

ORIGINAL ARTICLE

## Life-views and ethical viewpoints among physiotherapy students in Sweden and Turkey – A comparative study

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### Abstract

There is a need for a deeper understanding of and discussion about different cultures' influences on life-views and ethical reasoning among professionals within healthcare. A culture can be seen as a set of guidelines, both explicit and implicit, which individuals inherit as members of a particular society, and which tells them how to view the world and how to behave in it in relation to other people. Do the cultural differences between Sweden, a culture predominantly influenced by Christian religion, and Turkey, a culture predominantly influenced by Muslim religion, influence physiotherapy students' life-views and ethical reasoning? The aim of this study was to compare life-views and questions of ethics between Swedish and Turkish physiotherapy students at the beginning of their studies. A reliable and valid questionnaire about life-views, together with questions covering ethical aspects was used. Three hundred and thirty-two physiotherapy students (186 Swedish, 146 Turkish) answered the same life-view questionnaire. Non-parametric statistics were used. Significant differences between the Swedish and Turkish students' opinions were analyzed with non-parametric statistics (Mann–Whitney *U*-test, two independent samples). Students' priorities in ethical questions were also compared between the groups. The Turkish students had significantly higher mean values in questions that belonged to a scientific life-view; the Swedish students had significantly higher mean values in questions belonging to an evolutionary life-view. There were significant differences between the groups in 14/20 individual life-view questions. The Swedish students were more patient-centered in their attitudes, had more positive attitudes to unconventional lifestyles and accepted to a higher extent than Turkish students suicide and euthanasia in special situations. Concerning priorities in ethical questions, there were significant differences between the groups concerning justice in healthcare and happiness for all, with higher priorities for happiness and justice in healthcare from the Turkish students.

**Key Words:** *Comparative study, culture, education, ethics, ethical viewpoints, life-view, physiotherapy students*

### Introduction

There is a need for a deeper understanding of and discussion about different cultures influences on life-views and ethical reasoning among professionals within healthcare [1]. A culture can be seen as a set of guidelines, both explicit and implicit, which individuals inherit as members of a particular society, and which tells them how to view the world, how to experience it emotionally and how to behave in it in relation to other people, to supernatural forces or gods and to the natural environment. Culture can be seen as an inherited “lens” through which an individual perceives and understands

the world that he inhabits and learns to live in. Religion is an important factor contributing to cultural characteristics. Sweden has traditionally mostly been influenced by the Christian religion, Turkey mostly by the Muslim religion. Do the cultural differences between Sweden and Turkey influence healthcare professionals' life-views and ethical reasoning?

An individual's life-view constitutes an overall view of man and the world within a specific culture that forms a central value system and gives expression to a fundamental attitude [2]. It determines the response to reality and influences decision-making

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and the treatment of other people [3]. It can be seen as a central value system within a culture giving expression to attitudes on moral issues. Life-views are established early in childhood, are influenced by social environments and are relatively constant over time [1,4]. However, they can change as a result of attending university [5,6].

There may be differences between a Swedish Western European and a Turkish Middle Eastern life-view.

In Sweden as in other Western European countries, the decline in organized religion and moral concerns are increasingly being expressed in medical rather than religious terms. A western view assumes that biological concerns are more basic and real than psychological and socio-cultural issues [1]. This is not the case in Middle Eastern culture, which is influenced by the Islamic lifestyle and religion. According to the Islamic lifestyle, life is a realization of the true nature of the human being and ensures harmony with the laws of God in body and soul, in the individual, the family and community, and between human beings and the external environment [7]. The classical Islamic tradition does not separate science from religion.

A study on medical students within a European culture showed that women scored more highly in questions reflecting a religious life-view and men higher in questions reflecting a scientific and evolutionary life-view. No age differences were found [8]. These three dimensions of a life-view were later used in a comparison of life-views and ethical viewpoints of physiotherapy, nursing and medical students [9]. The results showed that all student groups had high or moderate levels of agreement with questions reflecting a religious and evolutionary life-view and low agreement with a scientific life-view in Josephson's terms. Physiotherapy students had the highest agreement with the evolutionary life-view. All student groups were patient-centered in their opinions on questions of ethics [9].

Ethics are systems of beliefs and valued behaviors within a specific culture. These systems are learned through growth, experiences and socialization, and may differ between cultures. Ethics change over time, as do individuals and society [10]. Ethics is the discipline designed to sort out conflicts among duties, rights or responsibilities. Ethical principles act as helpful guides about how we should treat each other, e.g. with justice – no favoritism or discrimination, or with honesty and trust [11]. All team members in healthcare should share sensitive information relevant to a patient's treatment regimen and have a common moral function, since the goal for each is the care of the whole person [12]. Ethical questions dealt with in physiotherapy are also the

allocation of clinical resources and the distinction between quality and quantity of life [13]. According to Purtilo [12], due care and accountability are the "staple crops" of professional ethics. The seed of care sends the essence of a profession's commitment into the soil of society [12]. Accountability sprouts ethical duties and responsibilities so that society has a basis of measuring what it reasonably can expect from a profession like ours, physical therapy [12]. Our promise is to show care and accept responsibility for the well-being of all members who can benefit more from our services than anything else society can offer to prevent the suffering that our expertise allows us to address effectively [12].

In clinical practice in all cultures, many ethical questions may be raised in the contacts with patients. There should be a dialogue between the patient and the therapist. Patients in most western countries have the right to obtain information about diagnosis, prognosis and possible treatment, and to refuse and suggest treatment. What people think and believe is often something they formulate only when asked about it [1]. It is important that physiotherapists in all cultures become aware of their ethical views and values to provide ethical justification for their treatment decisions [13].

The curriculum in physiotherapy in different cultures is based on life-views and ethics from different traditions, mostly from the humanistic tradition but also from physical sciences and evolutionism [14]. Within physiotherapy education in Sweden, ethics and questions about life-views are dealt with within psychology, pedagogic and clinical practice. Within these topics, the students learn about relevant theories, ethical principles and priorities about how values and behaviors are developed by different cultures. Ethical awareness among students is meant to be reached through lectures, seminars, clinical practice and case discussions [15,16]. The activities of the Turkish Board of Universities and Colleges are regulated by Turkish Higher Education Council [17]. Physiotherapy education in Turkey is based on ethics and the humanistic harmony, to provide a healthy lifestyle for both healthy people and patients who live in Turkish society. Turkish physiotherapy education has been improved, making new education models and solving ethical problems [18]. Within Pamukkale University and Istanbul University, physiotherapy education ethics and questions about life-views are dealt with in psychology, social rehabilitation and clinical practice [19–21]. Turkish students are educated about ethical principles and have the opportunity to reflect about them from second to final semester [18–21]. Physiotherapy education in general can be improved by more education in

ethical decision-making, by learning about different ethical decision-making models and by solving ethical dilemmas [22].

The aim of this study is to compare life-views and answers to questions of ethics between Swedish and Turkish physiotherapy students.

### Research questions

1. Do their life-views differ?
2. Do their viewpoints and priorities ethical issues differ?
3. Is there a difference in life-views and ethical viewpoints between male and female students within each country?

## Materials and methods

### Study design

A cohort study was conducted, comparing the opinions of two student groups, Turkish physiotherapy students (Pamukale and Istanbul University) and Swedish physiotherapy students (Lund University). Measures were taken once in the beginning of their education during grade 1 or grade 2.

### Subjects

One hundred and eighty-six physiotherapy students beginning their physiotherapy education at Lund University during 1996–1998 answered a life-view questionnaire at the beginning of their first semester (grade 1) of study [8]. A total of 190 students had entered the program, and 186 of them answered the questionnaire before the course in ethics had begun (a total sample) (Table I). One hundred and forty-six Turkish physiotherapy students attending their physical therapy education at Pamukkale University (79 students) and Istanbul University (67 students) in Turkey during the same period (1996–1998) were included in the study. They were selected by random allocation from the total list of 290 physiotherapy students at these Universities in grade 1. The first group answered the questionnaire at the beginning of their first semester (grade 1); the other group

answered the questionnaire at the beginning of their second semester (grade 2). The difference in the selection of students can be explained by the fact that the Turkish students participated in another study at the same time, which needed random selection. In this total study, there were no differences between the Swedish and Turkish group concerning the age and gender distribution of the students (Table I).

### Questionnaire

A reliable and valid life-view questionnaire with 32 questions developed by Josephson [8] was used (Appendix 1). We used 29 of these questions, omitting questions 22, 25 and 26, as they were not relevant topics for this study and therefore not included in the questionnaire translated to Turkish. The first research question, “Do the physiotherapy students’ life-views differ?” was evaluated using 20 individual life-view questions (Tables II and III) as well as by using life-view factors (Table IV) according to Josephson [8]. The three life-view factors focused on totally different life-views. The religious life-view factor focused on questions concerning the meaning in life and the belief that the universe is ruled by a higher spirit or power, the scientific life-view factor on questions concerning the belief that everything has causal roots and that all behavior can be reduced to biological phenomena. The evolutionary life-view factor focused on questions concerning the belief that all is ruled by the laws of nature and a wish to survive (Table IV).

The individual life-view questions (Table II) were Likert scales ranging from 1 (no agreement at all) to 9 (total agreement), where the students circled a number around their answer, indicating their agreement with each statement.

Josephson performed a factor analysis on these 20 life-view questions in the questionnaire, together accounting for 45% of the variance of these items. The factor analysis resulted in three main factors with 13 questions; the religious (five questions) scientific (five questions) and evolutionary life-view (three questions) [8] (Table III). The reliability of the three factors was analyzed by Cronbach’s alpha coefficients. The internal consistency of the religious life-view was 0.85, the scientific life-view was 0.65 and the evolutionary life-view was 0.53 [8].

The second research question for this study, “Do their viewpoints and priorities in ethical issues differ?” was evaluated by students’ priorities in ethical questions in Tables IV–VIII as well as in question 11 in Table II. They have all been used earlier in Josephson’s study [8] and were tested for reliability.

TABLE I. Cohort demographics for the study groups.

	Swedish sample, <i>n</i> = 186	Turkish sample, <i>n</i> = 146
Women	M74% (137)	62% (91)
Men	26% (49)	38% (55)
Age total group, mean (SD)	22.9 (5.4)	21.0 (3.3)
Age (range)	18–45 <sup>a</sup>	18–27

<sup>a</sup>Only 8% of the Swedish students were more than 29 years old.

TABLE II. Comparisons between Swedish and Turkish students in 20 life-view questions according to Josephson [8].

	Swedish sample, means (SD), <i>n</i> = 186	Turkish sample, means (SD), <i>n</i> = 146	Swedish sample, median, <i>n</i> = 186	Turkish sample, median, <i>n</i> = 146	Swedish sample, mode, <i>n</i> = 186	Turkish sample, mode, <i>n</i> = 146
2. Everything has its causal roots backwards and forwards in time	2.4 (1.6)	3.8 (2.5)	2.0	3.0	1.0	1.0
3. There are no human rights in the world	2.4 (2.0)	4.6 (3.0)	3.0	3.0	1.0	1.0
4. All is ruled by laws of nature	4.7 (2.3)	4.2 (2.6)	4.0	4.0	3.0	1.0
5. Our life is ruled by destiny	4.3 (2.3)	5.1 (3.0)	3.0	5.0	3.0	1.0
6. Our universe is ruled by a higher spirit or power	4.8 (2.6)	4.1(3.2)	5.0	3.0	3.0	1.0
7. Much depends on fate	4.9 (2.2)	3.1 (2.3)	4.0	5.0	3.0	3.0
8. Everything is planned in advance	3.1 (1.9)	6.0 (2.4)	2.0	7.0	2.0	3.0
9. Our behavior is ruled by a wish to survive	6.3 (1.9)	3.9 (2.3)	7.0	4.0	2.0	1.0
10. Our behavior is ruled by other motives than selfishness	5.6 (2.1)	5.6 (2.8)	6.0	6.0	3.0	3.0
11. If a moral decision is in conflict with laws, the law is less important	5.7 (2.3)	3.1 (2.6)	5.0	2.0	3.0	1.0
12. The meaning of life is reproduction, to create new life	5.6 (2.4)	6.8 (2.5)	5.0	7.0	2.0	3.0
13. You should always seek rational explanations for everything	4.1 (2.2)	4.3 (2.7)	5.0	4.0	2.0	1.0
14. All psychological and social behavior can be reduced to biological phenomena	3.9 (2.1)	5.2 (2.8)	3.0	5.0	3.0	1.0
15. If you want to know how the world is formed you should forget everything qualitative, subjective and individual	3.9 (2.2)	3.5 (2.8)	3.0	3.0	1.0	1.0
16. Feelings are nothing but nerve signals, purely physical	2.6 (2.0)	3.4 (2.8)	2.0	3.0	1.0	1.0
17. There may be more explanations for our feelings than merely physical ones	7.6 (2.0)	7.3 (2.4)	8.0	8.0	3.0	3.0
18. From a universal perspective there is a meaning to our lives, even if we cannot find it	7.0 (2.2)	7.7 (2.1)	7.0	7.0	1.0	1.0
19. In the light of the fact that we are all going to die, my life is totally without meaning	1.9 (2.0)	2.5 (2.5)	1.0	3.0	1.0	1.0
20. I believe in a life after death, not necessarily in heaven but in another dimension	7.0 (2.5)	4.6 (3.2)	7.0	4.0	3.0	3.0
21. I believe that my soul will survive death	6.5 (2.7)	6.2 (3.2)	6.0	6.0	1.0	1.0

Mean (SD), median and mode values. The scale ranges from 0 to 9.

TABLE III. Comparisons between Swedish and Turkish students in 20 life-view questions according to Josephson [8].

	Sign. diff. in mean values, $p$ -values	High values, 7–9, Swedish sample, %	High values, 7–9, Turkish sample, %	Low values 1–3, Swedish sample, %	Low values 1–3, Turkish sample, %	Middle values 4–6, Swedish sample, %	Middle values 4–6, Turkish sample, %
2. Everything has its causal roots backwards and forwards in time	$p=0.05$	4.8	17.1	82.5	49.3	12.7	33.6
3. There are no human rights in the world	$p=0.04$	9.8	32.1	56	45.2	34.2	22.7
4. All is ruled by laws of nature	$p=0.6$	22.8	21.9	36.8	43.9	40.4	34.2
5. Our life is ruled by destiny	$p=0.2$	17.5	36.3	41	38.4	41.5	25.3
6. Our universe is ruled by a higher spirit or power	0.9	28.4	22.2	28.4	37.0	43.2	40.9
7. Much depends on fate	0.04	23.8	13.0	27	68.5	49.2	18.5
8. Everything is planned in advance	0.02	8.9	29.9	45.1	26.7	46.0	43.4
9. Our behavior is ruled by a wish to survive	0.04	49.7	56.9	9.9	18.5	40.4	24.6
10. Our behavior is ruled by other motives than selfishness	0.2	33.2	14.3	19	47.3	47.8	38.4
11. If a moral decision is in conflict with laws, the law is less important	0.03	38.1	1.7	24.3	26.7	37.6	71.6
12. The meaning of life is reproduction, to create new life	0.05	43.5	15.7	22	67.1	34.5	17.2
13. You should always seek rational explanations for everything	0.2	14.3	68.5	49.4	16.4	36.3	15.1
14. All psychological and social behavior can be reduced to biological phenomena	0.04	15.7	25.3	44.8	45.2	39.5	29.5
15. If you want to know how the world is formed you should forget everything qualitative, subjective and individual	0.05	18.9	37.0	44	36.3		
16. Feelings are nothing but nerve signals, purely physical	0.02	6.2	22.5	77.6	61.0		
17. There may be more explanations for our feelings than merely physical ones	0.3	81.6	78.8	7.2	11.6		
18. From a universal perspective there is a meaning to our lives, even if we cannot find it	0.04	72.6	84.9	9	8.2		
19. In the light of the fact that we are all going to die, my life is totally without meaning	0.03	6.1	11.6	87.7	78.8		
20. I believe in a life after death, not necessarily in heaven but in another dimension	0.01	70.8	36.3	15	45.2		
21. I believe that my soul will survive death	0.04	63.4	60.3	18.3	26.7		

Significant differences between means ( $p < 0.05$ ), and high (7–9) and low (1–3) values of agreement in percent.

TABLE IV. Comparison between Swedish and Turkish students in life-view questions grouped according to Josephson [8] as well as differences in mean values.

Sentences from the questionnaire	Mean Swedish sample	Mean Turkish sample	Sign. diff. in mean values
Religious life-view			$p = 0.30$
Our universe is ruled by a higher spirit or power	4.8	4.1	
Everything is planned in advance	3.1	6.0	
From a universal perspective there is a meaning to our lives even if we cannot find it	7.0	7.7	
I believe in a life after death not necessary in heaven but in another dimension	7.0	4.6	
I believe that my soul will survive death	6.5	6.2	
Scientific life-view			$p = 0.04$
Everything has its causal roots backwards and forwards in time	2.4	3.8	
All psychological and social behavior can be reduced to biological phenomena	3.9	5.2	
If you want to know how the world is formed you should forget everything qualitative, subjective and individual	3.9	3.5	
Feelings are nothing but nerve signals purely physical	2.6	3.4	
In the light of the fact that we all are going to die my life is totally without meaning	1.9	2.5	
Evolutionary life-view			$p = 0.04$
All is ruled by laws of nature	4.7	4.2	
Our behavior is ruled by a wish to survive	6.3	3.9	
The meaning of life is reproduction to create new life	5.6	6.8	

First an index of all questions in each life-view factor was developed and then a *t*-test for independent samples was used to get one *p*-value for each factor.

$p < 0.05$  was used as the significance level.

The reliability of the questions varied from 0.77 to 0.90 [8]. No reliability test was done on our results. The content of the ethical questions concerned ethical priorities in healthcare, suicide and euthanasia, questions where different cultural influences may imply different opinions. These topics are also relevant to reflect about as a student in physiotherapy in the process of developing a value-base for

making adequate professional priorities. The question “Is there a human condition under which suicide is acceptable?” (question 30) and “Is there a human condition under which euthanasia is acceptable?” (question 32) was followed by a question “If so, describe these conditions.” As this was an open-ended question, the answered were grouped and described in Tables VI and VII.

TABLE V. Students priorities in ethical questions (%) among physiotherapy students in Sweden and Turkey.

Choose one of the following alternatives to each ethical question below	Swedish, $n = 186$	Turkish, $n = 146$
28. Provided that a patient is mentally quite lucid and well-informed – which is more important in deciding treatment: the patient’s or the doctor’s preference?		
Patient’s	79	64
Doctor’s	17	35
29. Which is more important?		
Life	13	18
Quality of life	86	82
30. Is there any human condition under which suicide is acceptable?		
Yes	56	23
No	42	77
31. May a person live in an improper way and still be entitled to the resources of the community?		
Yes	62	47
No	34	53
32. Is there a human condition that can make euthanasia acceptable?		
Yes	81	31
No	16	69

TABLE VI. Conditions that can make suicide acceptable: Comparison between Swedish and Turkish students.

Condition	Swedish students, <i>n</i> = 95 <sup>a</sup>	Turkish students, <i>n</i> = 35
Major depression	48	20
Intolerable life situation	11	7
Severe pain	6	6
To have lost somebody/ to be without a family	0	2
Other reasons	36	0

106 students answered yes to the question “Are there any human condition that can make suicide acceptable?” Among them, 95 examples were given.

### Data analysis

Results were described as mean, median and mode values, and frequencies of the high/low/middle agreement of the statements (Tables II and III). The values 1–3 indicated low agreement, 4–6 middle values and 7–9 indicated high agreement with these statements [8]. The direction of the scoring was the same for all items.

### Statistical analysis

Non-parametric statistics have been used [23]. Significant differences between the groups were analyzed with Mann–Whitney *U*-test (two independent samples) [23]. Students’ priorities in ethical questions, each of them with four alternatives ranging from 1 (most important) to 4 (least important), were also compared between the groups. A level of significance of 0.05 was used, and no adjustments were made the level of significance for the use of multiple answers.

TABLE VII. Conditions that can make euthanasia acceptable. Comparison between Swedish and Turkish students.

Condition	Swedish students, <i>n</i> = 143 <sup>a</sup>	Turkish students, <i>n</i> = 47
Progressive chronic diseases and severe pain	102	40
To be dependent on somebody due to severe physical or mental problem	0	7
Quality of life	14	0
Other reasons	27	0

<sup>a</sup>154 students answered yes to the question “Are there any condition that can make euthanasia acceptable?” Among them, 143 examples were given.

## Results

### Life-view background

All students in the Turkish group and 94% in the Swedish group answered that they often think about their world and life-views (question 1). Most students, 90% in the Turkish group, compared with only 16% in the Swedish group were actively religious (questions 23 and 24). Among the religious Turkish students, the majority were Muslims (89%); only a small group was atheists (4%) or Christians (1%). The religious group of Swedish students was all Christians.

### Do the life-views differ between Swedish and Turkish students?

Concerning agreements in means to individual questions, the Turkish students showed a high agreement compared with the Swedish students in the questions “All psychological and social behavior can be reduced to biological phenomena” and “There are no human rights in the world” (Table II). Swedish students showed high agreement compared with Turkish students in the questions “Our behavior is ruled by a wish to survive” and “If a moral decision is in conflict with laws, the law is less important” (Table II).

When comparing the ratings of high/low values of agreements between the groups, the Turkish students had high values of agreement compared with the Swedish students to the questions “You should always seek rational explanations for everything” and “Everything is planned in advance”. The Swedish student had high values of agreement to the questions “The meaning of life is reproduction, to create new life” and “I believe in a life after death not necessarily in heaven but in another dimension” (Table III). Most of the Swedish students (82.5%) had low values of agreements to the question “Everything has its causal roots backwards and forwards in time” compared with 49.3% of the Turkish students. On the other hand 68.5% of the Turkish students had low values of agreements to the question “Much depends on fate” compared with 27% of the Swedish students (Table III).

When comparing the student groups in life-view factors, according to Josephson [8], the Turkish students had significantly higher mean values in questions that belonged to the scientific life-view ( $p=0.04$ ). The Swedish students had significantly higher mean values in questions belonging to the evolutionary life-view ( $p=0.04$ ). No significant difference was noted concerning the questions belonging to the religious life-view (Table IV). There were

TABLE VIII. Students' priorities from 1 (most important) to 4 (least important) in ethical topics importance in percent and significant differences in mean values between students in Sweden and Turkey according to the Mann-Whitney test.

Ethical topics	Group	More imp. Alt. (1-2) (%)	Less imp. Alt. (3-4) (%)	Missing (%)	% First priority (Alt 1)	% Last priority (Alt 4)	Mean (SD)	Sign. diff. <i>p</i> -values
A. Justice in healthcare	Swedish	68	29	3	39	11	2.0 (1.1)	0.02
	Turkish	86	14	0	83	2	1.3 (0.6)	
B. Love	Swedish	57	41	2	28	16	2.2 (1.1)	0.3
	Turkish	55	45	0	22	19	2.4 (1.0)	
C. Happiness for all	Swedish	18	79	3	8	52	3.2 (1.1)	0.03
	Turkish	38	62	0	23	45	2.8 (1.2)	
D. Independence	Swedish	52	45	3	24	19	2.2 (1.1)	0.2
	Turkish	35	65	0	19	46	2.9 (1.1)	

<sup>a</sup>*p* < 0.05.

significant differences between the groups in 14/20 individual life-view questions (Table III).

*Do the viewpoints on ethical issues differ between Swedish and Turkish students?*

The Swedish and Turkish students' priorities in ethical questions differed (Table V). The Swedish students were more patient-centered in their attitudes to the question "Provided that a patient is mentally quite lucid and well informed – which is more important in deciding treatment, the patient's or the doctor's preference?" (Table V). Both Turkish and Swedish students considered quality of life to be more important than life. The Swedish students agreed to a higher extent than the Turkish students did that a person can live in an improper way and still be entitled to the resources of the community.

The Swedish students accepted to a higher extent that there might be conditions under which suicide as well as euthanasia can be acceptable (Table V). Suicide could be accepted among persons with major depression, an intolerable life situation or severe pain (Table VI).

Euthanasia could be accepted in persons with progressive chronic diseases and severe pain and in situations of dependence due to severe problems (Table VII). Concerning priorities in ethical questions, there were significant differences between the groups concerning justice in healthcare (*p* < 0.02) and happiness for all (*p* < 0.03), with higher priorities from the Turkish students (Table VIII). There was a difference in priority, but not significant, concerning the importance of independence (*p* < 0.2); 52% of the Swedish students, compared with 35% of the Turkish students, believed that independence was important (Table VIII).

*Is there a difference in life-views and ethical viewpoints between male and female students within each country?*

In both the Swedish and the Turkish group, female students agreed to a higher extent on the questions belonging to the religious life-view (*p* < 0.01 in both groups). Swedish male students agreed significantly higher on the questions belonging to the scientific (*p* < 0.03) and evolutionary (*p* < 0.01) life-view, but no differences were noted in the Turkish group.

**Discussion**

*Do the life-views differ between Swedish and Turkish students?*

There were significant differences between the student groups in 14/20 individual life-view questions. When comparing the mean values of the

different life-view factors, the Turkish students had significantly higher mean values in questions that belonged to the scientific life-view ( $p=0.04$ ) and the Swedish students had significantly higher mean values in questions belonging to the evolutionary life-view ( $p=0.04$ ). The difference between the student groups in the religious life-view may be explained by the fact that 90% in the Turkish group compared with only 16% in the Swedish group were actively religious. According to Josephson [8], the items belonging to the religious factor are associated with Christian life-views, which cannot be verified with scientific methods. The students in the Swedish group may be influenced by Christian thought from their earlier education, as most Swedes are Lutherans and belong to the Swedish State Church. The items belonging to the religious life-view seem to be in line also with Muslim life-views. Islam, as defined in the Quran, is the natural course of life, which God has given to mankind, and life shall be lived in harmony with the laws of God in body and soul, in the individual, the family and community [7]. The classical Islamic tradition does not separate science from religion. Accordingly, one finds that the Quran contain references to learning, education, observation and the use of reasoning in all areas of life-medicine and healthcare. Islam teaches individuals and societies how to live a physically, mentally and morally upright life [24]. In that situation, the result (Turkish students had significantly higher mean values in questions that belonged to the scientific life-view) can be explained with the classical Islamic tradition [7,24].

That the Swedish students had higher mean values in the evolutionary life-view factor can be an influence from the medical model in healthcare compared with more humanistic or existential models. In Sweden, all medical education at university level until the 1980s was influenced by the biomedical frame of reference, and even today it has a greater medical and biological than humanistic orientation. However, knowledge from the humanistic and behavioral sciences has been introduced in all medical education also physiotherapy [14]. Our result is supported by Josephson's study [8], where medical students were described as being religious, evolutionary and not very scientific [8]. In our study, both student groups had high ratings also in the scientific life-view factor. Gard & Thrane Sundén [9] showed that physiotherapy students had high or moderate levels of agreement with the religious and evolutionary life-view and low agreement with a scientific life-view in relation to medical and nursing students. Physiotherapy students had the highest agreement with the evolutionary life-view [9]. That the Swedish students had higher mean values in the

evolutionary life-view factor than the Turkish students may also be explained by the Muslim culture and religion prevalent in Turkey [7,24].

The Turkish students also showed a high agreement compared with the Swedish students to the individual questions "Everything is planned in advance", and "If you want to know how the world is formed you should forget everything qualitative, subjective and individual", questions belonging to the religious and scientific life-view factor, respectively. Swedish students showed high agreement compared with Turkish students to the question "Our behavior is ruled by a wish to survive." A majority, 68.5% of the Turkish students also had high agreement to individual questions about rationality not belonging to the scientific factor according to Josephson [8], e.g. the question "You should always seek rational explanations for everything." The differences in the result can reflect different education, culture, religion and norms in ethical questions between the student groups and also differences in social reality. An individual's life-view influences decision-making and treatment of other people [3]. For example if you have a religious life-view, the focus is on meaning in life, each individual's unique human value and compassion, respect, autonomy and integrity [25,26].

This study was a cohort study comparing the opinions of two student groups at the same time but the selections was made differently, the Swedish group was a total investigation of all students in grade 1 and the Turkish groups were selected by random allocation from all students in grade 1 or grade 2. This use of random allocation was due to the fact that the Turkish groups were part of another study during this period that needed randomization. The aim of randomization is to prevent bias and we believe that this difference in selection may not have influenced the results to a considerable degree. We also treated the Turkish groups as one group in the comparisons as they belong to the same culture. Measures were taken once in the beginning of their education during grade 1 or grade 2. The psychology course was scheduled in grade 1 or 2, respectively, at the Turkish universities, which explained the difference time for data collection. As all students answered the questionnaire during the course in ethics and psychology, they may have been on an equal level in ethical knowledge and awareness.

*Do the viewpoints and priorities in ethical issues differ between Swedish and Turkish students?*

The Swedish students gave a higher priority to patient-centered attitudes and unconventional lifestyles, which may reflect a more accepting ethical

norm. Both Turkish and Swedish students considered quality of life to be more important than life. The result is in line with Josephson's study [8], which showed that most medical students also gave the patient's preferences priority over the doctor's preferences. The value of quality of life and unconventional lifestyles in this study has earlier also been shown by Josephson [8] and Gard & Thrane Sundén [9]. When physiotherapy students were compared with nursing and medical students, female medical students tended to be more prepared to accept unconventional lifestyles than male students [9]. According to Islamic world and life-view, Allah alone is the master of all that exists. Islamic law and ethical principles as well as an Islamic lifestyle arise from the norms described in the Quran [27]. These rules are to a high extent enforced by males, which may have influenced the Turkish students attitudes to unconventional lifestyles.

The result showed that 56% of the Swedish students compared with 23% of the Turkish students accepted suicide and that 81% of the Swedish students compared with 31% of the Turkish students accepted euthanasia. In Josephson's study [8], medical students also agreed that there were circumstances in which suicide was acceptable. Having a Swedish (possibly Christian) life-view may imply a less positive and more diversified attitude to active euthanasia in terminal illnesses compared with people with humanistic and other life-views [28]. In this study, 90% in the Turkish group and 16% in the Swedish group were actively religious. Earlier studies have shown that 61% of law students, 59% of psychology students and 24% of medical students supported active euthanasia. Medical students are more negative to active euthanasia [28]. The question about euthanasia is complicated medically. It is necessary to distinguish between active and passive euthanasia, or killing and letting die [29]. Most people believed that active euthanasia is a help in chronic diseases as a relief from psychological pain and are positive to active euthanasia, but only a minority of health personnel is positive to active euthanasia [30]. In our study, we did not distinguish between active and passive euthanasia. Not many Turkish students accepted suicide and euthanasia because, from an Islamic point of view, life and death are ultimately derived from God. No human can give life or take death away. The medical personnel are obliged to assist the patient to the best of their abilities and leave the rest to Allah [19,24].

The results show differences between the student groups in ethical questions that may reflect different thinking and norms due to the different cultures. For example, 38.1% of the Swedish students had high agreement to the question "If a moral decision is in

conflict with laws, the law is less important" compared with 1.7% of the Turkish students.

A significant difference was noted between the groups in their priorities concerning justice in healthcare and happiness for all, Turkish students had higher priorities. On the other hand, a higher frequency of Swedish compared with Turkish students believed that independence was important, but no significant difference in priority was noted. Their opinions may differ due to different healthcare systems and/or different norms and values in life [19]. As professionals within healthcare, physiotherapists in both Sweden and Turkey need not reflect on and be aware of one's own attitudes and have an ability to change perspectives depending on the patient, the problem and the situation.

What are the impacts of this study for physiotherapy students and education? With the results of this study in mind, we suggest an increased focus on cross-cultural issues in psychology and ethics in the physiotherapy curriculum in both Sweden and Turkey. We recommend analysis of cross-cultural research in psychology with a focus on life-views, values and ethical priorities and dilemmas. The solving of ethical dilemmas within the physical therapy education can be trained in both countries. In Turkey, where the classical Islamic tradition does not separate science from religion, critical analysis of research results seems to be very important in relation to religious principles. In Sweden, where the traditional Christian influence is present but decreasing, a deeper knowledge of and analysis of the value basis for ethical priorities from different perspectives seems to be needed within physiotherapy. Increased knowledge and awareness of ethical decision-making and increased use of different cultural models can improve the physiotherapy education. We need a living discussion about cross-cultural ethical issues in physiotherapy and how they may be used on different organizational levels in healthcare and society and its impact on preventive and clinical practice.

## Conclusions

Turkish students had higher mean values in questions representing a scientific life-view; the Swedish students had higher mean values in questions representing an evolutionary life-view. No difference was noted in questions representing a religious life-view. The Swedish students gave a higher priority to patient-centered attitudes and unconventional lifestyles, which may reflect a more accepting ethical norm.

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## Appendix 1: The questionnaire in total

Questions 22, 25 and 26 were omitted from the study as they were not relevant for the purpose of this study.

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1. Do you often think about world- and life-views?
  2. Everything has its causal roots backwards and forwards in time
  3. There are no human rights in the world
  4. All is ruled by laws of nature
  5. Our life is ruled by destiny
  6. Our universe is ruled by a higher spirit or power
  7. Much depends on fate
  8. Everything is planned in advance
  9. Our behavior is ruled by a wish to survive
  10. Our behavior is ruled by other motives than selfishness
  11. If a moral decision is in conflict with laws, the law is less important
  12. The meaning of life is reproduction, to create new life
  13. You should always seek rational explanations for everything
  14. All psychological and social behavior can be reduced to biological phenomena
  15. If you want to know how the world is formed you should forget everything qualitative, subjective and individual
  16. Feelings are nothing but nerve signals, purely physical
  17. There may be more explanations for our feelings than merely physical ones
  18. From a universal perspective there is a meaning to our lives, even if we cannot find it
  19. In the light of the fact that we are all going to die, my life is totally without meaning
  20. I believe in a life after death, not necessarily in heaven but in another dimension
  21. I believe that my soul will survive death

22. How easy was it to answer these questions?
  23. Are you religious?
  24. If you are religious, which religion do you believe in?
  25. Name the literature you read most recently.
  26. Which is your greatest interest outside work/studies?
  27. Rank these motives for action according to importance from 1 (most) to 4 (least important).
    - A. Justice in healthcare
    - B. Love
    - C. Happiness for all
    - D. Independence
  28. Provided that a patient is mentally quite lucid and well-informed – which is more important in deciding treatment: the patient's or the doctor's preference?
    - Patient's
    - Doctor's
  29. Which is more important?
    - Life
    - Quality of life
  30. Is there any human condition under which suicide is acceptable?
    - Yes
    - No
  31. May a person live in an improper way and still be entitled to the resources of the community?
    - Yes
    - No
  32. Is there a human condition that can make euthanasia acceptable?
    - Yes
    - No
-