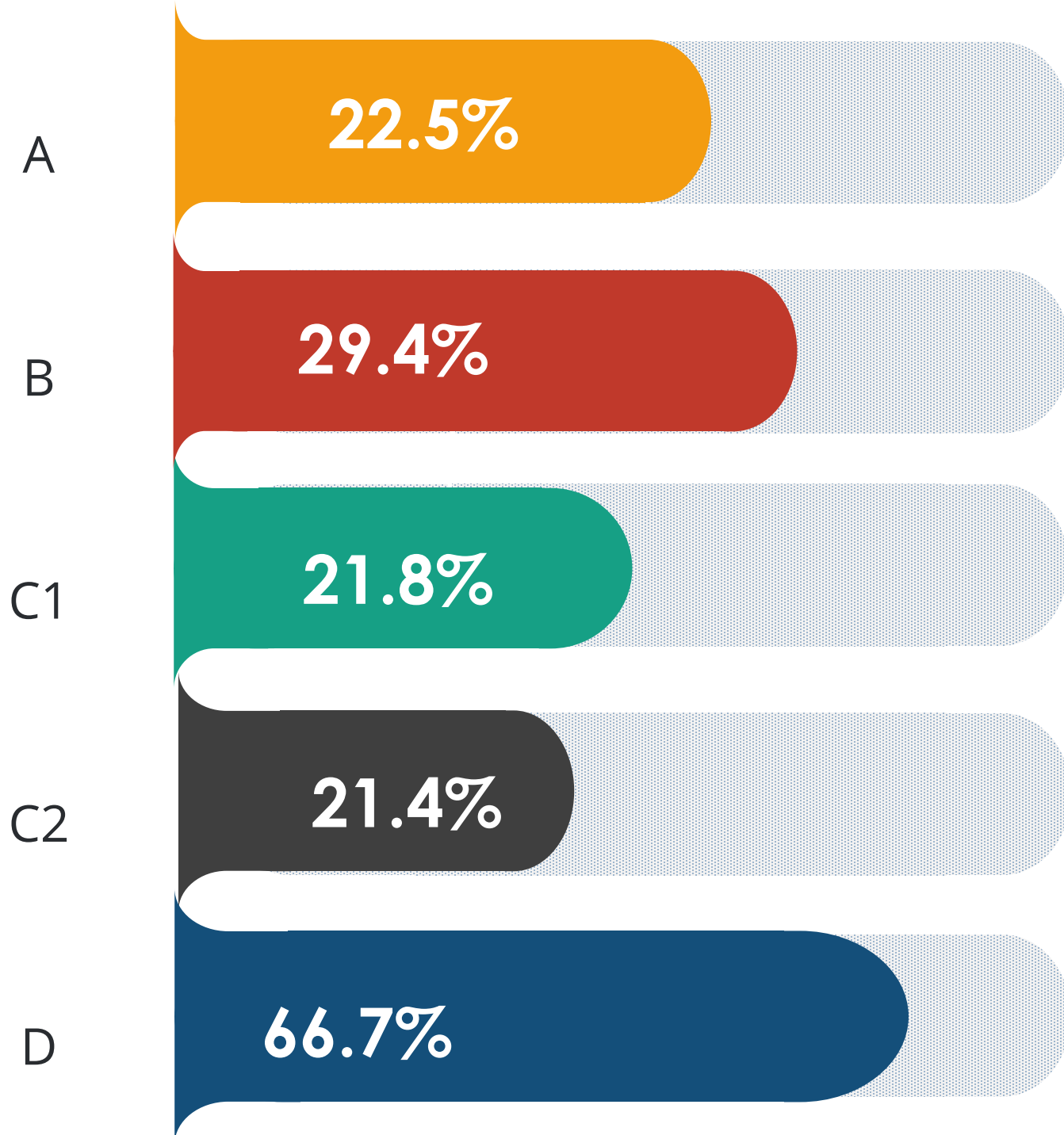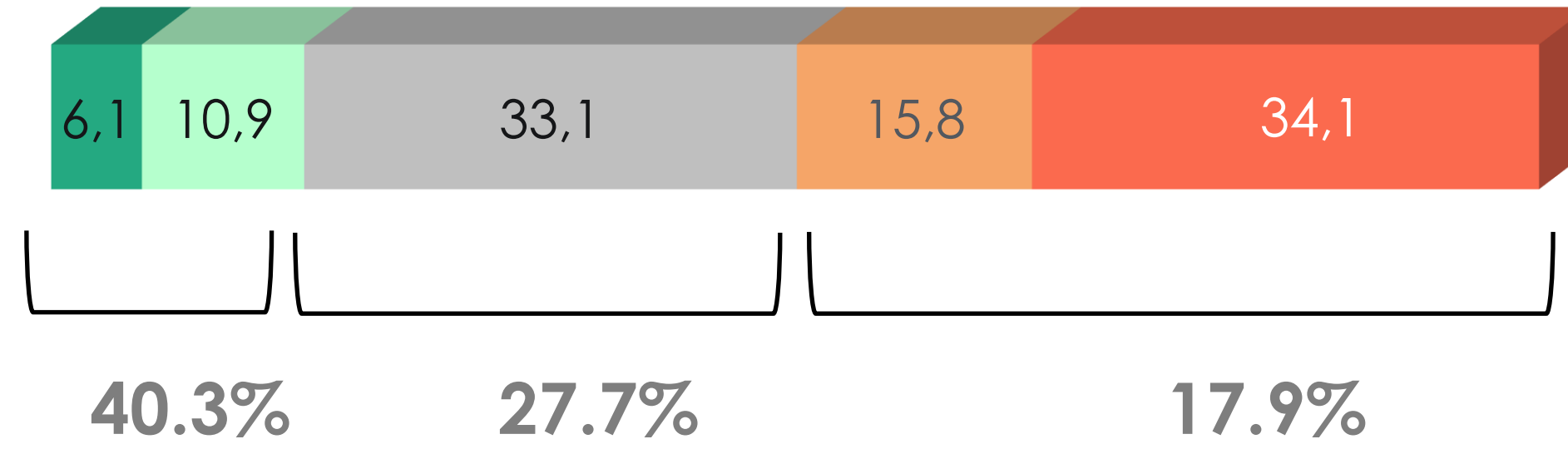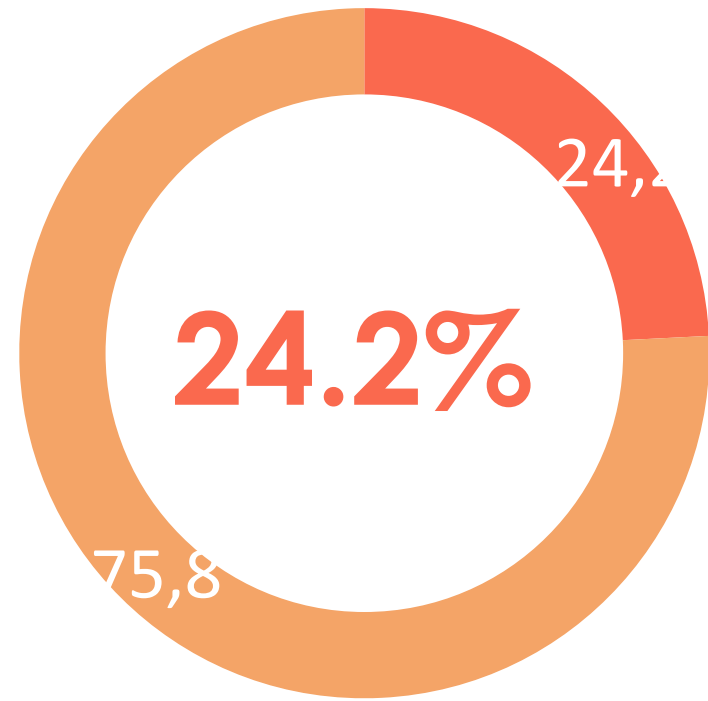
The rate of women who believe that metaverse will destroy the borders (60.2%) differs statistically significantly and positively compared to men.

n:788 (who have heard of the concept of metaverse)

Perception of Metaverse in Society

Imagine that you are going to visit a museum/historical ancient city.
Do you prefer to travel physically or do you prefer to travel in metaverse?

AIPA YAPAY ZEKA POLİTİKALARI DERNEĞİ **Kuantum** ARAŞTIRMA

Metaverse Travel Preference

24,2%

24.2%

75,8

| 6,1 | 10,9 | 33,1 | 15,8 | 34,1 |

40.3% 27.7% 17.9%

A 22.5%

B 29.4%

C1 21.8%

C2 21.4%

D 66.7%

18.8% 29.2%

Generation X 21.6%

Generation Y 23.7%

Generation Z 25.9%

Men differ statistically from women with 29.2%, while the Z generation differs statistically from X and Y generations with a rate of 25.9% in choosing a museum/historical city tour in metaverse.

52.4% of those, who prefer a physical trip, stated the feeling of "sensation" as the main reason, whilst the main cause for choosing Metaverse is "time and cost" with 36.9%.

Due to financial inadequacies in the physical world, 66.7% of the D SES group's desire to perform these trips in metaverse differs significantly from other SES groups.

In regard to the knowledge level, it is observed that the preference for metaverse increases as knowledge level increases. The rate of preferring metaverse trip is 40.3% among those who state that they have knowledge, whilst this rate decreases to 18.0% when the level of knowledge decreases.

n:788 (who have heard of the concept of metaverse)
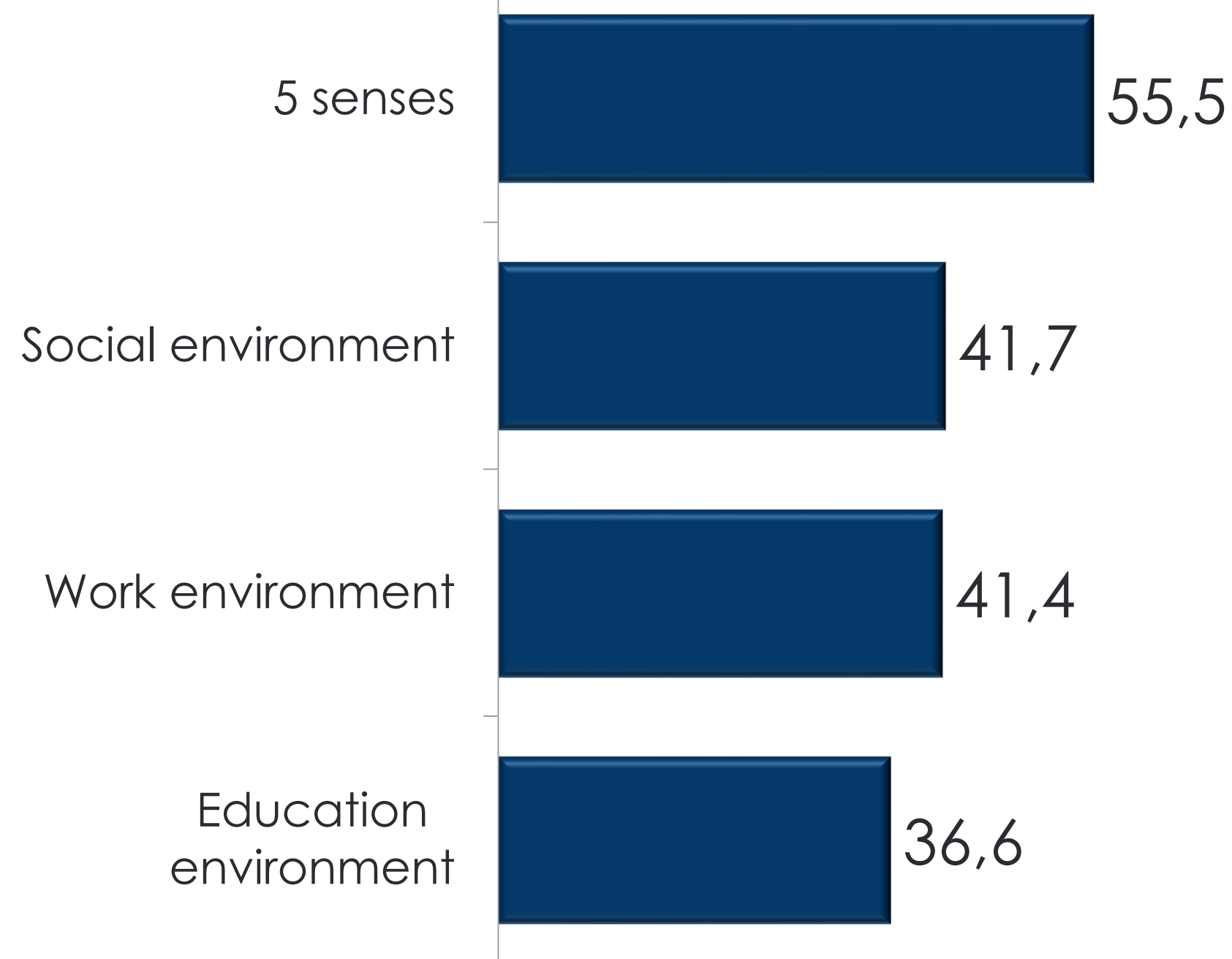
29

Perception of Metaverse in Society
Do you have children?
What should be the limit for your child in Metaverse? What risks do you think there are for children in Metaverse?
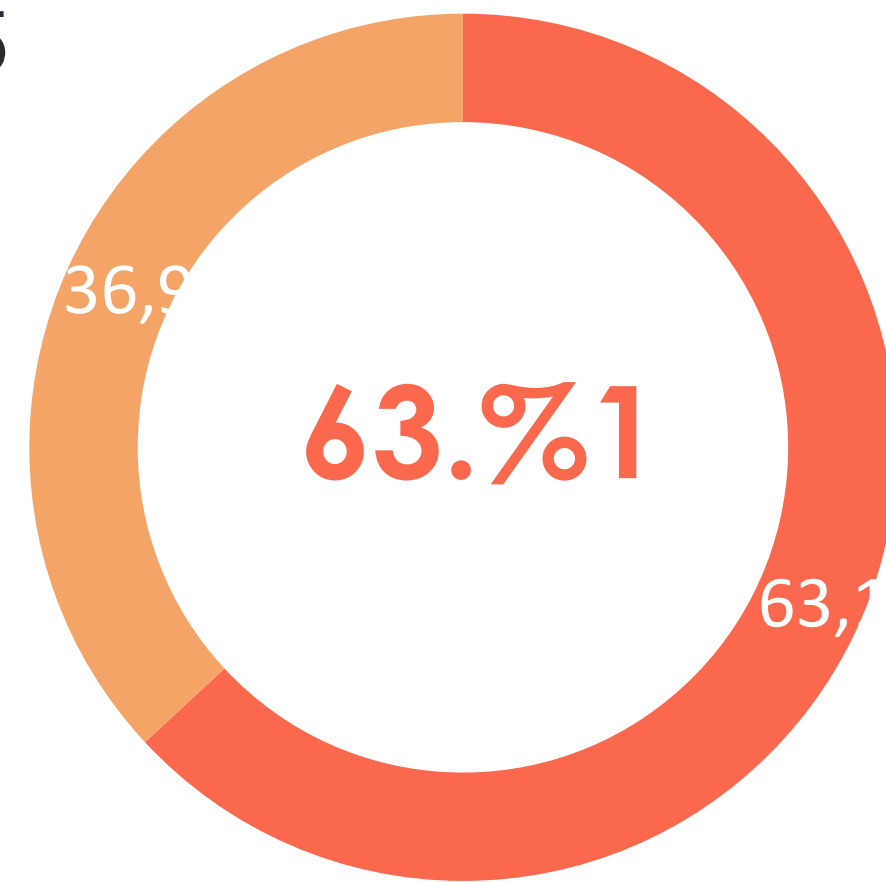What are the expressions that make metaverse more realistic for you and enable you to experience a more realistic satisfaction in metaverse?

Elements Making Metaverse More Realistic

- 5 senses — 55,5
- Social environment — 41,7
- Work environment — 41,4
- Education environment — 36,6

Having Children

63.%1

36,9

63,1

Risk	Percentage
Being able to distinguish between reality and virtual / Confusion between the reality and virtual environment	20.9%
Children should not be detached from life / Shouldn't prevent them from living the real life / Children should not be completely disconnected from the real world	8.9%
Must be limited / Restricted / Time limitation	9.6%
I see no risk for children in Metaverse / None / Not risky	5.0%
There should be an age restriction	5.0%
Should not cause addiction	4.6%
Must have family protection	3.7%
Shouldn't be dangerous	3.3%

According to the participants, the 5 senses, social environment, work environment and educational environment will make metaverse more realistic.
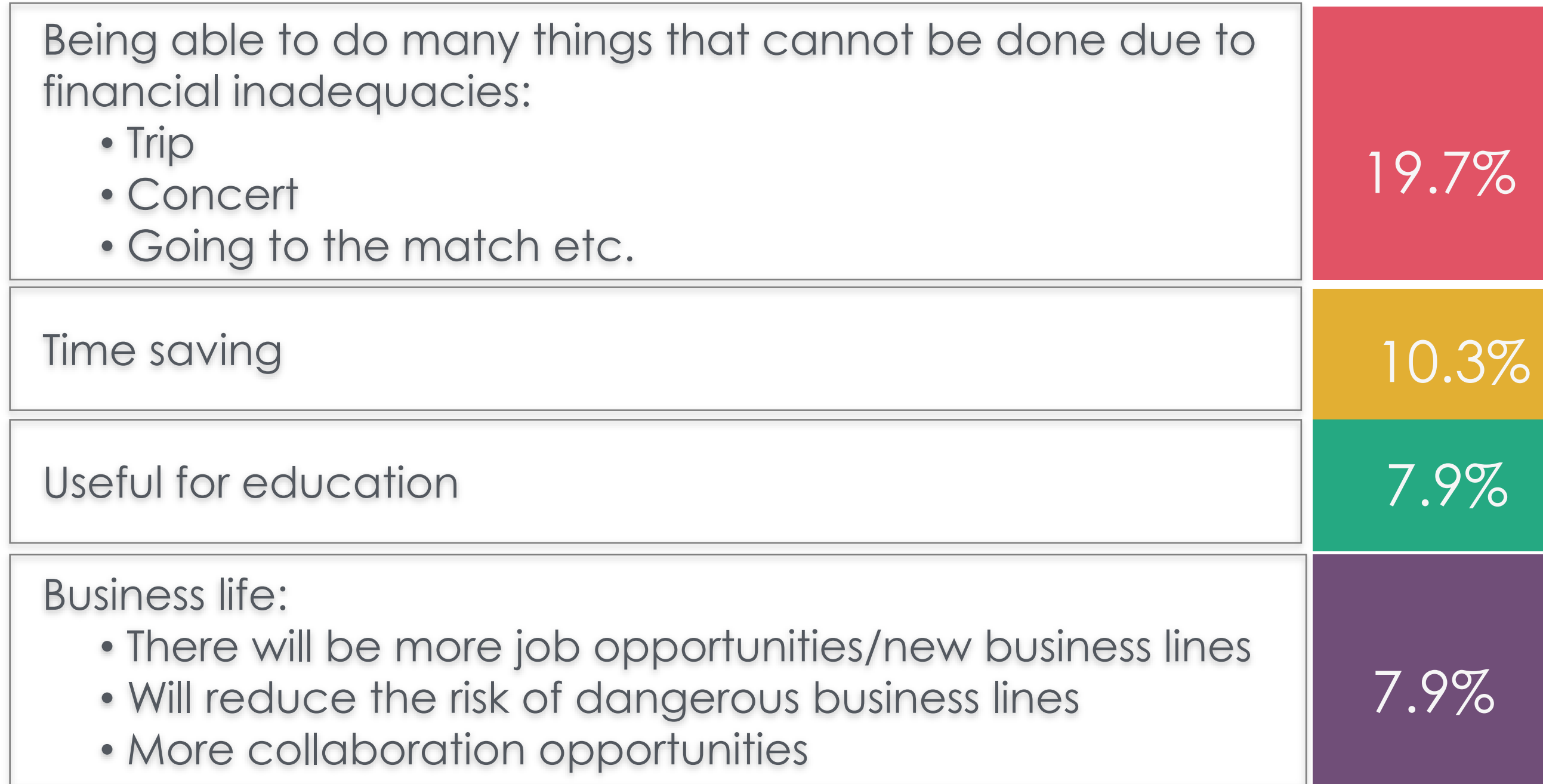
The biggest anxiety of parents is that their children will not be able to distinguish between the real and virtual worlds and confuse them. Another uneasiness is that children will not able to live the real life and disconnect from the real life.

n:788 (who have heard of the concept of metaverse)

30

19.4% stated that they do not have an opinion.

Perception of Metaverse in Society
What do you think will be the biggest benefit of metaverse?
What do you think will be the biggest danger of metaverse?

The Biggest Benefit of Metaverse

Being able to do many things that cannot be done due to financial inadequacies: • Trip • Concert • Going to the match etc.	19.7%
Time saving	10.3%
Useful for education	7.9%
Business life: • There will be more job opportunities/new business lines • Will reduce the risk of dangerous business lines • More collaboration opportunities	7.9%

18.7% stated that they do not have an opinion.

The Biggest Danger of Metaverse

Hack / Cyber fraud	21.3%
Detachment from social - real life / Addictive / Confusion between the reality and virtual environment	18.6%
Unethical use of data	12.7%

17.8% stated that they do not have an opinion.

The fact that Metaverse's biggest benefit is travelling comes to mean that the impact of this universe on cultural events will be great.

It is thought that the quality of education will increase by reducing physical costs and learning through experiencing on-site.

Another benefit is that it will positively affect the employment. In addition, it is expected that the danger will decrease in dangerous business lines.
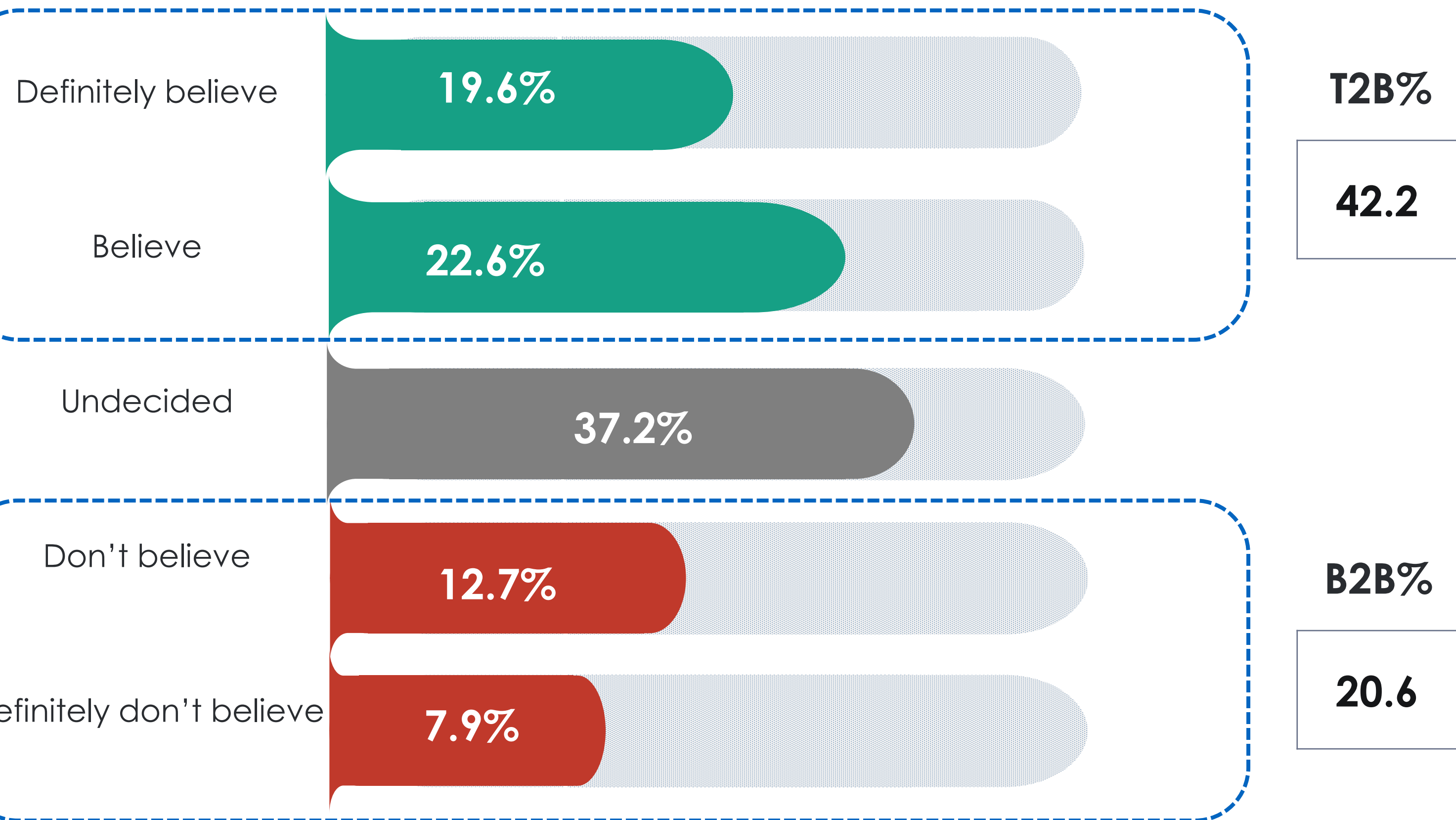
Hack / cyber threat / fraud is seen as the biggest danger, which is followed by confusion between the reality and virtual environment and unethical use of data.

n:788 (who have heard of the concept of metaverse)

31

Perception of Metaverse in Society
What do you think will be the methods of making money in metaverse?
What do you think it means to be free in metaverse?

Methods of Making Money in Metaverse

Buy and sell / Trading / Virtual trading (V-Trade)	15.3%
Property / Land purchase and sale	12.0%
Cryptocurrency markets	10.4%
Everything that happens in real life	4.6%

Below 4.6% is not included.
45.5% stated that they do not have an opinion.

Being Free in Metaverse

|	
Being able to do many things that cannot be done due to financial inadequacies	17.2%
Travel opportunity	11.8%
Being unlimited	8.6%
Being able to do what you can't do in this world	6.8%
I don't think we will be free there / No freedom	4.8%

30.0% stated that they do not have an opinion.

The fact that property/land trading is specified as a method of making money in metaverse is an indication that the society tends to carry the habits and social structures of normal life to metaverse as well.

Perception of Metaverse in Society

How does it feel to you that the human consciousness is transferred to metaverse before dying and continues to live in metaverse consciously?

Transmission of Consciousness to Metaverse

Disagree	Agree	Utopic
45.2%	35.2%	11.1%
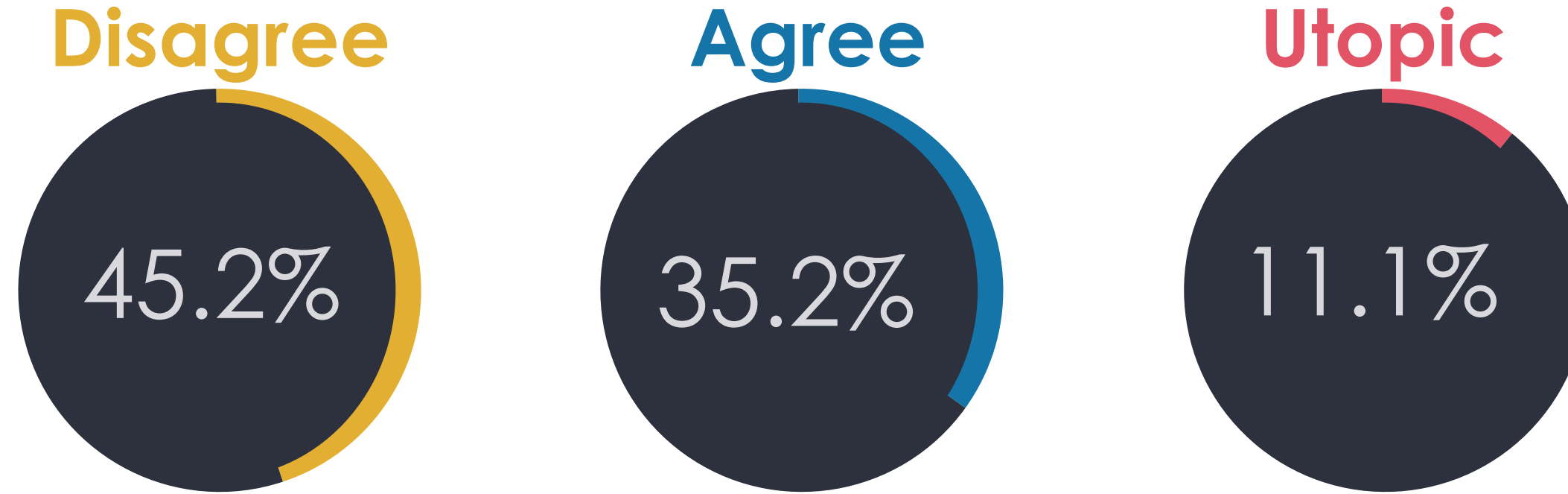
Creepy / Scary / Nonsense / Irrational / Bad idea	45.2%
Great / Super idea / Makes sense / Crazy / Exciting / Catchy/ Interesting	32.3%
Utopic / Fantastic	11.1%
The idea of finding immortality / Living forever / Overcoming death / Infinity / The secret of immortality	3.0%

45.2% of the participants interpret the transfer of consciousness to metaverse as frightening and absurd, whilst 32.3% consider it as wonderful and exciting.
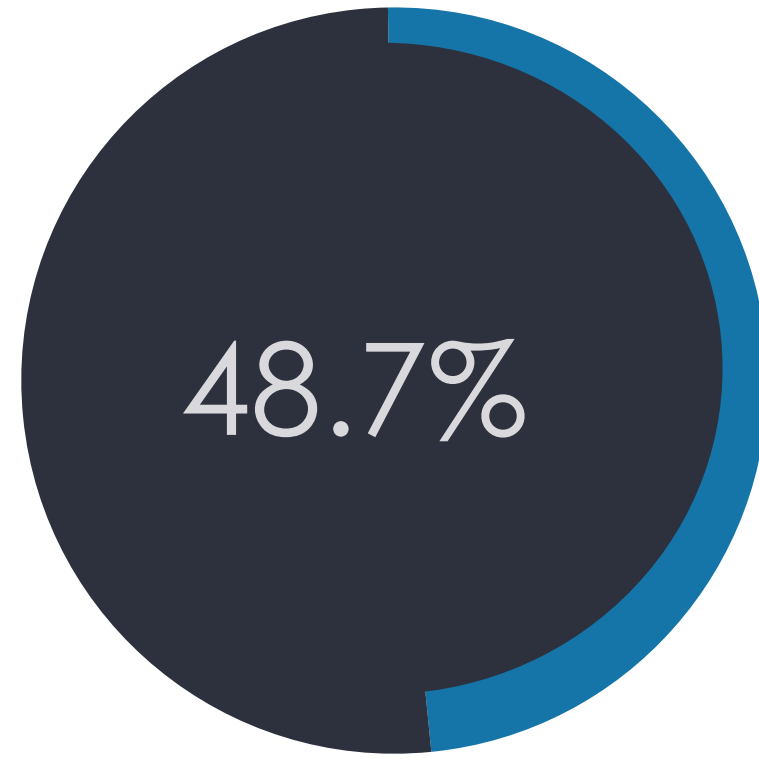
Below 3% is not included in the chart.

n:788 (who have heard of the concept of metaverse)

Perception of Metaverse in Society
How much do you know about NFT?
In your opinion, what is NFT?
Are you interested in NFT?

AIPA
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Kuantum
ARAŞTIRMA

NFT

48.7%

Unchangeable token / unique	7.5%
A digital currency / Cryptocurrency	5.2%
Digital picture / Virtual picture	4.9%

A stored data type	2.6%
A digital notebook	2.3%
Virtual world	2.3%

More than 70.0% of those, who indicated that they have metaverse knowledge, state that they have NFT knowledge. 15.0% specify that it is an average level of knowledge.

Level of Knowledge about NFT
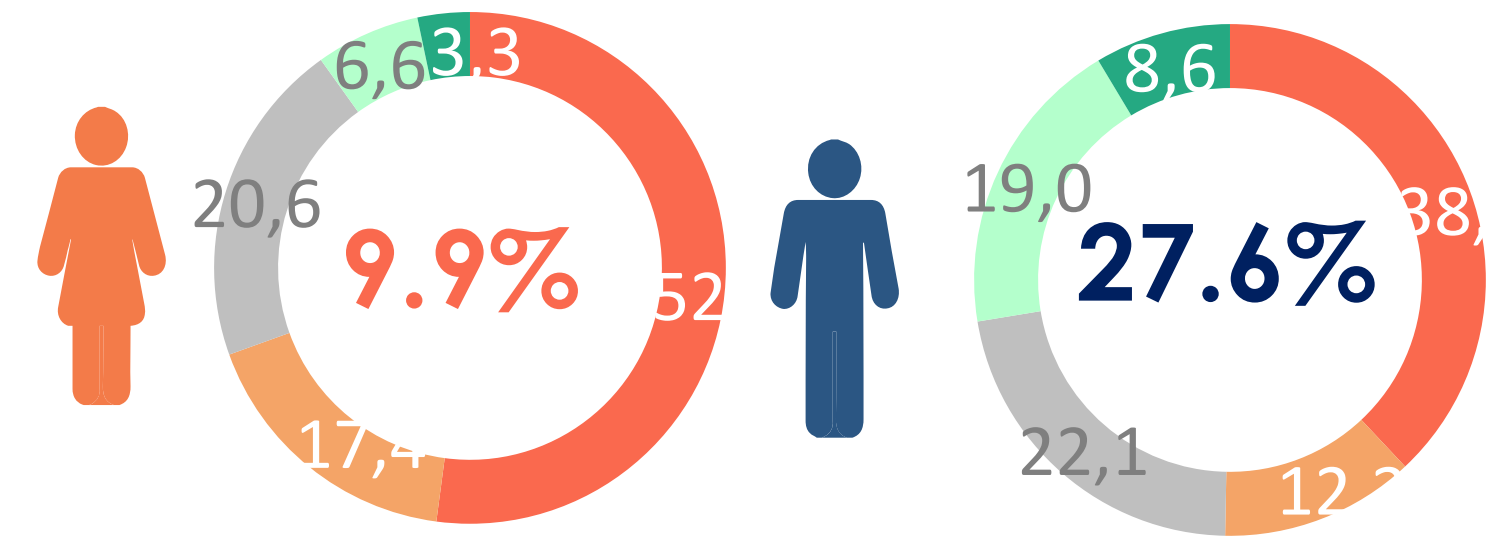
| 6,3 | 13,7 | 21,4 | 14,7 | 43,9 |

- I have a lot of knowledge
- I have knowledge
- I have neither knowledge nor no knowledge
- I have no knowledge
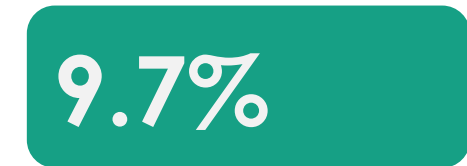- I have no knowledge at all

Level of Interest in NFT

| 8,4 | 18,6 | 33,7 | 21,8 | 17,5 |

- I'm definitely interested
- I'm interested
- I'm undecided

6,6 3,3
20,6
9.9%
52
17,4

8,6
19,0
27.6%
38,
22,1
12

Generation X **9.7%**

Generation Y **23.8%**

Generation Z **18.2%**

35

n:662 (who have heard of the concept of NFT)

$$Arf(q) = \sum_{i=1}^{n} q(a_i) \, q(b_i) \in \mathbb{Z}_2$$

$$a_i, b_i \quad i = 1, 2, 3, \ldots, n.$$

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Atatürk University
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