Original research

Socially Responsible Leadership: A study with nursing and medical students in Turkey

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A B S T R A C T

This study determined the levels of Socially Responsible Leadership of students studying in the nursing and medical faculties of a public university as well as the influencing variables. The sample of this descriptive and correlational study consisted of the students studying in the nursing and medical faculties of a public university (n = 464). The data were collected using the Socially Responsible Leadership Scale. The total and all subscale scores obtained by the nursing and medical students from the Socially Responsible Leadership Scale were in the middle level. The effects of the department and participation in student clubs were statistically significant in the model when examining the variables affecting leadership level. The results of this study revealed the necessity of improving the Socially Responsible Leadership levels in the basic professional education programs for physicians and nurses.

1. Introduction

Age, economics, and social variables affecting individual, group, or community health are the social components of health. These components affect health, access to health services, and care outcomes (Öner, 2014; ICN, 2017). Factors such as income (poverty), income distribution, food (starvation), education, residence, unemployment and occupational safety, social exclusion, employment and working conditions, social safety network (welfare policy), early childhood development, health services, race, gender, disability, and sexuality directly or indirectly affect individual, group, and community health (TCFPC, 2015). The World Health Organization's Commission on Social Determinants of Health stated in 2008 that nurses and other healthcare professionals have a significant role in providing equal access to health services. The International Council of Nurses (ICN) also points out the importance of nurses in accessing health services (ICN, 2011) and reaching sustainable development goals such as improved access to education and reduced poverty that affect the outcomes of nursing care (ICN, 2017). Additionally nurses can perform their roles for the social determinants of health in accordance with the functions of physicians at individual, group (micro), community (meso), and system (macro) levels (TCFPC, 2015). In this regard, it is expected nurses and physicians will lead professional practices concerning the promotion of community

health. Thus, physicians (and nurses) are expected to lead on both health issues and social determinants of health concerning promotion of community health (Collins-Nakai, 2006).

1.1. Social change model (SCM) and leadership

According to today's leadership models, leadership evolved from an inborn characteristic to a learnable and teachable characteristic (Doh, 2003; Daloz Parks, 2005; Posner, 2009). The importance of leadership in struggling with social phenomena, which has become increasingly complex, is emphasized and higher education institutions have an important role in raising future leaders (Dugan, 2006a). In this respect, the SCM of Leadership has been developed for university students by a group of educators and scientists along with Alexander and Helen Astin. In the model, leadership is naturally linked with social responsibility and results in the creation of change in the public interest. The model aims to increase self-recognition and capacity levels of an individual to work in cooperation with others (HERI, 1996). Leadership development processes based on the SCM is a model prepared for university students and consistent with post-modern leadership paradigms (HERI, 1996; Wagner, 2006; Dugan et al., 2008). Both concepts of studying social change and leadership require people to work collaboratively for shared purposes (Doer, 2010). According to SCM, leadership is a purposeful,

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Table 1
Components of SCM (Dugan et al., 2014; Külekçi, 2015).

Level	Value	Definition
Individual level	Consciousness of self	Individual awareness of personal beliefs, values, attitudes, and emotions affecting their actions.
	Congruence	Individual actions are in harmony with their values, ideas, and beliefs.
	Commitment	The psychic energy encouraging individuals to serve and guiding them to collective efforts.
Group level	Collaboration	The ability of individuals to work effectively with others.
	Common purpose	Working towards shared purposes and values of the group.
	Controversy with civility	Expression of different thoughts within the group with civility.
Community level	Citizenship	The realization of the individual's social responsibility for collaborating with community members for positive change.
Central value	Change	The final purpose of the other dimensions/seven criteria within the Socially Responsible Leadership Model is to initiate social change and provide its continuity.

collaborative, and value-oriented process rather than a title or position (SRLS, n.d., Barnes, 2014). In other words, a leader is not necessarily the person holding the formal position of leadership or the person known/perceived as a leader by others. The leader is the person providing the positive change that enables the community and other people to live well. With this understanding, all people are potential leaders (HERI, 1996).

In the SCM, seven critical values are identified to assist in developing the leadership characteristics of university students. Called the 7Cs in English, these values are consciousness of self, congruence, commitment, collaboration, common purpose, controversy with civility, and citizenship. Among these values, consciousness of self, congruence, and commitment are categorized as individual values; collaboration, common purpose, and controversy with civility are categorized as group values; and citizenship is categorized as a community value. Change was added as the eighth value to the model (Barnes, 2014). The components of the model and the eight value are defined in Table 1 (Table 1).

1.2. Socially Responsible Leadership (SRL) research in higher education

The Socially Responsible Leadership Scale (SRLS) scores of students are moderate (Leung et al., 2015) to high (Dugan, 2006a, 2006b; Adelman, 2007; Dugan and Komives, 2007; Kovar, 2014; Hamann, 2016). In the study by Dugan and Komives (2007), the data were collected from nearly 50,000 students studying in more than 150 institutions and their SRL perceptions were high. According to the studies investigating the correlation of demographic variables with leadership, women have higher SRLS scores than men (Dugan, 2006a; Dugan and Komives, 2007; Buschlen and Johnson, 2014; Leung et al., 2015). Additionally, SRLS scores of the students participating in student clubs or community service are higher than those who do not participate (Dugan, 2006b; Adelman, 2007; Dugan and Komives 2007, 2010; Page, 2010; Hamann, 2016; Külekçi and Özgan, 2015; Foreman and Retallick, 2016). Hamann (2016) determined that the sociocultural interactions of students with their peers and community service, as well as their grade averages, gender, and leadership training before university are important determinants of the SRL capacities of students.

SCM has been assessed in higher education institutions excluding nursing (Read et al., 2016). In a study conducted with a sample of nursing students (Read et al., 2016), the commitment value in SCM directed the students to nursing. In the same study, the leadership characteristics of the students could be developed for social change and equal health services with the leadership development program based on the SCM framework. In the content of the leadership development program, there were sociocultural conversations, mentoring relationships, community service, and membership in off-campus organizations (Read et al., 2016). A study about the SRL levels of students studying in the medical faculty has not been reported.

In Turkey, one study investigated the SRL levels of university students (Külekçi, 2015). In this experimental study, the students were trained to conduct interventions (about migrants, acquiring proper

eating habits to fight against obesity in schools, ensuring the participation of disabled individuals in life, etc.) in projects about social problems. The SRL training program positively affected and increased the SRL perceptions of the students (Külekçi, 2015).

According to the SCM, to create positive social change it is necessary to raise individuals who are affectionate, constructive, peaceful, and sensitive to social problems, have a developed awareness, and can produce projects to provide social integration (Külekci and Özgan, 2015b). As communication and social competence, "*organizing and implementing projects and activities for the social environment with a sense of social responsibility*" are targeted in bachelor's education in the National Qualifications Framework for Higher Education in Turkey (NQF-HETR, n.d.). In this sense, as pointed out by health (professional) organizations, the leadership characteristics of nurses and physicians who will perform socially responsible actions such as protecting and promoting community health as well as providing access to and equal use of health service can be improved with programs prepared in the framework of SCM during their vocational education. This study identified and compared the SRL levels of the students studying in the nursing and medical faculties. The results obtained from this study may contribute to applications or programs that could be integrated into professional education processes.

2. Methods

2.1. Design and aim

This descriptive and correlational study was conducted to determine SRL levels of the nursing and medical students as well as the influencing variables.

Research Questions:

1. At what levels are the SRLS scores of nursing and medical students?
2. Is there any difference between the SRL levels of nursing and medical students?
3. Is there any correlation between characteristics and SRLS scores of nursing and medical students?
4. Which characteristics affect SRLS scores (high score) of nursing and medical students?

2.2. Setting and sample

The population of the study consisted of fifth-year medical students (N = 500) and third-year nursing students (N = 300) (total N = 800) studying in a public university located in Istanbul. In Turkey, students studying in the medical faculty receive education for six years, whereas nursing students study for four years. In both faculties, short-term clinical practices for the courses were carried out with the theory. The long-term internship program occurred during the last year. The sample group consisted of students the year before their long-term internship because they had completed a majority of their professional education and were accessible at the school. The data were collected between

December 2016 and April 2017. A questionnaire was given to the students who could be reached at the school and agreed to participate in the study using the convenience sampling method. A total of 464 valid questionnaires were obtained with a response rate of 58% (n = 464).

2.3. Instruments

2.3.1. Student data sheet

This form included questions regarding the gender of the students, number of siblings, educational status of their parents, the residence at which they lived for the longest time, the residence of the family, income level of the family, success status in the university (until the data collection time), and their membership in student clubs (scientific or social).

2.3.2. Socially Responsible Leadership Scale (SRLS-R2)

This study used the SRLS, which was developed based on SCM and has been widely used in higher education since 1996 (SRLS, n.d.). The scale with eight subscales and 104 items was developed by Tyree (1998) to determine the SRL levels of university students. Then, the scale was revised and the number of items was reduced for the second version to eight subscales and 68 items (SRLS-R2) (SRLS, n.d.). The Turkish version of the revised scale (SRLS-R2) was conducted by Külekçi and Özgan (2015a). As a result of the confirmatory factor analysis conducted in the sample of university students, 8 items were omitted and the Turkish version of the scale had eight subscales and 60 items. The 8C subscales are consciousness of self (8 items), congruence (7 items), commitment (6 items), collaboration (8 items), common purpose (9 items), controversy with civility (6 items), citizenship (8 items), and change (8 items). Three items of the scale (items 5, 17, and 21) are coded in reverse. Table 2 shows the cut-off values determined for evaluating the scale, which was answered using a five-point Likert type scale (Külekçi and Özgan, 2015a). The Cronbach's alpha values of the subscales of the original version of the scale vary between 0.72 and 0.90 (Dugan, 2006c). The Cronbach's alpha coefficient of Turkish version was 0.93 for the overall scale and varied between 0.76 and 0.87 for its subscales (Külekçi and Özgan, 2015a). In this study, the Cronbach's alpha value was 0.81 for the overall scale and ranged between 0.76 and 0.88 for its subscales.

2.4. Ethical considerations

Permission was received from the researchers who developed the scale and adapted it into Turkish for use in the present study. The Faculty of Medicine Clinical Trials Ethics Committee (Date: 06.01.2017, Decision No: 01) approval and permission of faculty administrations were obtained. Before delivering the data collection forms to the students, they were informed about the study and their voluntary participation was obtained.

Table 2
Cut-off values for total and subscale scores of the scale (Külekçi and Özgan, 2015a).

	Low Level	Middle Level	High Level
Consciousness of self	< 29	29.01–33.99	> 34
Congruence	< 28	28.01–32.99	> 33
Commitment	< 24	24.01–28.99	> 29
Collaboration	< 30	30.01–35.99	> 36
Common purpose	< 34	34.01–39.99	> 40
Controversy with Civility	< 22	22.01–25.99	> 26
Citizenship	< 29	29.01–34.99	> 35
Change	< 28	28.01–32.99	> 33
Total	< 229	229.01–261.99	> 262

2.5. Data analysis

The NCSS (Number Cruncher Statistical System) 2007 (Kaysville, Utah, USA) program was used for the statistical analyses. To assess the data of the study, descriptive statistical methods (number, percentage, mean, standard deviation, median, minimum, and maximum) were used. For normally distributed data, the Student's t-test (t) was used for comparison of two groups and one-way ANOVA (F) was used for comparison of three or more groups. The Bonferroni test was used in post hoc analysis conducted to determine the group causing the difference. When data were not normally distributed, the Mann-Whitney U test (z) was used for comparison of two groups and the Kruskal-Wallis (χ^2) test was used in the comparison of three or more groups. In the evaluation of variables affecting the SRLS total score (middle and high), Backward (Conditional) Logistic regression where backward stepwise selection method is applied by including all variables in the model was used (Menard, 2010). Significance was assessed at the level of p < 0.05.

3. Results

3.1. Characteristics of the participants

It was found that 52.8% of the students participating in the study were medical students and 47.2% were nursing students. Most (71.3%) of the students were female. The average number of siblings of the students was 2.50 (SD 2.08). The educational level of their mothers was primary school at the rate of 42.5%, whereas the educational level of their fathers was university at the rate of 35.3%. Finally, 72.6% of their families resided in cities and their income level was middle (60.1%).

The success level of the students in the university was moderate (46.8%) or high (45.3%). It was reported that 15.5% (n = 34) of the nursing students, 33.9% (n = 83) of the medical students, and 25.2% of the total students (n = 117) participated in student clubs. However, only 23.9% (n = 28) of the students participated in clubs for social responsibility (social responsibility, the green crescent, professional association, young-volunteer physicians/nurses, etc.).

3.2. SRL levels/scores of students

SRLS total scores of the students ranged between 69 and 300 and their mean score was in the middle level at 240.95 (26.11). All of the mean scores of the students for the SRLS subscales were in the middle level (Table 3).

3.3. The comparison of characteristics and SRLS mean scores of the students

When comparing the SRLS total mean scores of nursing and medical students, a statistically significant difference was found (p = 0.001). The scores of the nursing students for the subscales of commitment, collaboration, common purpose, citizenship, and change were significantly higher than the scores of the medical students (p < 0.01). Conversely, no significant difference was determined in the subscales of consciousness of self, congruence, and controversy with civility (p > 0.05) (Table 4).

No significant difference was determined when SRLS total scores of the students were compared by gender (t = 1.912, p = 0.057). However, a significant difference was determined in favor of women in the subscales of congruence (z = −3.019, p = 0.003) and common purpose (t = 2.762, p = 0.006) according to gender.

When SRLS total scores were compared for success status at university (F = 3.576, p = 0.014), a significant difference was found. Additionally, a significant difference was found on the subscales of congruence (χ^2 = 8.867, p = 0.031), commitment (χ^2 = 28.786, p = 0.001), collaboration (F = 3.853, p = 0.010), and common

Table 3
Distribution of subscale and total scores of SRLS (n = 464).

Subscales	Mean (SD)	Min-Max	Low n (%)	Middle n (%)	High n (%)
Consciousness of self	31.32 (4.50)	13–40	148 (31.9)	171 (36.9)	145 (31.3)
Congruence	29.17 (3.91)	7–35	197 (42.5)	172 (37.1)	95 (20.5)
Commitment	25.61 (3.10)	6–30	168 (36.2)	207 (44.6)	89 (19.2)
Collaboration	31.54 (4.28)	8–40	169 (36.4)	216 (46.6)	79 (17.0)
Common purpose	35.76 (5.22)	9–45	158 (34.1)	206 (44.4)	100 (21.6)
Controversy with Civility	25.31 (3.20)	6–30	72 (15.5)	167 (36.0)	225 (48.5)
Citizenship	30.76 (4.90)	8–40	158 (34.1)	212 (45.7)	94 (20.3)
Change	31.46 (3.94)	12–40	96 (20.7)	189 (40.7)	179 (38.6)
Total	240.95 (26.11)	69–300	138 (29.7)	233 (50.2)	93 (20.0)

Table 4
The comparison of SRLS subscale and total scores of the nursing and medical students.

Subscales and Total	Nursing faculty (n = 219)	Medical faculty (n = 245)	Test Value*	p
	Mean (SD)	Mean (SD)		
Consciousness of self	31.52 (4.09)	31.13 (4.85)	t = 0.930	0.353
Congruence	29.81 (3.47)	28.6 (4.19)	z = −0.411	0.681
Commitment	25.93 (2.83)	25.33 (3.3)	z = −3.066	0.002**
Collaboration	32.47 (3.76)	30.71 (4.54)	t = 4.528	0.001**
Common purpose	37.26 (4.13)	34.42 (5.72)	t = 6.170	0.001**
Controversy with Civility	25.61 (2.8)	25.05 (3.5)	z = −1.332	0.183
Citizenship	31.52 (4.02)	30.09 (5.49)	t = 3.215	0.001**
Change	32.11 (3.5)	30.89 (4.21)	t = 3.416	0.001**
Total	246.23 (22.93)	236.22 (27.87)	t = 4.193	0.001**

*"t" values were obtained using the Student's t-test and "z" values were obtained using the Mann-Whitney U test. **$p < 0.01$.

purpose (F = 5.422, p = 0.001) in terms of the success status at university. In the post-hoc analysis, the SRLS total score was significantly higher in those having high university success than those having moderate success (p = 0.005) and low success (p = 0.048).

When comparing SRLS total score of the students based on membership in a student club (t = 2.026, p = 0.043), a significant difference was determined. Additionally, a significant difference was found among the subscales of consciousness of self (t = 2.264, p = 0.024), congruence (z = −2.654, p = 0.008), controversy with civility (z = −2.123, p = 0.034), and citizenship (t = 3.325, p = 0.001) in terms of membership in student clubs. When the SRLS score of the students was compared according to status of membership in a social responsibility club, a significant difference was found among the subscales of congruence (z = −2.654, p = 0.008), controversy with civility (z = −2.123, p = 0.034), and citizenship (t = −2.224, p = 0.027). The SRLS total and subscale scores did not differ significantly according to the other characteristics of the students (p > 0.05).

3.4. Determining the variables affecting the SRLS scores of the nursing and medical students

When the variables thought to affect high SRLS total score (middle and high scores) were assessed through Backward (Conditional) Logistic regression analysis, the model was significant (p = 0.001; p < 0.01). The general determination coefficient of the model was 70.3%, its sensitivity was 100%, and its specificity was 0% (Table 5).

The effects of the department and membership in student clubs on high total score were statistically significant (p = 0.001; p = 0.001; p < 0.01). The other variables analyzed became insignificant in the model (p > 0.05). The high SRL level of the nursing students was 2.212 times greater than the medical students. Likewise, the high SRL

level of the students having membership in student clubs was 2.324 times greater than those having no membership (Table 5).

4. Discussion

SRL has been identified to develop the leadership needed in the 21st century due to socio-economic and geopolitical changes as a form of leadership developed based on SCM (Hamann, 2016). In reaching sustainable development goals, healthcare professionals are expected to take responsibility and action on social determinants of health as well as their professional responsibilities. Although SRL is widely used in higher education institutions in the USA (Hamann, 2016), no study results have been found about students in healthcare professions (such as nurses and physicians) directly providing healthcare services. Therefore, the aim of this study was to determine the SRL capacity of the students studying in the nursing and medical faculties in a public university in Turkey as well as the factors influencing SRL and to compare these two groups.

SRLS total and all subscale scores of the nursing and medical students who participated in this study were in the middle level. In a study conducted with students studying in 10 universities from seven regions of Turkey (except for nursing and medical students), SRL levels of the students were similarly in the middle level (Külekçi, 2015). Likewise, SRL levels of university students in Hong Kong were middle level (Leung et al., 2015). Unlike the studies conducted in other countries, in all accessed studies conducted in the USA, the SRL levels of university students were high (Dugan, 2006a, 2006b; Adelman, 2007; Dugan and Komives, 2007; Kovar, 2014; Hamann, 2016). The fact that this subject has been investigated in the USA since SRL was developed and there are curricular, co-curricular, and extra-curricular activities (education programs, courses, clubs, organizations, etc.) for developing SRL levels of university students may affect the high SRLS scores. The goal of SCM is to activate leadership requiring cooperation for planned change (HERI, 1996). It can be expected that SRLS scores of nursing and medical students are higher than scores of other students. For example, in Turkey, medical and nursing students can play a role in community health practices in the field within the scope of women's, children's, and public health. However, the students in the sample focused on more clinical knowledge and skills in short-term clinical practices before the long-term internship, which might have created no significant effect on their SRLS scores. National health policies of countries shape the roles and activities of healthcare professionals (Shariff, 2014). As a result of the health policy tending towards therapeutic health services in Turkey, the majority of the physicians (62%) and nurses (84.5%) work in in-patient treatment institutions (The Ministry of Health of Turkey Health Statistics Yearbook-2016 (2017)) and this labor force is expected to do leadership with their roles and functions in the clinical field. This may cause the middle SRLS results of the nursing and medicine students.

In this study, a significant difference was found between the SRLS mean scores of the nursing and medicine students. In the model where the variables affecting the high SRLS score of the students were examined, the SRLS mean scores of the nursing students were 2.2 times

Table 5
Univariate results and multivariate logistic regression analysis results.

	Univariate results				Multivariate logistic regression analysis			
	p	ODDS	95% CI		p	ODDS	95% CI	
			Lower	Upper			Lower	Upper
Department (Nursing)	0.002**	1.895	1.258	2.853	0.001**	2.212	1.447	3.380
Membership in Student Club (Yes)	0.012*	1.896	1.148	3.131	0.001**	2.324	1.428	3.906
Success Status at University ¶	0.071							
High (Group 1)	0.338	0.625	0.239	1.634				
Moderate (Group 2)	0.943	1.035	0.400	2.675				
Low (Group 3)	0.518	1.556	0.407	5.948				
Gender (Female)	0.221	1.309	0.850	2.015				
Membership in Social Responsibility Club (Yes)	0.156	2.019	0.751	5.425				

*CI: Confidence interval ¶ In univariate analyses for the university success status, the category of very high was taken as reference for scores obtained from the SRLS * $p < 0.05$ **$p < 0.01$.*

higher than those of the medical students. When the subscale mean scores were compared, the scores of the nursing students for five subscales (commitment, collaboration, common purpose, citizenship, and change) were higher than the medical students. Read et al. (2016) stated that nursing students have the highest score on the "commitment" subscale and this value caused the students to choose the nursing profession. As an individual value that can change and evolve over time, commitment motivates and directs the passions of the individual to overcome difficulties (HERI, 1996). The history of nursing has leaders who ensure the development of women, newborns, school-age children, and environmental health policies (Arabi et al., 2014). When nurses take part in developing health policies, they make valuable contributions in areas such as accessing health services, preventing suicide in adolescents, developing guidelines for the care of pregnant women and children, and addressing child abuse (Shariff, 2014). ICN (2017) emphasizes that nurses are expected to work in cooperation with other health disciplines for the benefit of society all around the world and to create a change for the benefit of society with their role as a change agent. Nurses interact with the community and take part in the front line in delivering patient care and health services (with physicians). In the study conducted by Thorpe and Loo (2003) to compare the values between two student groups, the nursing students had a higher "helpfulness" value compared to the business administration students. However, their "life style, progress, autonomy, authority, creativity, economic and risk" values were low (Thorpe and Loo, 2003). Based on the nature of nursing, helpfulness, a holistic approach to the individuals and the situations they encounter, and professional practices requiring more cooperation and coordination skills suggest that they might be more prone to social change leadership. On the other hand, physicians are generally perceived as a leader in the medical team and community (Jobe et al., 1993). The physicians serve as leaders at individual and social levels and provide valuable and important perspectives even outside the scope of medical practice in addition to their clinical responsibilities (Carsen and Xia, 2006). However, medical students receive very little guidance on being an effective leader outside their experience in student organizations (Jobe et al., 1993). These reasons may explain why SRLS scores of medical students were lower than the scores of the nurses.

Because most nurses in Turkey are female, the results between the nursing and medical students can also be assessed according to gender. However, when the SRLS scores of the students were compared according to gender in the present study, no significant difference was found in total scores, whereas, a significant difference was found in favor of women in the "congruence" and "common purpose" subscales. Similarly, Külekçi (2015) also determined that SRLS scores of the Turkish students did not differ according to gender, but there was a significant difference in favor of women in the subscales of "congruence," "commitment," and "common purpose." However, in studies conducted in other countries, women had higher SRLS scores than men while significant differences in the subscales showed variation (Dugan, 2006a; Dugan and Komives, 2007, 2010; Dugan et al., 2008; Page, 2010; Buschlen and Johnson, 2014; Leung et al., 2015). In a study conducted with university students in Hong Kong, a significant difference was found in favor of women in "commitment," "citizenship," "common purpose," and "collaboration" subscales (Leung et al., 2015). Unlike these results, Dugan and Komives (2007) reported all subscale scores for women, except for the "change" subscale, were higher than for men. However, the leadership efficacy value calculated to evaluate the change in pre-college and senior-year SRLS scores of the students was higher in male students. The authors suggest the leadership skills of women were higher than men, but the self-confidence of men concerning leadership skills was higher than women (Dugan and Komives, 2007). On the other hand, Buschlen and Johnson (2014) compared the increase in SRLS scores of male and female student groups after a leadership course and female students showed greater improvement in "collaboration" and "citizenship" subscales. The women's higher SRLS scores than men were attributed to their increased mercy and sensitivity to social issues and more active participation in organizations embracing social activities (Külekçi, 2015). Higher SRLS scores of the nursing students can be explained with these reasons.

The students who had high university success had significantly higher SRLS total score compared to those who had moderate and low university success. Similarly, Hamann (2016) determined that academic point averages of students were among the effective predictors of SRLS levels. The correlation between high point averages and SRL is important in terms of the students' success in reflecting their professional knowledge on social practices and the contribution of their experiences in SRL applications on their school success.

Taking charge in the field of social responsibility is effective in students' gaining skills such as communication, empathy, problem solving, leadership, entrepreneurship, and responsibility (Külekçi and Özgan, 2015). SRLS scores of the students who participate in student clubs, establish sociocultural interactions with their peers, participate in off-campus organizations, and participate in community services are higher (Dugan, 2006b; Adelman, 2007; Dugan and Komives 2007, 2010; Page, 2010; Hamann, 2016; Külekçi and Özgan, 2015). Similarly, in the present study, there was a significant difference between the SRLS total scores and consciousness of self, congruence, controversy with civility, and citizenship subscales of the students who were members of any club/organization. In the regression analysis, the participation of students in student clubs was effective on their high SRLS scores (2.3 times). This result revealed that participating in the clubs positively affected the perception of SRL in nursing and medical students. Although the SRL levels of the students were middle, SRL levels about social responsibility or SRL levels of the students who participated in the other student clubs/organizations were higher. This result

shows that students can increase their SRL levels by participating in clubs and organizations. However, activities of student clubs/organizations should be arranged to improve the SRL of students.

4.1. Limitations

Although this study was conducted with nursing and medicine students attending a leading educational institution in their fields from a public university in Turkey, cultural and curricular differences between countries may limit the generalizability of the results. Because the education periods of nursing and medical faculties are not the same, only the students who had one year left before graduation (before internship) were included in the sample. The two-year difference might affect the results due to age and experience. The fact that the data were obtained based on self-reports of the students may cause the results to be different. The study results were discussed with studies conducted with the students studying in other faculties due to a limited number of studies in this sample. The readers are suggested to evaluate the study results in this direction.

5. Conclusion

As a result of the present study, SRL levels of the nursing and medical students were middle level and nursing students' SRLS total scores and scores for commitment, collaboration, common purpose, citizenship, and change subscales were significantly higher than those of the medical students. SRLS scores of the students were different in favor of women only in "congruence" and "common purpose" subscales according to gender. These results indicate that nurses had high SRL potential as expected by the nature of nursing and because they are sensitive to community health problems. Their wishes/efforts to eliminate the traditional image based on the societal perception of women's professions may direct them to leadership in order to ensure gender equality. With the joint actions of a medical team with a high level of SRL, which will be formed with the participation of physicians who are their closest working partners, expected changes to improve community health and social justice can be realized. In conclusion, improving SRL levels of the nursing and medical students is even more necessary in terms of the diversity and complexity of today's health needs and it is important for healthcare professionals to direct and use their potential in this direction.

Similarly, nursing and medical students can be supported to take active roles and responsibilities in social responsibility clubs/organizations because of their positive effect on SRL levels. Within the scope of these activities, they can recognize and act on the social components affecting health by taking a role addressing the problems of disadvantaged groups such as homeless people, migrants, and refugees who cannot access healthcare services. This process may also give them an opportunity to learn by improving their skills of transforming their theoretical knowledge into practice.

5.1. Implication of practice

For the development of SRL levels of nursing and medical students, joint clubs/organizations that are open for the participation of students from both faculties about the service of community health should be established, and opportunities should be created and supported for the participation of the students. Educators/academicians should be consulted on this issue to evaluate current student clubs or organizational activities to improve the leadership of students. Similarly, the medical team should gain the skills of collaboration and sharing interdisciplinary leadership in this process. Courses, projects, and activities that will improve the leadership of the individual in social change should be added to the curricula. SRL levels of the students should be determined in the first year of their education and should be re-evaluated during the graduation period. The progress of the students during

the education process should be followed, the effect of clinical practices, and the effect of the participation in clubs/organizations on SRL should be assessed.

In future studies, SRL levels of the students studying in the nursing and medical faculties can be compared with the students studying in the other faculties and with the nursing and medical students from different countries. The contribution of activities on the social determinants of health on the SRL levels of the nursing and medical students can be evaluated. The contribution of the leadership training and activities students receive at school to community health can be monitored.

Conflicts of interest

No conflict of interest has been declared by the author(s).

Ethical approval

Istanbul University, Istanbul Faculty of Medicine Clinical Research Ethics Committee (Date: 06.01.2017, Decision No: 01).

References

Adelman, M., 2007. Student Involvement and Leadership Development at a Private, Women's Catholic College. Master of Arts. Bowling Green State University, Bowling Green, Ohio.

Arabi, A., 2014. Nurses' policy influence: a concept analysis. Iran. J. Nurs. Midwifery Res. 19 (3), 315–322.

Barnes, S.R., 2014. Exploring the Socially Responsible Leadership Capacity of College Student Leaders Who Mentor. Master's Thesis. University of Nebraska, Lincoln, Nebraska.

Buschlen, E., Johnson, M., 2014. The effects of an introductory leadership course on socially responsible leadership, examined by age and gender. Journal of Leadership Education 31–45. Winter. https://doi.org/10.12806/V13/I1/R3.

Carsen, S., Xia, C., 2006. The physician as leader. McGill J. Med.: MJM 9 (1), 1–2.

Collins-Nakai, R., 2006. Leadership in medicine. McGill J. Med. 9 (1), 68–73.

Daloz Parks, S., 2005. Leadership Can Be Taught: A Bold Approach for a Complex World. Harvard Business School Publishing Corporation, Boston, MA.

Doer, E., 2010. What is social change? In: Wagner, W., Ostick, D.T., Komives, S.R., Associates (Eds.), *Leadership for A Better World Understanding the Social Change Model of Leadership Development. Instructor's Manual.* National Clearinghouse for Leadership Programs. Jossey-Bass, San Francisco, CA, pp. 9–31.

Doh, J.P., 2003. Can leadership be taught? perspectives From management educators. Acad. Manag. Learn. Educ. 2 (1), 54–67.

Dugan, J.P., 2006a. Explorations using the Social Change Model: leadership development among college men and women. J. Coll. Student Dev. 47 (2), 217–225.

Dugan, J.P., 2006b. Involvement and leadership: a descriptive analysis of socially responsible leadership. J. Coll. Student Dev. 47 (3), 335–343.

Dugan, J., 2006c. SRLS-rev 2: the Second Revision of SRLS. National Clearinghouse for Leadership Programs, College Park, MD.

Dugan, J.P., Komives, S.R., 2007. Developing Leadership Capacity in College Students: Findings from a National Study. A Report from the Multi-Institutional Study of Leadership. National Clearing house for Leadership Programs, College Park, MD.

Dugan, J.P., Komives, S.R., 2010. Influences on college students' capacity for socially responsible leadership. J. Coll. Student Dev. 51 (5), 525–549. https://doi.org/10.1353/csd.2010.0009.

Dugan, J.P., Komives, S.R., Segar, T.C., 2008. College student capacity for socially responsible leadership: understanding norms and influences of race, gender, and sexual orientation. NASPA J. 45 (4), 475–500. https://doi.org/10.2202/1949-6605.2008.

Dugan, J.P., Bohle, C.W., Woelker, L.R., Cooney, M.A., 2014. The role of social perspective-taking in developing students' leadership capacities. J. Student Aff. Res. Pract. 51 (1), 1–15. http://doi.org/10.1515/jsarp-2014-0001.

Foreman, E.A., Retallick, M.S., 2016. The Effect of undergraduate extracurricular involvement and leadership activities on community values of the Social Change Model. Nacta J. 60 (1), 86–92.

Hamann, A.M., 2016. College Experiences and the Socially Responsible Leadership Skills of Community College Students. (Downloaded). http://fisherpub.sjfc.edu/education_etd/266 Doctoral Dissertation. St. John Fisher College.

Higher Education Research Institute-HERI, 1996. A Social Change Model of Leadership Guidebook: Version III. University of California, Los Angeles, CA.

International Council of Nurses-ICN, 2011. Closing the Gap: Increasing Access and Equity. Downloaded 20161109. http://www.icn.ch/images/stories/documents/publications/ind/indkit2011.pdf.

International Council of Nurses-ICN, 2017. Nurses: A Voice to Lead – Achieving the Sustainable Development Goals. Downloaded 20170806. http://www.icn.ch/images/stories/documents/publications/ind/ICN_AVoiceToLead_guidancePack_EN_Lowres.pdf.

Jobe, A.C., Coale, M.M., Kolasa, K., Willis, L., Irons, T.G., 1993. Leadership development for medical students- beyond the prescription pad. Familiy Medicine 25, 179–181.

Kovar, K.A., 2014. Factors Influencing Socially Responsible Leadership Development in

College Students. University of Missouri, Columbia, Missouri Doctoral Dissertation.

Külekçi, E., 2015. An experimental study about developing undergraduate students' socially responsible leadership skills. Int. J. Eurasia Soc. Sci. 7 (22), 56–80 (in Turkish).

Külekçi, E., Özgan, H., 2015a. Congruence of the socially responsible leadership scale to Turkish: a validity and reliability study. J. Int. Educ. Sci. 2 (3), 61–82.

Külekçi, E., Özgan, H., 2015b. University students' perceptions on reasons and implications of their taking social responsibility. Anatolian J. Educ. Leadersh. Instruct. 3 (2), 1–15 (in Turkish).

Leung, J.Y.H., Cheung, R.W.L., Chow, H., 2015. University students' socially responsible values and capacities for service leadership. In: Shek, D.T.L., Chung, P. (Eds.), Promoting Service Leadership Qualities in University Students the Case of Hong Kong Quality of Life in Asia 6. Springer Science + Business Media Singapore, pp. 177–195. https://doi.org/10.1007/978-981-287-515-0.

Menard, S., 2010. Logistic Regression: from Introductory to Advanced Concepts and Applications. SAGE Publications, Thousands Oaks, CA, pp. 117.

National Qualifications Framework for Higher Education in Turkey-NQF-HETR (n.d). http://tyyc.yok.gov.tr/?pid=33 Downloaded 20181110.

Öner, C., 2014. Social determinants of health and quality of life relationship. Turkiye Klinikleri J Fam Med-Special Topics 5 (3), 15–18 (in Turkish).

Page, J.L., 2010. Activism and Leadership Development: Examining the Relationship between College Student Activism Involvement and Socially Responsible Leadership Capacity. Doctoral Dissertation. University of Maryland, College Park, Maryland.

Posner, B.Z., 2009. From inside out: beyond teaching about leadership. Journal of Leadership Education 8 (1), 1–10.

Read, C.Y., Pino Betancourt, D.M., Morrison, C., 2016. Social change: a framework for inclusive leadership development in nursing education. J. Nurs. Educ. 55 (3), 164–167. https://doi.org/10.3928/01484834-20160216-08.

Shariff, N., 2014. Factors that act as facilitators and barriers to nurse leaders' participation in health policy development. BMC Nurs. 13, 20. http://doi.org/10.1186/1472-6955-13-20.

SRLS Socially Responsible Leadership Scale (n.d). http://srls.umd.edu/about Downloaded 20181005.

The College of Family Physicians of Canada (CFPC), 2015. Best Advice Social Determinants of Health. Downloaded 20161109. http://patientsmedicalhome.ca/files/uploads/BA_SocialD_ENG_WEB.pdf.

The Ministry of Health of Turkey Health Statistics Yearbook, 2016. 2017, Ankara: Republic of Turkey Ministry of Health General Directorate of Health Research. 0 Downloaded 20181019. https://dosyasb.saglik.gov.tr/Eklenti/13160,sy2016enpdf.pdf?.

Thorpe, K., Loo, R., 2003. The values profile of nursing undergraduate students: implications for education and professional development. J. Nurs. Educ. 42 (2), 83–90.

Tyree, T.M., 1998. Designing an Instrument to Measure Socially Responsible Leadership Using the Social Change Model of Leadership Development. Doctoral Dissertation. University of Maryland, College Park, Maryland.

Wagner, W., 2006. The social change model of leadership: a brief overview. Concepts and Connections 15 (1), 8–10.