

Full Length Research Paper

# Motives for physical activity participation in Turkish primary school students

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Received 22 October, 2015; Accepted 18 December, 2015

The purpose of this study was to explore the motives for participating in physical activity, and to compare motives with respect to gender and age in pupils aged from 9 to 11 years in Turkey. The participants were 400 voluntary pupils (205 females and 195 males) from a total of four public schools in the center of Cappadocia region. Authorization of parents, teachers and principals were ensured at all times. Data were gathered by "Questionnaire of Motives for Physical Activity Participation". Exploratory factor analysis revealed a four factor solution -*psychological, cognitive, physical, and social aspects of motives*- explaining 60.3% of the variance with 30 possible reasons for participating in physical activity in daily life. Internal consistency coefficient was  $\alpha=0.88$  for the questionnaire. Descriptive statistics showed that the most important motives for being physically active were social factors ( $M=2.28\pm.69$ ), it was followed in order of importance by psychological factors ( $M=2.25\pm.63$ ), physical factors ( $M=2.20\pm.51$ ) and cognitive factors ( $M=1.82\pm.63$ ). The most indicated social motive was "to be and play with friends", while the least were "social events as tournament participation" and "to be well-known and popular". Kruskal Wallis Test showed that mean ranks on cognitive and physical motives were significantly different according to age, increasing in importance from age 9 to 11 ( $p<.05^*$ ). Mann-Whitney U test showed that there was no significant difference on participation motives regarding gender ( $p>.05$ ) in primary school students.

**Key words:** Physical activity, motivation, participation, Turkish students.

## INTRODUCTION

Today, obesity and overweight have become the most widespread problem in the world. Especially, school-age children are becoming increasingly sedentary and unfit (Chin and Edginton, 2014; Douglas et al., 1997; Edginton et al., 2013; Ludwig, 2007).

This issue brought attention to the importance of sustained physical activity as a requirement for healthy

active living. Regarding the importance of physical activity to children's current and future health, the evidence clearly shows that being physically active improves physiological, physical (Hallal et al., 2006; Twisk, 2001), psychological, cognitive and social aspects of health (Castelli et al., 2007; Lindner, 2002; Sallis and Owen, 1999; Sibley and Etnier, 2003; Tremblay et al.,

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2000). As stated in many researches, physical activity has positive effects on academic performance, including achievement in math tests and reading, academic grades and perceptual skills. Involvement in sport and physical education can play a significant role in the enrichment of a child's social life and the development of social interaction skills.

In this study, physical activity as a health-enhancing behavior, is a broad concept refers to any bodily movement produced by skeletal muscles that results in energy expenditure, including elective forms of activity, such as sport and exercise, and required forms of activity, such as labor (Sallis and Owen, 1999; Centers for Disease Control and Prevention, 1996). Because physical activity is affected by diverse factors, such as age, gender, health status, self-efficacy, and motivation, integration of ideas from several theories into an ecological model (including inter-relations between individuals and their social and physical environments) makes this approach a comprehensive framework to explain physical activity, proposing that determinants at all levels are contributors. In this holistic approach, behaviors are viewed as an outcome of the interactions among personal attributes (biological and psychological) and environmental factors (social influences and physical facilities/surroundings) (Sallis and Owen, 1997; Sallis et al., 2008).

Most of the research and theoretical studies carried out to date contribute to the understanding of the mechanisms of children's involvement in physical activity or sport, and may also take into account the psychological, physical and cognitive aspects, as well as environmental or social parameters that influence physical activity participation or withdrawal (Biddle et al., 1998; Kremer et al., 1997; Weiss, 1993; Weiss and Petlichkloff, 1989). As Zahariadis and Biddle (2000) stated, physical activity is done for various reasons. In describing the reasons why children are physically active through sport, exercise, physical education, or physical activity 'participation motives' is an important point for understanding their participation. There have been a number of motives that described the possible reasons for participation, such as factors of achievement/status, team atmosphere, fitness, energy release, skill development, friendship, fun, ability, social aspects and physical condition as basic motives for involvement (Biddle, 1998; Gill et al., 1983; Rickel et al., 2012; Sit and Lindner, 2007).

With the aim of measuring motives for participation in different physical activities like physical education, competitive sports, leisure, recreation, exercise and fitness activities, various scales have been designed, and results have been diverse. Such scales have mainly been used for examining the participation in sport of adults; few have been developed specifically for children and young people (Frederick and Ryan, 1993; Markland and Hardy, 1993) emphasizing health/physical fitness and the body. Indeed, Gill et al. (1983) assessed the major participation motives through the Participation Motivation Questionnaire

(PMQ) which is composed of eight motivational factors to measure the sport participants' motivations for youth generation.

The study results showed that the most important reasons for participating in sport were skill improvement, energy release, entertainment, challenge, friendship, team spirit and the improvement of physical condition (Gill et al., 1983; Zahariadis and Biddle, 2000) while a follow up study confirmed the similar reasons (Gill and Williams, 2008). Several others used this measure, or a modification, with other youth sport samples (Cecchini et al., 2002; Oyar, Asci et al., 2001; Sit and Lindner, 2007), and the results were consistent in several ways. First, several factor analyses yielded consistent factors, including competence, fitness, affiliation, team aspects, competition, and fun. Second, children and adolescents typically indicated that several motives were important. Third, there were minimal age, gender, experience, and sport activity differences.

It was the similar case in Turkey, as Turkish version of PMQ (Oyar et al., 2001) was the most common questionnaire used in studies. For example, it was used for boys who play volleyball, basketball and handball in secondary school (Arslan and Altay, 2009), for different sport players ages at 11 to 12 (Altinbas and Bayar-Koruc, 2014), for university students (Ekmekci et al., 2010), for extreme sport players in high schools or at university (Simsek, 2010) to examine the motivation of sport participation. The results of these studies revealed that the main focus was just on psychological or social aspects, while some of them emphasized body and health or physical condition.

However, physical activity as a health-enhancing behavior should also include cognitive aspects from a holistic perspective. In this context, the absence of cognitive aspects as motivation factors in most scales for participation in physical activity led us first to develop a questionnaire which comprised this aspect as another motive for pupils in primary schools. And secondly, to explore and compare the motives for participating in various physical activities with respect to gender and age in pupils aged from 9 to 11 years in the Cappadocia region, Turkey.

## METHODOLOGY

### Participants

The participants comprised a total of 400 pupils (205 females and 195 males) aged 9 to 11 from a total of four public schools in the center of Cappadocia in Turkey. The participants of these ages were randomly selected from voluntary pupils who participated in different types of physical activity (leisure activities, recreation, exercise/fitness or competition) outside of the physical education class.

### Measurement

First, the literature was examined in order to construct the

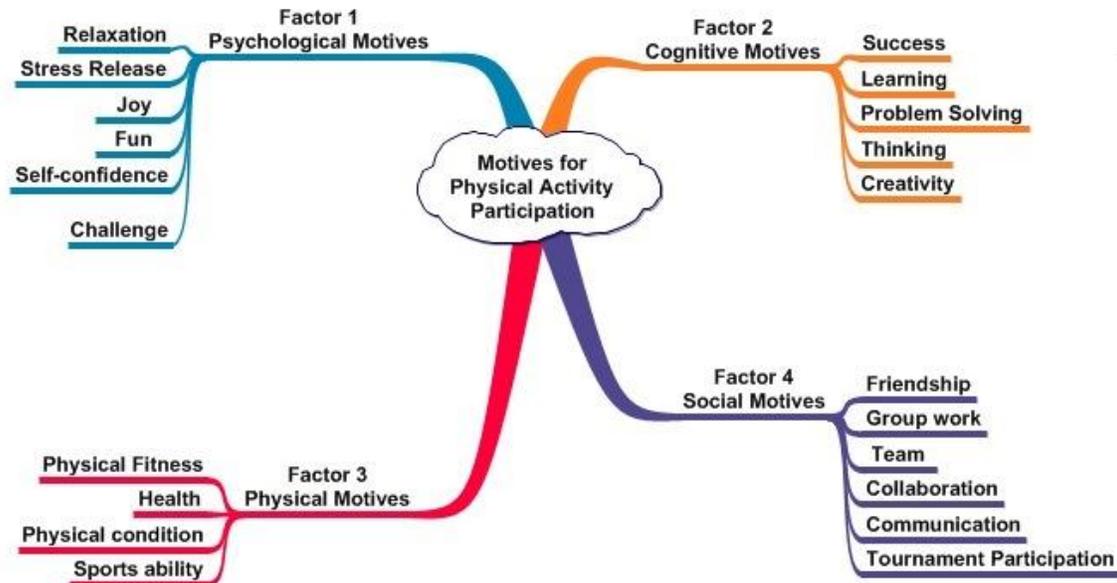


Figure 1. The structure of the QMPAP.

questionnaire to explore motives for physical activity participation in primary school students. On the basis of the literature and related research an initial 40-item questionnaire was designed, and submitted to rigorous analysis by two experts. After the suggested modifications, it was applied to 205 females and 195 males, aged 9 to 11, from four public schools. After analysis of the collected data, and in light of the psychometric properties of the scale, a final questionnaire was designed with 30 possible reasons for participating in various physical activities or being physically active in daily life. The form was a Likert-type with three categories per item (1 = *not at all important*, 2 = *quite important*, and 3 = *very important*).

### Procedure

The collection of data was carried out between October and December, 2014 by the researcher. The procedure of the study and the reasons for carrying it out were explained to pupils in their classrooms. After assuring them of absolute confidentiality of the results, the questionnaires were distributed and voluntary participants were given the time necessary for completing it. Authorization of parents, teachers and principals were ensured at all times.

### Analysis

Descriptive statistics were used for determining the importance of the motives and principal components factor analysis with varimax rotation for studying the motivational structure. Internal consistency coefficients were calculated by Cronbach alpha. Mann-Whitney U Test and Kruskal Wallis Test were used in comparison of participation motives regarding gender and age.

## RESULTS

In order to examine the structure of the Questionnaire of

Motives for Physical Activity Participation (QMPAP), an exploratory factor analysis with varimax rotation was performed on the data. Items and factors were selected by the criteria of factor loadings above .40 and eigenvalues above 1.0. A four-factor solution was revealed explaining 60.3% of the variance (Figure 1).

Factor 1 labeled psychological motives comprised seven items related with relaxation, stress release, joy, fun, self-confidence and challenge. Factor 2 labeled cognitive motives comprised eight items reflecting success, learning, problem solving, thinking and creativity. Factor 3 concerned with physical motives involved seven items with physical fitness, health, physical condition and sports ability. Factor 4 was the *social* aspects of motives for physical activity participation consisted of eight related items with friendship, group work, team, collaboration, communication and tournament participation. Internal consistency coefficients using Cronbach alphas were  $\alpha=.88$  for all items and between  $\alpha=.85$  and  $\alpha=.93$  for subscales.

Descriptive statistics showed that the most important motives indicated by all students for being physically active were social factors ( $M=2.28\pm.69$ ), it is followed in order of importance by psychological factors ( $M=2.25\pm.63$ ), physical factors ( $M=2.20\pm.51$ ), and cognitive factors ( $M=1.82\pm.63$ ). The most indicated social motive was "to be and play with friends", while the least indicated social motives were "social events as tournament participation" and "to be well-known and popular". The most important psychological motive indicated for being physically active was "to explore one's best potential" while the least important one was "to get calm and relax". The most indicated physical motive was "to be physically stronger" while the least one was "to make progress and improve

Table 1. Factor structure of the QMPAP.

Motives for participation in PA Items (stem: 'I participate in physical activity because ...)	Factor 1	Factor 2	Factor 3	Factor 4
<b>Psychological motives</b>				
9. I enjoy doing physical activity	0.821	-	-	-
14. I want to reduce the stress of studies and exams	0.818	-	-	-
8. I want to explore my best potential	0.815	-	-	-
4. I feel more confident	0.805	-	-	-
2. I like being physically active	0.795	-	-	-
5. It is an exciting and fun to play	0.791	-	-	-
6. I want to get calm and relax	0.778	-	-	-
<b>Cognitive motives</b>				
19. I want to improve my learning capacity	-	0.766	-	-
27. I want to be successful in my classes	-	0.755	-	-
23. I want to learn strategic thinking	-	0.748	-	-
3. I want to learn solving problems	-	0.724	-	-
15. I want to make easier my learning	-	0.722	-	-
10. I want to create new and different movements	-	0.720	-	-
21. I want to refresh my brain	-	0.711	-	-
1. I want to think better	-	0.506	-	-
<b>Physical motives</b>				
12. I want to prevent illnesses	-	-	0.765	-
11. I want to be physically stronger	-	-	0.754	-
29. I want to stay healthy	-	-	0.750	-
7. I want to have a slim body	-	-	0.727	-
28. I want to be physically fit	-	-	0.724	-
13. I want to make progress and improve my sports ability	-	-	0.722	-
30. I want to stay in good physical condition	-	-	0.711	-
<b>Social motives</b>				
22. I like social events as tournament	-	-	-	0.760
18. Because I like to interact with others	-	-	-	0.751
20. Because I like to make new friends	-	-	-	0.745
24. To collaborate and cooperate with friends	-	-	-	0.728
17. Because I like the team spirit	-	-	-	0.658
16. Because I like to be and play with my friends	-	-	-	0.628
25. Because I like belonging to a team	-	-	-	0.620
26. To be well-known and popular	-	-	-	0.607
Eigenvalues	8.91	4.52	2.72	1.92
Percentage of explained variance	29.7	15.1	9.1	6.4
Percentage of total explained variance	29.7	44.8	53.9	60.3
Cronbach' Alpha	0.93	0.90	0.89	0.85

sports ability". The most indicated cognitive motive was "to think better", while the least was "to improve learning capacity" and "to be successful in classes" (Table 1).

Kruskal Wallis test showed that mean ranks on cognitive and physical motives were significantly different according to age, increasing in importance from age 9 to

11 ( $p < .05^*$ ). Although mean rank differences were not significant for the other two main motives, it can be said that psychological motives were becoming less important while social motives were becoming more important by age ( $p > .05$ ), (Table 2).

Although the results of Mann-Whitney U test showed

**Table 2.** Comparison of motives for physical activity participation regarding age.

Participation motives	Age	n	Mean RANK	X <sup>2</sup>	df	p
Psychological	9	135	205.46	0.578	2	0.75
	10	135	201.05			
	11	130	194.78			
Cognitive	9	135	163.39	24.411	2	0.00*
	10	135	206.90			
	11	130	232.40			
Physical	9	135	183.60	6.013	2	0.04*
	10	135	200.54			
	11	130	218.01			
Social	9	135	192.16	0.987	2	0.61
	10	135	200.62			
	11	130	206.02			

(p&lt;.05\*).

**Table 3.** Comparison of motives for physical activity participation regarding gender.

Participation motives	Gender	n	Mean rank	Sum of ranks	U	Z	p
Psychological	Female	205	190.84	39122.00	1.801	-1.726	.08
	Male	195	210.66	41078.00			
Cognitive	Female	205	207.91	42622.50	1.847	-1.320	.19
	Male	195	192.71	37577.50			
Physical	Female	205	208.14	42669.50	1.842	-1.373	.17
	Male	195	192.46	37530.50			
Social	Female	205	202.64	41339.00	1.915	-.562	.57
	Male	195	196.20	38062.00			

(p&gt;.05).

that there was no significant difference on participation motives regarding gender (p>.05), the most important reason indicated for being physically active was physical motives for females, while it was psychological motives for males. Although it was followed in order of importance by cognitive, social, and psychological motives for females, it was followed in order of importance by social, physical, and cognitive motives for males (Table 3).

## DISCUSSION

The study was strengthened by other research results (Chin and Edginton, 2014; Douglas et al., 1997; Edginton et al., 2013; Ludwig, 2007) on importance of physical activity participation among children. In addition to physical, social and psychological effects of physical

activity (Hallal et al., 2006; Twisk, 2001) a strong need was expressed in the literature for improving cognitive side of the children by promotion of active living (Castelli et al., 2007; Lindner, 2002; Sibley and Etnier, 2003; Tremblay et al., 2000). As a health-enhancing behavior from a holistic perspective, such research requires reliable and valid measures for the accurate measurement of all aspects of children's physical activity motivation including cognitive side as well as other sides. This study firstly aimed to develop and validate a scale, titled *Motives for Physical Activity Participation in Primary School Students (MPAP)* for the measurement of children's motivation on participation in physical activity. Secondly, to make comparison between participation motives with respect to gender and age in pupils aged from 9 to 11 years in Cappadocia region of Turkey.

In this study physical activity was tackled as a health-

enhancing behavior from a holistic perspective, so the MPAP was developed based on the reasons why children participate in physical activity in their life even if they do not play any professional sports. In developing process, there were several questionnaires and resources contributing to the understanding of the reasons of children's involvement in physical activity (Biddle, 1998; Frederick and Ryan, 1993; Gill et al., 1983; Markland and Hardy, 1993; Rickel et al., 2012; Sallis and Owen, 1997; Sallis et al., 2008; Sit and Lindner, 2007; Zahariadis and Biddle, 2000). Exploratory factor analysis revealed four factors as labeled psychological, cognitive, physical and social, respectively. *Psychological motives* comprised of relaxation, stress release, joy, fun, self-confidence and challenge. *Cognitive motives* comprised of success, learning, problem solving, thinking and creativity. Physical fitness, health, physical condition and sports ability merged under the *physical motives*. Friendship, group work, team, collaboration, communication and tournament participation merged under the *social motives*.

The results of this research are consistent with the common reasons for participation in physical activity which were identified in these studies (Frederick and Ryan, 1993; Cecchini et al., 2002; Markland and Hardy, 1993; Oyar et al., 2001; Sit and Lindner, 2007; Zahariadis and Biddle, 2000) and show that the structure of incentives for participation is dominated by psychological factors such as stress release, entertainment, self-confidence, and social factors such as friendship and group work. The most indicated social motive in this study was "to be and play with friends", psychological motive was "to explore one's best potential", physical motive was "to be physically stronger" and cognitive motive was "to think better", respectively. There was also similarity with the results of athletic participating in adolescent, the most important reasons for them were to improve skills, have fun, learn new skills, be challenged, and be physically fit in Gill and Williams (2008) and Gill et al. (1983)'s studies.

Psychological motives such as self-confidence and challenge were supported by Bandura (1986)'s social cognitive theory affirming the idea that if the children perceive themselves as physically able and possessing a high degree of confidence and self-efficacy, they tend to participate in physical activity. Although the participants in this study were not athlete, the results were similar with sport participants who rated enjoyment and competence as their primary motivators in Frederick and Ryan (1993)'s study, whereas exercise participants most often cited body-related motives. In order to create a movement culture in society, recently physical activity prescription has shifted from structured, intense aerobic exercises to less structured and lifestyle forms of exercises, such as walking, climbing stairs and jumping rope (Chin and Edginton, 2014). The ACSM (1998) is also recommending specifically that people use lifestyle forms of physical activity, such as hiking, walking, and gardening, as means of reaching many health and fitness

goals. Because these forms of physical activity are more enjoyable and more closely to have desirable participation motivation.

As the motivational factors compared according to age and gender, it was found that cognitive and physical motives were significantly different according to age, increasing in importance from age 9 to 11. The results were consistent with others on minimal age and gender differences in sport participation (Cecchini et al., 2002; Oyar et al., 2001; Sit and Lindner, 2007). However, adolescent girls primarily participated in sport for fun and friendship, while boys generally participated for achievement and status in their study results of Gill et al. (1983) and Gill and Williams (2008). In this study, participants were randomly selected and non of them were playing any professional sports, they approached physical activity as a health-enhancing behavior, which was a broad concept refers to any bodily movement produced by skeletal muscles that results in energy expenditure, including elective forms of activity, such as sport and exercise, and required forms of activity, such as labor (Sallis and Owen, 1999; Centers for Disease Control and Prevention, 1996). The physical activity habit begins with an interest in participation by children. Age differences on cognitive and physical motives may arise from the increased knowledge and experience with education level. As stated in many researches, physical activity has positive effects on cognitive development such as academic performance, including achievement in math tests and reading, academic grades and perceptual skills (Castelli et al., 2007; Lindner, 2002; Sallis and Owen, 1999; Sibley and Etnier, 2003; Tremblay et al., 2000), as well as physical effects (Hallal et al., 2006; Twisk, 2001).

The results, more over, is consistent with those obtained in Turkey by other authors worked with adolescent athletes (Oyar et al., 2001), authors worked with boys who play volleyball, basketball and handball in secondary school (Arslan and Altay, 2009), with different sport players ages at 11 to 12 (Altinbas and Bayar-Koruc, 2014) even these authors worked with samples aged over 18 years (Ekmekci et al., 2010; Simsek, 2010). The findings of the present study revealed that the most important motives for being physically active were social, psychological, physical, and cognitive factors, respectively for the children at ages 9 to 11 in Cappadocia region of Turkey. Cognitive and physical motives were significantly increasing by age, while motives of physical activity participation do not change with respect to gender at this population.

## CONCLUSION AND RECOMMENDATIONS

The results showed that the most important motives in being physically active for the kids were social, psychological, physical, and cognitive factors, respectively. The most indicated reasons were followed by

being and playing with friends, exploring their own best potentials, being physically stronger, and thinking better. Furthermore, the importance of cognitive and physical motives increased with the age, and participation motives do not change regarding to gender for this population in Cappadocia region of Turkey.

It is important to understand the main reasons of childrens for participation in physical activity to motivate them towards lifelong involvement. From the literature analysed, most children seem to have positive attitude towards being physically active for multiple reasons, however, their perception of and participation in activity become complicated and decline with age. The results of this study indicated a necessity of fostering the cognitive aspects of participation motivation in physical activity for the younger age groups and sustaining that as a lifelong habit.

Although the promotion of physical activity participation at all levels as a means of increased active lifestyle in the world, exact programs are not available in Cappadocia region of Turkey to motivate the children from a holistic perspective. It is believed that results from this study would have a directive role in the development or revision of school physical education programmes, extracurricular physical activity programmes, recreation and health-related activity programmes and other programs have similar purposes all across the region and the country. For this purpose, community initiatives including cooperation among all stakeholders can be suggested for universities, schools, municipalities, parents, researchers, physical education teachers and coaches to improve the holistic development of the children.

As a product of the study, a reliable and valid instrument titled *Motives for Physical Activity Participation in Primary School Students (MPAP)* was developed, which has four components as social, psychological, physical, and cognitive motives. This current study opened the door for determining motives in physical activity participation from a holistic perspective with the inclusive of cognitive factors.

This instrument can be used all over the world, especially in conducting cross-cultural studies with different populations. It can be also suggested to reaching out to the larger populations by incorporating different dimensions in the future studies.

Quantitative methodology was beneficial for this study to develop a questionnaire on and determine the motivational factors affecting childrens' decisions about participating in physical activity. However, qualitative methods including observation and interviewing for future studies would give a deeper understanding the participation motives of the kids.

### Conflict of Interests

The author has not declared any conflicts of interest.

### ACKNOWLEDGEMENT

\*This study was presented at ICPESS 2015, 4th International Conference on Physical Education and Sport Science, 20-22 May, 2015, Indonesia, Jakarta.

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**Questionnaire of motives for physical activity participation in primary school students**

According to the importance level, please tick (✓) appropriate box regarding the reason why you want to be physically active in your daily life.

S/N	I participate in physical activity because ...	Very important	Quite important	Not at all important
		3	2	1
1	I want to think better	-	-	-
2	I like being physically active	-	-	-
3	I want to learn solving problems	-	-	-
4	I feel more confident	-	-	-
5	It is an exciting and fun to play	-	-	-
6	I want to get calm and relax	-	-	-
7	I want to have a slim body	-	-	-
8	I want to explore my best potential	-	-	-
9	I enjoy doing physical activity	-	-	-
10	I want to create new and different movements	-	-	-
11	I want to be physically stronger	-	-	-
12	I want to prevent illnesses	-	-	-
13	I want to make progress and improve my sports ability	-	-	-
14	I want to reduce the stress of studies and exams	-	-	-
15	I want to make easier my learning	-	-	-
16	Because I like to be and play with my friends	-	-	-
17	Because I like the team spirit	-	-	-
18	Because I like to interact with others	-	-	-
19	I want to improve my learning capacity	-	-	-
20	Because I like to make new friends	-	-	-
21	I want to refresh my brain	-	-	-
22	I like social events as tournament	-	-	-
23	I want to learn strategic thinking	-	-	-
24	To collaborate and cooperate with friends	-	-	-
25	Because I like belonging to a team	-	-	-
26	To be well-known and popular	-	-	-
27	I want to be successful in my classes	-	-	-
28	I want to be physically fit	-	-	-
29	I want to stay healthy	-	-	-
30	I want to stay in good physical condition	-	-	-