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ORIGINAL ARTICLE

Investigation of Teachers' Level of Life Satisfaction and Perceptions of Individual Innovation in the COVID-19 Pandemic Process

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ABSTRACT

Background and Aim: This study seeks to examine whether there is a difference between the level of relationship between teachers' individual innovativeness perceptions and their life satisfaction and whether there is a difference in terms of some demographic variables during the COVID-19 pandemic.

Methods: The research is a quantitative study and was carried out in relational screening model. The sample of the study consists of 335 teachers working in schools affiliated to the Kahramanmaras Central District National Education Directorates. The data of the research was analysed using the Jamovi 1.6.12 statistical software program.

Results and Conclusion:: As a result of the research, it was seen that the majority of the teachers were in the questioning and pioneering groups based on the scores of the individual innovativeness scale,. Significant differences were found in the scores of the participants' individual innovativeness scale sub-dimensions in terms of gender, marital status, branch, and sports status. On the other hand, there were no significant differences in life satisfaction scale scores in terms of gender, marital status, and branch variables (p>0.05); It was found that there was a significant difference in terms of the variable of doing sports (p>0.05); In addition, no significant relationship was found between the sub-dimensions of resistance to change, opinion leadership, openness to experience, and risk-taking and life satisfaction.

Keywords: COVID-19, Teacher, Individual innovation, Life satisfaction.

INTRODUCTION

Defined as a disease with a high contagious risk and effect all over the world, the pandemic has largely influenced humanity in different periods of history (Til, 2020). The current pandemic, also known as SARS-CoV-2 (severe acute respiratory syndrome coronavirus-2), is a respiratory disease called as the COVID-19 and broke out in Wuhan, one of the Hubai provinces located in China (Muscogiuri et al., 2020).

Today, organizations are constantly changing and evolving. Therefore, motivation, job satisfaction, trust, justice, and commitment levels of employees have gained more importance for better efficiency (Şirin et al., 2019). The pandemic has adversely affected all sectors, especially the health sector. The sports sector and the education sector are among the most affected sectors (Şirin et al., 2020). As institutions of education, schools were forced to implement distance education after suspensions of schools all over the world during the pandemic. Distance education is a computer-assisted teaching method to provide communication between students and teachers as an alternative way during occasions of impossibility of education and training in schools (İnce et al., 2020). Distance education has also been recognized as a promising tool of innovation in education with its flexible learning environments (Allen et al., 2010). These compulsory practices in education have encouraged institutions in all countries to review and examine their education policies and methods. Such studies are expected to result in many innovations in terms of forms of education and training (Zhao, 2020). This process has also opened the way for a great number of innovations in the lives of teachers as well as students, who are the main actors of the education sector.

Innovation: In general, the word "innovation “derives from the Latin "innovatus" and defined as the use of new methods to ease the cultural, social, and institutional functioning and provide social benefit. Although it is also denoted with words such as "yenilik", " yenileme/yenilenme", "yenilikçi" in Turkish, its meaning is too broad to be denoted in a single word (Yavuz, Albeni & Kaya, 2009). However, while innovation is generally defined as "the state of being innovative" (Akalın, 2014), many researchers have discussed the term innovation from different perspectives. Innovation is important both to adopt innovation according to its processes and to establish a healthy balance in all value judgments of the individual (Kılıçer, 2008).

Innovation is defined as the acceptance, implementation, and adoption of any change or innovation by individuals or institutions in the social system in societies before others (Rogers, 1995). Demirel & Seçkin (2008) argue that innovation is based on knowledge and define the concept of innovation as changing and taking risks, and more importantly, taking the risk of going beyond what is known. Based on existing definitions, Kılıçer & Odabaşı (2010) define it as an umbrella term that includes the features of concepts such as risk taking, openness to experience, creativity, and opinion leadership. According to Gardner (1990), innovativeness of individuals differs from person to person. While some individuals possess the necessary characteristics for innovation, others exhibit behaviours that prevent innovation. As it can be understood from the definitions, the process of adopting innovations differs from individual to individual. This reveals innovativeness of individuals, that is, the characteristics of "Individual Innovation". However, innovation is not a concept handled alone, but it is closely related to individuals' attitudes towards learning. Since individuals follow and adopt innovations in every field, they are optimistic towards learning (Adıgüzel, 2012).

Innovation in education includes behavioural changes of teachers, parents, students, and administrators (Inbar, 1996). Innovative teachers, who know that the quality of teaching will increase, will undoubtedly work harder to achieve their goals and make learning fun for students, and keep their teaching up-to-date because they can reach the latest information through technology (Kumar, Roseand D'Silva, 2008). Education and innovation are interconnected. Thanks to innovation, new and more effective education methods, technologies, and approaches can be created. The most important feature that an effective teacher should have is to follow the innovations in their field and update his/her knowledge (Şahin, 2011).

Life Satisfaction: Based on the literature, Neugarten et al., (1961) were the first to introduce the term satisfaction as the state of satisfying the needs, expectations, and wishes of the individual. It is defined as the consistency between opportunities and environments and individual expectations to provide satisfaction in life (Özer, & Karabulut, 2003). Life satisfaction of the individual is expressed as the most important element of happiness (Diener et al., 1985). Life satisfaction is defined as a cognitive component of subjective well-being and as an emotional state that emerges as a result of comparing what a person has achieved in life and what s/he expects from life (Şirin & Döşyılmaz, 2017). The professional life that individuals prefer goes beyond being a profession and becomes a phenomenon that encompasses their goals,

expectations, and skills, and becomes an important factor in ensuring their satisfaction with life (Döşyılmaz & Şirin, 2021). Direct or indirect stress sources of the teaching profession on individuals affect their life satisfaction (Çelik & Üstüner, 2018). Many studies have been conducted on the factors that affect the life satisfaction levels of individuals in studies conducted to date. In these studies, individuals with different demographic characteristics were examined. However, environmental and personal factors were determined to be an important factor. In occupational groups, not only the nature of work and environmental conditions but also the economic situation and crisis in the country are effective on life satisfaction (Çelik, & Üstüner, 2018).

In this context, to make an evaluation within the scope of the purpose of the research, the education sector was negatively affected institutionally in Turkey as well as in the whole world during the pandemic period. To reduce these negative effects, teachers were forced to make use of new educational models that had not been practiced before. Such models also give clues about teachers' adaptation to these innovative education models and their effects on life satisfaction. In the New World order, the role of teachers in conveying the desired behaviors in society is undeniable. In this critical process, it is important to determine the factors affecting teachers' innovative approach and life satisfaction according to different variables. In this study, teachers' perceptions of individual innovativeness and their views on life satisfaction were determined, and the differentiation in participant views in terms of some demographic variables was examined. In addition, whether there was a relationship between the individual innovativeness perceptions of the participants and their life satisfaction was investigated.

The hypotheses related to the research are given below.

H1: There is a significant difference between the teachers' individual innovativeness perceptions in terms of their gender.

H2: There is a significant difference between the teachers' individual innovativeness perceptions in terms of their marital status.

H3: There is a significant difference between the teachers' individual innovativeness perceptions in terms of their branch.

H4: There is a significant difference between the teachers' individual innovativeness perceptions and their life satisfaction in terms of doing sports .

MATERIAL AND METHODS

Research Model: The research is a quantitative study and was carried out in relational screening model. Relational screening models are aimed to determine whether there is a relationship between two or more variables, and if so, the degree and level of the relationship (Karasar, 2017). Approval was obtained from all teachers participating in this study with an "Informed Voluntary Consent Form". This research was carried out after obtaining the legal permission of the ethics committee of the Kahramanmaras Sutçu İmam University Faculty of Medicine Clinical Research Ethics Committee dated 21./09/2021, numbered 03, and coded25/06/2021-251 .

Table 1. Participant information included in the research sample

Demographic Variables		N	%
Gender	Female Male	118 217	35.2 64.8
Marital status	Single Married	55 280	16.4 83.6
Branch	-Classroom Teacher -Physical Education Teacher -Other Branch	55 121 159	16.4 36.1 47.5
Doing Sports Status	-I don't do any sports -I do sports from time to time -I exercise regularly	58 204 73	17.3 60.9 21.8

Data Collection Tools

Individual Innovation (Innovation) Scale

Population and Sample: The population of the research consists of teachers working in schools within Kahramanmaras Central District National Education Directorates. Private schools were excluded from the research population and teachers in randomly selected schools were included in the research sample. Scale forms were sent to the participants online, and usable feedback for data analysis was obtained from 335 participants.

The scale was first developed by Hurt, Joseph & Cook (1977) and adapted into Turkish by Kılıçer & Odabaşı (2010). The 20-item scale was arranged as a five-point Likert scale and rated as 1= strongly disagree and 5= strongly agree to determine the individual innovativeness levels of the participants. The scale has 4 sub-dimensions: "resistance to change, opinion leadership, openness to experience, and risk taking". Kılıçer & Odabaşı (2010) state that the individual innovativeness score is calculated by subtracting the sum of the negative items in the scale from the sum of the positive items and adding 42 points to the score obtained. The lowest score is 14 and the highest score is 94, and individuals can be categorized in the context of innovation according to the scores calculated on the scale. Accordingly, if the calculated score is above 80 , individuals are described as “Innovative”, as “Pioneer” if the score ranges between 69 and 80, as “Inquisitive” if the score ranges between 57 and 68, as “Skeptical” if the score ranges between 46 and 56, and as “Traditional” if the score is below 46. In addition, based on the score, the innovativeness levels of individuals can be assessed in general. Thus, individuals scoring above 68 are considered highly innovative, while individuals scoring below 64 are interpreted as low in innovativeness. Kılıçer & Odabaşı (2010) calculated the Cronbach’s Alpha coefficient as .82 for the overall scale, and as .82, .71, .70 and .63 for the sub-dimensions of resistance to change, opinion leadership, openness to experience and risk taking, respectively, as a result of the reliability analysis. In this study, the Cronbach’s Alpha coefficient was found to be .74 for the overall scale and .85, .75, .79 and .71 for the sub-dimensions, respectively.

Life Satisfaction Scale: The Turkish adaptation of the “Satisfaction with Life Scale” developed by Diener et al., (1985) was done by Dağlı & Baysal (2016). The original form of the scale consists of a factor, five items, and a 7-point Likert-type rating. The Turkish adaptation of the scale was carried out by Köker (1991) before and it was used by different researchers in Turkey as a 7-point scale. The Cronbach's alpha internal consistency coefficient of the scale was determined as 88. In this study, the Cronbach’s Alpha coefficient was found to be 87.

RESULTS

Table 2. Individual innovativeness score distribution of the participants

Individual Innovation Level		N	%
Score Ranges	Traditionalist (0-45 Score)	4	1.19
	Skeptical (46-56 Score)	26	7.76
	Inquisitive (57-68 Score)	162	48.36
	Pioneer (69-80 Score)	123	36.72
	Innovative(80 Over Score)	20	5.97

Data Analysis: The data of the research was analyzed using the Jamovi 1.6.12 statistical software program. Whether the scores showed a normal distribution or not was examined by the skewness coefficient method (Büyüköztürk, 2018). The skewness values obtained as a result of the analysis were “.455” for the overall “Individual Innovation” scale, and “.318”, “-.129”, “-.211”, “-.430” for “Resistance to Change, Opinion Leadership, Openness to Experience and Risk Taking”, respectively. The ‘Satisfaction with Life’ scale was calculated as “-.651” and all values were accepted to range between +1 and -1 and the distribution was normal for all sub-dimensions. For data analysis, arithmetic mean and standard deviation values were determined, and t-test and One-Way

Analysis of Variance (ANOVA) tests were used to determine the differentiation in participant views in terms of demographic variables. Correlation analysis was used to determine the relationship between variables.

Table 2 highlights that it is noteworthy that the majority of them are in the 'Questioning' groups followed by the 'Pioneer' group. The innovation score average was calculated as 66.87. The questioning group is in the range of scores.

Table 3. The arithmetic mean and standard deviation of participants' perceptions of individual innovation and satisfaction with life scale scores

Scales	Sub-dimensions	N	Min-Max	$\overline{X}$	SS
Individual Innovation	Resistance to Change	335	1-5	2.91	.64
	Thought Leadership	335	1-5	3.68	.57
	Openness to Experience	335	1-5	3.99	.53
	Risk Taking	335	1-5	3.45	.79
Life Satisfaction	Life Satisfaction	335	1-7	4.45	1.31

According to Table 3, participants' views about opinion leadership ($\overline{X}$=3.68), openness to experience ($\overline{X}$=3.99) and risk-taking dimensions ($\overline{X}$= 3.45) were high while their views on the sub-dimension of resistance to change ($\overline{X}$= 2.91) and life satisfaction ($\overline{X}$= 4.45) were at a moderate level.

Table 4. Independent group t-test results in the factor dimension of the participants' satisfaction with life scale and individual innovativeness scale scores in terms of gender and marital status variables

Scales	Sub-dimensions	Gender		Marital status	
		t	p	t	p
Individual Innovation	Resistance to Change	.081	.936	-2.09	.037*
	Thought Leadership	.353	.725	3.19	.002*
	Openness to Experience	-1.07	.287	2.19	.029*
	Risk Taking	-4.75	.000*	1.51	.130
Satisfaction with Life	Life Satisfaction	.795	.427	.049	.961

*p<.05

Table 4 highlights that no statistically significant difference was found in resistance to change, opinion leadership, openness to experience, and life satisfaction levels of the participants in terms of the gender variable. A statistically significant difference was found in risk taking [t(335)=-4.75, p<.(05)]. The risk taking levels of female participants ($\overline{X}$female=3.18, SSfemale=.88) were determined to be lower than male participants' risk taking levels ($\overline{X}$male=3.60), SSmale=.70) l.

There was no statistically significant difference in risk-taking and life satisfaction levels of the participants in terms of the marital status variable while a statistically significant difference was found in resistance to change [t(335)=-2.09, p<.(05)], opinion leadership [t(335)=3.19, p<.(05)] and openness to experience [t(335)=2.19, p<. (05)]. It was determined that resistance to change of the single participants ($\overline{X}$single=2.72, SSmarried=.70) was lower than that of of the married participants.($\overline{X}$married=2.95, SSmarried=.74). The scores of the single participants in opinion leadership [($\overline{X}$single= 3.90, SSmarried= .55), ($\overline{X}$Married=3.64, SSmarried=.56)] and openness to experience [($\overline{X}$married= 4.13, SSmarried= .54), ($\overline{X}$ Married= 3.96, SSmarried= .56) =.52)] were higher.

According to Table 5; as a result of the analysis, no statistically significant difference was found in the dimensions of resistance to change, openness to experience, risk taking and life satisfaction levels in terms of the branch type variable. A statistically significant difference was found in the opinion leadership dimension F (2.332)=3.57; p<0.05. It was found that physical education teachers had a significantly higher score than other branch teachers in the dimension of opinion leadership.

Table 5. One-Way Analysis of Variance (ANOVA) results in the factor dimension of the participants' satisfaction with life scale and individual innovativeness scale scores in terms of the branch variable. *p<.05

Scale/Factor	Branch	$\overline{X}$	SS	F	p	Groups with a difference (Post-Hoc Test)
Resistance to Change	Class teacher (a)	2.97	.76	.543	.581	-
	Physical education (b)	2.94	.74			
	Other branch(c)	2.87	.72			
Opinion Leadership	Class teacher (a)	3.65	.52	3.57	.030*	b–c
	Physical education (b)	3.79	.56			
	Other branch(c)	3.61	.58			
Openness to Experience	Class teacher (a)	4.00	.52	.408	.666	-
	Physical education (b)	4.01	.47			
	Other branch(c)	3.96	.57			
Risk Taking	Class teacher (a)	3.52	.79	1.72	.182	-
	Physical education (b)	3.53	.68			
	Other branch(c)	3.37	.86			
Life Satisfaction	Class teacher (a)	4.61	1.12	1.85	.161	-
	Physical education (b)	4.56	1.41			
	Other branch(c)	4.31	1.28			

Table 6. One-Way Analysis of Variance (ANOVA) results in the factor dimension of the participants' satisfaction with life scale and individual innovativeness scale scores in terms of the variable of doing sports.

Scale/Factor	Doing Sports	$\overline{X}$	SS	F	p	Groups with a difference (Post-Hoc Test)
Resistance to Change	Never (a)	3.07	.79	3.82	.023*	a, c – b
	Occasionally (b)	2.82	.66			
	Regularly(c)	3.03	.85			
Opinion Leadership	Never (a)	3.52	.63	16.27	.000*	c– a, b
	Occasionally (b)	3.62	.53			
	Regularly (c)	3.99	.50			
Openness to Experience	Never (a)	3.87	.56	3.33	.037*	c– a
	Occasionally (b)	3.98	.50			
	Regularly (c)	4.10	.56			
Risk Taking	Never (a)	3.15	.90	6.89	.001*	b, c – a
	Occasionally (b)	3.47	.75			
	Regularly c)	3.65	.76			
Life Satisfaction	Never (a)	3.93	1.32	5.59	.004*	b, c – a
	Occasionally (b)	4.57	1.24			
	Regularly (c)	4.50	1.40			

Table 6 shows that statistically significant differences were found in the dimensions of resistance to change, opinion leadership, openness to experience, risk-taking and life satisfaction in terms of the variable of doing sports (p<0,05). The resistance to change scores of those who do sports occasionally were found to be significantly lower than those who do not do any sports and those who do sports regularly. Opinion leadership scores of those who regularly do sports were found to be significantly higher than

those who do not do sports and do sports occasionally. Openness to experience scores of those who regularly do sports were found to be significantly higher than those who fail to do sports. Risk taking and life satisfaction scores of those who occasionally and regularly do sports were found to be significantly higher than those who fail to do sports.

Table 7. Pearson correlation results between participants' individual innovativeness sub-dimensions and satisfaction with life scores.

Variables	Resistance to Change	Thought Leadership	Openness to Experience	Risk Taking
Life Satisfaction	-.018	.098	.090	.017
N=335				

*p<.05

Table 7 shows that no statistically significant relationship was found between the participants' satisfaction with life scores and the sub-dimensions of resistance to change, opinion leadership, openness to experience, and risk taking, according to the Pearson correlation analysis.

DISCUSSION AND CONCLUSION

This study was designed to find out whether there was a difference between the level of relationship between teachers' individual innovativeness perceptions and their life satisfaction and whether there was a difference in terms of some demographic variables during the Covid-19 pandemic and results are shared below.

Considering the individual innovativeness levels of the teachers, it was determined that the majority of them were in the 'Inquisitive' and 'Pioneer' groups, and the average score of innovation (66.87) was in the 'Inquisitive' group score range. Professional skills of teachers develop with inquisitive and pioneering behaviours. Öztürk & Summak, (2016) report that as teachers are cautious against information pollution at a time when development is so fast in the modern world, indicating that they are more responsible towards their students.. Teachers play an important role in shaping and developing society (Öztürk & Summak, 2016). It was determined that teachers had a high level of opinions about opinion leadership, openness to experience and risk taking while they had moderate levels of resistance to change and life satisfaction. These findings are similar to the findings obtained in previous studies (Aksoy & Atılgan, 2021; Atılgan & Aksoy, 2021; Moran & Çoruk, 2021; Özkul & Cömert, 2018; Öztürk & Summak, 2016). Atılgan (2020) investigated athletes during the COVID-19 process, concluding that the happiness level scores of the participants were in the moderate score range. In addition, researches made as a result of data analyzes collected before the COVID-19 pandemic were examined. Atılgan & Tükel (2020) and Atılgan & Tükel (2021) determined that the majority of teachers and coaches are in the pioneering group in their individual innovativeness scores. In this study, it can be suggested that the COVID-19 pandemic had an effect on the decrease in the individual innovativeness score in the general average, in other words, the increase in the score in the questioning group. In summary, it can be stated that there were significant decreases in the life satisfaction and innovativeness scores of the participants during the COVID-19 pandemic.

Karadağ (2018) found that the individual innovative attitudes of the employees of sports federations are mostly described as being open to experience and having opinion leadership, and the innovativeness level of the employees was 66,18. Atılgan (2021) determined that the mean score of the teachers for the risk-taking dimension was high, and the mean score of the life satisfaction scale was in moderate. In studies conducted on different occupational groups, it was reported that there was an increase in individuals' anxiety levels during the COVID-19 pandemic and as a result, their level of life satisfaction decreased (Avçin & Erkoç, 2021; Reger et al., 2020; Thunstrom et al., 2020).

As regards gender, it was determined that the risk-taking levels of female participants were lower than the risk-taking levels of male participants. Risk taking is described as violence against negative situations in order to create a targeting situation in a certain period (Fikirkoca, 2003). Studies show that high expectations of male individuals for the future cause an increase in anxiety, and as a result, they prefer to take risks. Similarly, it is possible to reach research results in favour of male teachers in the risk-taking sub-dimension (Atılgan & Tükel, 2020; Atılgan, 2021; Kılıçer, 2011; Yılmaz, 2018; Uludağlı & Sayıl 2009).

There was no significant difference in the life satisfaction levels of the participants in terms of the marital status variable. In their study on coaches, Atılgan & Tükel (2021) determined that the life satisfaction scores of married participants were higher than the scores of single participants. On the other hand, Şirin (2021) reached the conclusion that life satisfaction does not differ according to marital status. It was observed that economic and working-hours-related difficultiesfaced by teachers did not differ, and the gender difference did not affect the level of life satisfaction. However, there are studies revealing that the gender difference is effective (Keser, 2005; Aydıner, 2011; Okursoy, 2016). In terms of the marital status variable, it was concluded that the resistance of the single participants to change was lower than that of the married participants, and the scores of the single participants were higher than the scores of the married participants in terms of opinion leadership and openness to experience. Karadağ (2018) reported that the resistance to change scores of married participants were significantly higher than the scores of single participants.

In terms of the branch type variable, it was determined that the Physical Education and Sports Teachers had higher scores than teachers in other branches in terms of opinion leadership. Atılgan & Tükel (20209 reported that physical education teachers had higher scores than coaches in opinion leadership, openness to experience, and risk-taking while in terms of resistance to change, coaches had higher scores than the Physical Education and Sports Teachers. The formation of innovations and the development of materials differ according to the branches of the teachers. This difference occurs in parallel with the location and opportunities of the schools. Physical education and sports lessons, appealing to children's interests and following new branches in the media urge teachers to push their opportunities more.

In terms of the variable of doing sports, the resistance to change scores of those who do sports occasionally were found to be significantly lower than those who do not do sports and do regular sports. Opinion leadership scores of those who regularly do sports were found to be significantly higher than those who do not do any sports and do sports occasionally. Scores in openness to experience of those who regularly do sports were found to be significantly higher than those who fail to do any sports. Risk taking and life satisfaction scores of those who occasionally and regularly do sports were found to be significantly higher than those who fail to do any sports. Atılgan (2021) reported that there were significant differences in terms of the variables of doing sports in life satisfaction and risk-taking dimension. According to the habits of doing sports among the teachers, it was determined that those who resisted individual innovations were those who never did sports, those who were open to opinion leadership and experience regularly did sports, and those who showed risk-taking behaviour in reaching their goals, and those with high life satisfaction were those who occasionally did sports. It was also observed that the habit of doing sports plays an active role in self-recognition and development of individuals.

According to the Pearson correlation analysis, no statistically significant difference was found between the participants' life satisfaction levels and resistance to change and risk-taking factors. Atılgan & Aksoy (2021) found that there was a moderately negative relationship between life satisfaction and resistance to change, and a moderate and positive relationship between life satisfaction and risk taking. It was also determined that as life satisfaction increases, resistance to change increases and as life satisfaction increases, the urge to take risks to reach goals remains positive.

Atılgan & Aksoy (2021) determined that as students' fears about the COVID-19 phobia increases, their life satisfaction scores decreases. It was determined by Atılgan (2021) that there was a significant relationship between the risk-taking factor of teachers and their level of life satisfaction. The reason for the different results may be due to the different time frame and the selection of the target participants from different regions.

As a result, significant differences were determined in terms of some demographic variables in teachers' individual innovativeness perceptions and life satisfaction levels during the COVID-19 pandemic. As the COVID-19 disease has an impact on all sectors, it seems that the field of education has also been affected by this situation. Teachers' individual innovativeness levels can be increased by making maximum use of scientific and technological developments in order to reduce negative effects and take steps towards solutions offered by competent authorities. In the changing and developing modern world, it is necessary to provide developments with proven benefits for the teachers' environment and to activate the teachers. Students will also have a direct or indirect share of the benefit to be provided. Therefore, positive developments can increase the level of life satisfaction of individuals. If the individual innovativeness scale, which is the measurement tool used in this study, is used together with different measurement tools (on happiness, motivation, burnout, attitude, academic achievement, etc.) in new research, it may be possible to reach research results in different dimensions.

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