



Self-esteem analyses in people who are deaf or hard of hearing: a comparison between active and inactive individuals

Authors' Contribution:

A - Study Design
B - Data Collection
C - Statistical Analysis
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E - Funds Collection

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Abstract

The aim of the study was to analyse the status of SE in people who are deaf or hard of hearing (D/HH) and compare SE scores between active and inactive individuals. The sample of people who are D/HH (n=117) was divided into two groups of those who are regularly participating in sport (active; n=27) and those who are not participating in any sport in their leisure (inactive; n=90). The Rosenberg Self-Esteem Scale (RSES) was used as a primary research method. 10-item scale measures global self-worth by measuring positive and negative feelings about the self. Higher scores (from 10 to 40 points) indicate higher SE. The Pearson chi-square test was used to determine the differences of 10 RSES items and total scores between active and inactive people who are D/HH. We found that the mean score of RSES in the group of people who are D/HH was 28.83 points; active people who are D/HH observed total score of RSES 30.18 points and group of inactive people who are D/HH showed the lowest SE by achieving 28.89 points. Mean scores comparison of each RSES item between active and inactive people who are D/HH revealed higher SE in the group of active people with hearing loss. Significantly higher SE of active people who are D/HH was presented only by 1 from 10 RSES items. The results of our study confirmed that actively living people with hearing loss have higher SE comparing those who are living sedentary life style.

Key words: Rosenberg self-esteem scale, items, participation in sport, hearing loss.

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INTRODUCTION

A person who is not able to hear as well as someone with normal hearing – hearing thresholds of 25 dB or better in both ears – is said to have hearing loss. Hearing loss may be mild, moderate, severe, or profound. It can affect one ear or both ears, and leads to difficulty in hearing conversational speech or loud sounds [1].

Self-esteem (SE) is considered integral to the self-concept, and can be defined in terms of positive feelings about the self [2]. SE has become a household word. Teachers, parents, therapists, and others have focused efforts on boosting self-esteem, on the assumption that high self-esteem will cause many positive outcomes and benefits [3]. It is integral to an individual's sense of their own value [4, 5], a principal component of mental health [6], a strong indicator of a healthy lifestyle [7-9], and an important indicator of well-being [10, 11]. Although minority groups, like people with disabilities, often suffer stigmatization [6, 12] and poor SE [13], it is widely believed that membership of such a group has a protective effect on SE because of the tendency to identify with the minority group [14, 6].

One way of boosting SE is participation in sport [15, 16]. There are numerous benefits of sport participation in terms of both physical and psychological well-being (e.g., self-esteem). SE is an important psychological variable [17] and facet of personality [18] in competitive sport. Authors [18] demonstrated that individuals with higher SE tend to perceive competitive sport as challenging, whereas individuals with lower SE regard it as threatening. Although it is well known that participation in sport (at the recreational and elite level) can promote well-being not only among healthy athletes but also those with non-communicable diseases [19-21] and disabilities [22-24]. High-level competitive athletes participate in sport under conditions that present considerable physical and psychosocial stressors [25]. Elite athletes (healthy as well with disabilities) must continually strive for success in a highly competitive and stressful environment; thus, high-level competitive sport can have either a detrimental or beneficial influence on the wellbeing and health of athletes [26, 27].

Studies of SE in people who are deaf or hard of hearing (D/HH) suggest that the dominant hearing culture has relegated them to less valued social categories such as handicapped and outsider [28, 29]. Such prejudice, discrimination, and stigmatization are likely to be psychologically harmful [30, 31], a view echoed by Bat-Chava [32], who found that deaf individuals have reduced SE because of stigmatization of the Deaf community. According to the WHO, 'hard of hearing' refers to people with hearing loss ranging from mild to severe. People who are hard of hearing usually communicate through spoken language and can benefit from hearing aids, cochlear implants, and other assistive devices as well as captioning. People with more significant hearing losses may benefit from cochlear implants. 'Deaf' people mostly have profound hearing loss, which implies very little or no hearing. They often use sign language for communication [1]. For deaf people, sport participation can establish a sense of belonging to the Deaf community because many deaf athletes do not use hearing aids or cochlear implants to communicate with hearing people, preferring to use sign language with other deaf athletes [33, 34]. Bat-Chava [32] found evidence that positive school experiences are linked to higher SE for deaf children. However, few studies have investigated the broader psychosocial outcomes of sport for deaf people [35].

Considering the previous research findings, the aim of our research was to determine the SE status in people who are D/HH; analyze SE total scores as well as Rosenberg Self-Esteem Scale items scores in two groups of active and inactive people who are D/HH and compare SE between actively living people who are D/HH and those who living sedentary life style (inactive).

METHODS

Participants and procedure

Group of people who are D/HH (n=117) were recruited for the study. The sample was divided into active participants (n=27) who regularly participated in physical activities and sports at least two times per week and inactive (n=90) who did not participate in any sport in their leisure time. Participants were contacted through representatives of national organisations and schools all around Slovakia unifying people with hearing loss. Questionnaires were filled out during meetings organised by national organisation in attendance of interpreter into the sign language. Pupils of special schools for children who are D/HH filled out the questionnaires during their classes with school principal permission in attendance of teachers who used sign language to help them complete the questionnaire. All participants with hearing loss agreed to participate in the study and gave their written informed consent.

The Rosenberg Self-Esteem Scale (RSES)

A 10-item scale that measures global self-worth by measuring both positive and negative feelings about the self: (1) On the whole, I am satisfied with myself; (2) At times I think I am no good at all; (3) I feel that I have a number of good qualities; (4) I am able to do things as well as most other people; (5) I feel I do not have much to be proud of; (6) I certainly feel useless at times; (7) I feel that I'm a person of worth, at least on an equal plane with others; (8) I wish I could have more respect for myself; (9) All in all, I am inclined to feel that I am a failure; (10) I take a positive attitude toward myself [36]. The RSES is believed to be uni-dimensional. All items are answered using a 4-point Likert scale format ranging from strongly agree to strongly disagree. Items 2, 5, 6, 8, 9 are reverse scored. Scale format ranging is categorised as follows: "Strongly Disagree" (SD) - 1 point, "Disagree" (D) - 2 points, "Agree" (A) - 3 points, and "Strongly Agree" (SA) - 4 points and the scores summate for all ten items (total score). Higher scores (of each item as well as of total score) indicate higher SE. In this study a Slovak version of the RSES was used [37].

Data analyses

Statistical analysis was performed using SPSS v. 15.0. Qualitative variables are presented as proportion and percentage. Quantitative variables are presented as mean. Pearson chi-square test was used to determine the differences between the two groups (active and inactive) of people who are D/HH. In current study, only one measurement has been made and one main group formed the study. The level of statistical significance was set at $p < 0.05$.

RESULTS

Participants

In the research participated 23.1 % of actively living people who are D/HH (active) and 76.9 % inactive individuals who are D/HH. The active group of participants is presented by higher number of men (59.3 %) in range of 15-29 years of age (48.1 %). On the other hand the highest number of inactive people who are D/HH was represented mostly by women (60.0 %) in range of 30-44 years of age (43.3 %). The highest numbers of participants of both evaluated groups were totally deaf with hearing loss range 91+ dB. Basic participant's characteristics are presented in Table 1.

Table 1. Data of the 117 participants.

Basic characteristics of participants		Sport participation of people who are D/HH n (%)	
		Active	Inactive
		27 (23.1)	90 (76.9)
Gender	Men	16 (59.3)	36 (40.0)
	Women	11 (40.7)	54 (60.0)
Age	Range 15-29 yrs	13 (48.1)	24 (26.7)
	Range 30-44 yrs	7 (25.9)	39 (43.3)
	Range 45-59 yrs	3 (11.2)	19 (21.1)
	Range 60+ yrs	4 (14.8)	8 (8.9)
Degree of hearing loss	Moderately severe	9 (33.4)	17 (18.9)
	Severe	5 (18.5)	22 (24.4)
	Profound	13 (48.1)	51 (56.7)

RSES

The highest SE in the group of people who are D/HH was presented by item number 4 (3.334 points of the mean score), when 41.9 % of respondents strongly agreed and 49.6 % agreed that they are able to do things as well as most other people (table 2). High number of people who are D/HH declared high SE also by items number 7 (3.128 points of the mean score) and 2 (3.034 points of the mean score), when 22.2 % of them strongly agreed and 68.4 % agreed, that they are persons of worth, at least on an equal plane with others and 18.8 % of people who are D/HH strongly disagreed and 67.5 % disagreed, that at times, they think they are no good at all. People who are D/HH are able to do things as well as most other people, they feel that they are persons of worth, at least on an equal plane with others and they don't think they are no good at all.

On the other hand, the lowest SE of people who are D/HH was presented by item number 8 (2.521 of mean score points), when only 3.4 % of them strongly disagreed and 47.0 % disagreed, that they wish, they could have more respect for themselves (table 2). Low SE in people who are D/HH was presented also by item number 9 (2.889 of mean score points), when 28.3 % of people who are D/HH strongly agreed and agreed that all in all, they inclined to feel that they are a failure. People who are D/HH presenting their low SE by wishing they could have more respect for themselves and all in all, they are inclined to feel that they are a failure. People who are D/HH achieved 28.83 points of total RSES score.

Table 2. RSES analyses of people who are D/HH (n=117).

Nr	Item	Scale format ranging (%)				Mean
		SA	A	D	SD	
1	On the whole, I am satisfied with myself.	10.3	74.4	15.4	0.0	2.949
2	At times, I think I am no good at all.	1.7	12.0	67.5	18.8	3.034
3	I feel that I have a number of good qualities.	9.4	81.2	8.5	0.9	2.991
4	I am able to do things as well as most other people.	41.9	49.6	8.5	0.0	3.334
5	I feel I do not have much to be proud of.	0.0	15.4	70.9	13.7	2.983
6	I certainly feel useless at times.	0.9	12.0	72.6	14.5	3.009
7	I feel that I'm a person of worth, at least on an equal.	22.2	68.4	9.4	0.0	3.128
8	I wish I could have more respect for myself.	3.4	47.0	43.6	6.0	2.521
9	All in all, I am inclined to feel that I am a failure.	0.9	27.4	53.8	17.9	2.889
10	I take a positive attitude toward myself.	13.7	75.2	10.3	0.9	3.017
Total score						28.83

Possible item score range is 1-4 and possible total score range is 10-40; higher mean scores indicate higher SE.

The highest SE in actively living group of people who are D/HH was presented by item number 4 (3.400 points of the mean score), when 45.6 % of active respondents strongly agreed and 48.9 % agreed that they are able to do things as well as most other people (Table 3). High number of people who are D/HH declared high SE also by items number 7 (3.148 points of the mean score) and 2 (3.122 points of the mean score), when 25.9 % of them strongly agreed and 63.0 % agreed, that they are persons of worth, at least on an equal plane with others and 18.9 % of active people who are D/HH strongly disagreed and 74.4 % disagreed, that at times, they think they are no good at all. Actively living people who are D/HH are able to do things as well as most other people, they feel that they are persons of worth, at least on an equal plane with others and they don't think they are no good at all.

On the other hand, the lowest SE of active people who are D/HH was presented by item number 8 (2.533 of mean score points), when only 5.6 % of them strongly disagreed and 45.6 % disagreed, that they wish, they could have more respect for themselves (Table 3). Low SE in active people who are D/HH was further presented by item number 9 (2.911 of mean score points), when 26.7 % of them agreed that all in all, they inclined to feel that they are a failure. Actively living people who are D/HH presenting their low SE by wishing they could have more respect for themselves and all in all, they are inclined to feel that they are a failure.

Table 3. RSES analyses of active people who are D/HH (n=27).

Nr	Item	Scale format ranging (%)				Mean
		SA	A	D	SD	
1	On the whole, I am satisfied with myself.	12.2	74.4	13.3	0.0	2.989
2	At times, I think I am no good at all.	0.0	6.7	74.4	18.9	3.122
3	I feel that I have a number of good qualities.	10.0	81.1	7.8	1.1	3.000
4	I am able to do things as well as most other people.	45.6	48.9	5.6	0.0	3.400
5	I feel I do not have much to be proud of.	0.0	8.9	76.7	14.4	3.056
6	I certainly feel useless at times.	0.0	8.9	76.7	14.4	3.056
7	I feel that I'm a person of worth, at least on an equal.	25.9	63.0	11.1	0.0	3.148
8	I wish I could have more respect for myself.	3.3	45.6	45.6	5.6	2.533
9	All in all, I am inclined to feel that I am a failure.	0.0	26.7	55.6	17.8	2.911
10	I take a positive attitude toward myself.	13.3	77.8	8.9	0.0	3.044
Total score						30.18

Possible item score range is 1-4 and possible total score range is 10-40; higher mean scores indicate higher SE.

The highest SE in people who are D/HH living sedentary life style was presented by item number 7 (3.122 points of the mean score), when 21.1 % of inactive respondents strongly agreed and 70.0 % agreed that they feel that they are a persons of worth, at least on an equal plane with others (Table 4). High number of inactive people who are D/HH declared high SE also by item number 4 (3.111 points of the mean score), when 29.6 % of them strongly agreed and 51.9 % agreed, that they are able to do things as well as most other people. Inactive people who are D/HH feel that they are persons of worth, at least on an equal plane with others and are able to do things as well as most other people.

On the other hand, the lowest SE of inactive people who are D/HH was also presented by item number 8 (2.533 of mean score points) like in active group of people who are D/HH, when only 7.4 % of them strongly disagreed and 37.0 % disagreed, that they wish, they could have more respect for themselves (Table 4). Low SE in people who are D/HH leading sedentary life style was further presented by item number 2 (2.741 of mean score points), when 7.4 % of them strongly disagreed and 29.6 % of them agreed that at times, they think they are no good at all. Inactive people who are D/HH presenting their low SE by wishing they could have more respect for themselves and they think they are no good at all.

Table 4. RSES analyses of inactive people who are D/HH (n=90).

Nr	Item	Scale format ranging (%)				Mean
		SA	A	D	SD	
1	On the whole, I am satisfied with myself.	3.7	74.1	22.2	0.0	2.815
2	At times, I think I am no good at all.	7.4	29.6	44.4	18.5	2.741
3	I feel that I have a number of good qualities.	7.4	81.5	11.2	0.0	2.963
4	I am able to do things as well as most other people.	29.6	51.9	18.5	0.0	3.111
5	I feel I do not have much to be proud of.	0.0	14.4	73.3	12.2	2.978
6	I certainly feel useless at times.	3.7	22.2	59.3	14.8	2.852
7	I feel that I'm a person of worth, at least on an equal.	21.1	70.0	8.9	0.0	3.122
8	I wish I could have more respect for myself.	3.7	51.9	37.0	7.4	2.481
9	All in all, I am inclined to feel that I am a failure.	3.7	29.6	48.1	18.5	2.815
10	I take a positive attitude toward myself.	14.8	66.7	14.8	3.7	2.926
Total score						28.89

Possible item score range is 1–4 and possible total score range is 10–40; higher mean scores indicate higher SE.

Table 5. RSES differences between active and inactive people who are D/HH.

Item	Mean		χ^2	<i>p</i>
	Active (n=27)	Inactive (n=90)		
1	2.989	2.815	2.536	0.24
2	3.122	2.741	18.59**	0.00
3	3.000	2.963	0.719	0.94
4	3.400	3.111	5.378	0.35
5	3.056	2.978	1.141	0.61
6	3.056	2.852	7.287	0.14
7	3.148	3.122	0.476	0.82
8	2.533	2.481	0.648	0.79
9	2.911	2.815	3.618	0.20
10	3.044	2.926	4.419	0.16
Total score	30.18	28.89	8.021	0.07

Note. **level of statistical significance $p < .01$

RSES scores (item's as well total) between active and inactive people who are D/HH revealed higher SE in the group of active people who are D/HH, even only one (item number 2) from 10 items showed significant differences (Table 5). SE total score in active people who are D/HH of 30.18 points and inactive people who are D/HH of 28.9 points didn't present significant differences in SE between active and inactive people with HI. This observed data generally presented higher SE in the group of active people who are D/HH comparing inactive group of respondents, because all mean scores (item's as well total) were higher in the group of actively living people who are D/HH; 70 % of RSES mean score items in the group of active people who are D/HH exceed 3.000 points comparing inactive, where only 20 % of RSES exceed 3.000 points of the mean scores.

DISCUSSION

Although individuals with disabilities often report an absence of positive life experiences because of their disadvantaged social position [38], our results, among the others, also confirmed that regular participation in physical activity and sport is the ideal tool to increase SE not only in healthy population but also in people with disabilities.

The results of our study presented: (a) the status of RSES in people who are D/HH; (b) the SE status of those who regularly participating in physical activity and sport; (c) the SE of

people who are D/HH who not participating in any sport in their leisure time and (d) the RSES comparison between active and inactive individuals who are D/HH.

The mean score of RSES in people who are D/HH was 28.83 points, active people who are D/HH reached totally 30.18 points of RSES score of and group of inactive people who are D/HH achieved the lowest SE total score of 28.89 points. King et al.'s [39] study showed the lack of difference between SE scores in disabled and healthy individuals and based on their results suggested that clinical care approach not to be determined assuming that disabled people have lower SE.

Data analyses of the current study have showed that people who are D/HH in general, and actively living people with HI presented high SE by the same RSES items. They are able to do things as well as most other people, they feel that they are persons of worth, at least on an equal plane with others and they don't think they are no good at all. Inactive people who are D/HH feel that they are persons of worth, at least on an equal plane with others and are able to do things as well as most other people. Findings further presents, that the lowest SE in all evaluated groups of people who are D/HH, no matter if they participating in sport or not, was declared by wishing they could have more respect for themselves.

Heydari et al. [40] showed the difference of SE between disabled and normal students. They found that SE and life satisfaction (LS) is lower in physically disabled people than in normal people. Similar study of Bendíková & Nemček [21] presented the comparison of LS scores between active and inactive healthy participants (HP; n=313) and active and inactive people with noncommunicable diseases (NCDs; n=351). The results of the study demonstrate no significant differences in LS score between active and inactive HP none in one evaluated LS statement neither in overall LS score but the mean scores of all assessed LS statements as well as total mean score pointed to higher LS in group of active HP comparing inactive HP. On the other hand, the LS of active people with NCDs was significantly higher presented by all five statements scores and the overall LS score too.

Another investigation confirmed the lowest SE in the group of sedentary people with disabilities [41] and the highest SE in the group of active HP [21]. Nemček [42] surveyed people with different kinds of disabilities and found no significant differences between genders in SE score, but mean scores declared higher SE in women than men. Differences between active and sedentary people with disabilities show that those, who prefer active life style and participating in sport (elite and sport for all levels) are more satisfied with their life than those, who are not participating in sport at all [43].

CONCLUSION

Based on the aim of the current study, we found that:

- People who are D/HH and actively living people with hearing loss are able to do things as well as most other people. Inactive people who are D/HH declare the highest SE by feeling feel that they are persons of worth, at least on an equal plane with others.
- The lowest SE in all evaluated groups of people who are D/HH, no matter if they participating in sport or not, was declared by wishing they could have more respect for themselves.
- Mean scores of each RSES item as well as of RSES total score point to higher SE in actively living people who are D/HH. Significantly higher SE showed active group of people who are D/HH only in one RSES item.

Generally we can say that the evaluation of SE by the RSES items shows that it is a suitable tool to asses SE in the population with disabilities. The results of our study, mostly mean scores confirmed, that active people who are D/HH achieving higher SE by analyses of RSES items. We recommend, that it is essential to increase participation in sports, because such participation

can empower people with disabilities to set and attain goals and reach a higher SE and quality of life on their own terms.

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