# SUBJECTIVE DISCOMFORTS IN ADULT WOMEN IN RELATION TO CHRONOLOGICAL AGE AND ENGAGEMENT IN KINESIOLOGICAL ACTIVITIES

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## Abstract

A set of 15 variables was used in a sample of 134 women in order to assess their subjective experience of health. In addition, a variable assessing engagement in sport activities and the information on chronological age were also used.

By using a regression analysis in a manifest and latent space with the data first transformed into the image form, the relation of subjective health experience compared to chronological age was established.

The results showed that for the adequate sport recreational programme it is essential to get information on health condition from the subjective assessment of the participants themselves.

**Keywords:** women, questionnaire, health

## Zusammenfassung

### Durch Alter bestimmte und von Ausübung der heilgymnastischen Tätigkeiten abhängende Selbsteinschätzung der persönlichen Beschwerden von erwachsenen Frauen

Auf Muster von 134 Frauen wurde ein Fragebogen aus 15 Variablen zur Selbsteinschätzung des gesundheitlichen Wohlfühlens überhaupt und nach den sportlichen Tätigkeiten erarbeitet, und durch Altersangaben erweitert.

Dabei wurden die Zusammenhänge zwischen der ganz persönlichen Einschätzung des gesundheitlichen Wohlfühlens einerseits und dem Alter und sportlichen Aktivitäten anderseits, aufgrund der Anwendung von Regressionsanalyse im manifesten und latenten Raum festgestellt, wobei die Angaben eigentlich aus angebotenen Image-Fragen hervorgingen.

Um die erholungsportliche Programme entsprechend zu gestalten - was die Endresultaten deutlich zeigen - ist es notwendig, auch die Angaben über die Selbsteinschätzung des allgemeinen Wohlfühlens der Teilnehmmerin selbst zu verfügen.

**Schlüsselwörter:** Frauen, Fragebogen, Erholungssport, gesundheitliches Wohlfühlen

## Introduction, problem and objective

A modern way of life and work in a psychophysical sense requires a much greater engagement of a mental component. The physical component has been neglected and the results are various alterations in the locomotor system. Since a human being functions in balance with their psychophysical characteristics, it is to be assumed that by affecting one set of characteristics and abilities, the other one will also be affected to a greater or lesser degree.

Since we believe that in modern man the physical abilities have been damaged, the evidence being quite frequent disturbances of the locomotor system, this paper focuses on the problem of physical changes and their impact on the mental condition reflected in the subjective evaluation of the participants in the investigation.

Subjective opinions concerning one's own health were used in order to make the picture of the initial women's condition more complete.

The objective of the paper is to investigate the relations between on the one hand the subjective opinions on the participants' health and their chronological age and on the other hand their engagement in kinesiological activities.

## Methods

The KORPOFIT program has been designed as a kinesiological and recreational programme the aim of which is to prevent any negative consequences of modern life, the elimination of discomforts and pains caused by such a life, strengthening one's organism as a whole, relaxation and satisfaction of the participants.

The group of variables consisted of 17 questions of a binary type. The variables provide three categories of information: subjective condition, somatic pains, engagement in sport activities and the chronological age:

| Are you often: | Do you often suffer from: |
|---|---|
| 1. tense (PNAP) | 7. pain in the eyes (BOCI) |
| 2. anxious (PNEM) | 8. headache (BGLA) |
| 3. tired (PUMO) | 9. back ache (BKRA) |
| 4. angry (PLJU) | 10. leg pain (BNOG) |
| 5. lonely (POSA) | 11. stomachache (BZEL) |
| 6. unable to concentrate (PKON) | 12. insomnia (PSPA) |
| | 13. shortage of time (PVRE) |
| | 14. unreasonable fear (PSTR) |
| | 15. Do you often use medications (PLIJ) |
| | ***16. Chronological age*** (AGOD) |
| | ***17. Engagement in sports activities*** (KSPO) |

The data concerning the subjective health experiences of the potential participants in the recreation programme have been obtained. The data were crucial for designing the recreational programmes.

The initial data were transformed into image-form in order to eliminate the data that cannot be controlled, and the correlation and latent dimensions were calculated. The relations of chronological age and engagement in sport activities were computed by using the regression analysis. In this way the useful information to be able to draw conclusions was maximized.

## Results and Discussion

In Table 1 the subjective opinions are manifested in three latent dimensions.

The first characteristic has been described by BZEL, PSTR, PKON, BLJU, and BGLA.variables. It might be assumed that a headache and stomachache are caused by different reasons, and that anger and secondary aggression can cause somatic discomfort. However, the dominant characteristics are a lack of concentration and indefinable fear.

The second factor is characterized by the lack of concentration, chronical tiredness and leg pain. The third factor is characterized by symptoms related to the pain in the eyes, consumation of medications, drug addiction, back ache, insomnia, loneliness and tension.

*Table 1 A Set of Obliquely Rotated Factors and Factor Correlation*

| | F1 | F2 | F3 |
|---|---|---|---|
| PNAP | .19 | .18 | (.57) |
| PNEM | .34 | .11 | (.62) |
| PSTR | (.79) | -.03 | .24 |
| PUMO | .11 | (.78) | .01 |
| PVRE | .03 | (.98) | -.38 |
| PSPA | .22 | .08 | (.68) |
| PLIJ | .08 | -.09 | (.81) |
| PLJU | (.65) | .35 | .13 |
| PKON | (.69) | .35 | .01 |
| POSA | .25 | -.22 | (.83) |
| BOCI | -.22 | -.21 | (.87) |
| BGLA | (.61) | -.36 | .29 |
| BKRA | -.51 | .42 | (.70) |
| BNOG | -.06 | (.60) | .41 |
| BZEL | (.95) | -.02 | -.30 |

| | F1 | F2 | F3 |
|---|---|---|---|
| F1 | 1.00 | .16 | .47 |
| F2 | .16 | 1.00 | .42 |
| F3 | .47 | .42 | 1.00 |

Viewed from the factor analysis aspect the group of psychosocial discomforts seems at the first sight heterogeneous. However, in this context one should not forget the relation *individual - environment*.

It is obvious that in the different phases of her life a woman displays different rates of activity, and with age the physical activity decreases in favour of more passive activities (Štuka, 1985). In this respect the environment with its value system and expectatious (family, professional career) is a very important factor. An individual is under the influence of numerous factors pertaining to education, socialization and other factors.

Hence, it might be expected that women in their more mature age will accept more and more conventions and criteria of their environment, which is known as the process of socialization and adaptation.

By using regression analysis based on the data transformed into image form, and correlation and prediction in multivariate space the noise generators have been eliminated (Table 2).

Beta coefficients in the prediction of variable AGOD create 3 groups of identifiable variables. BNOG, PNAP and PKON display significant and positive values. BGLA, POSA, BOCI, PVRE and PLJU display significant and negative values.

Positive beta coefficients show the dominant characteristics of the ageing process as a consequence of other factors and since the subjects are aged 20 to 50, it might be asserted that the sample is clearly defined by negative beta coefficients. In other words the working ability decreases, and one can assume that ambitions and engagement related to a career also decrease, the result of which might be a slight headache or pain in the eyes. There is no shortage of leisure time but the feeling of loneliness appears.

Physical activity decreases with age and passive activities take over. Adaptation to the decreased physical activity by ageing becomes more pronounced. The question is whether this is the right kind of adaptation and whether it is acceptable at all.

*Table 2. Regression analysis of AGOD and KSPO variables in the manifest and latent space; correlation of predictors with (R) criterion, beta (B), significance of (B) coefficient (Q), determination coefficient (D), multiple correlation (RO), F-test (F), degree of freedom (D1, D2), probability (V)*

Manifest space

| | AGOD | | | | KSPO | | |
|---|---|---|---|---|---|---|---|
| | R | B | Q | | R | B | Q |
| PNAP | .35 | .63 | .00 | PNAP | -.64 | -.27 | .05 |
| PNEM | .10 | .10 | .66 | PNEM | -.51 | .98 | .00 |
| PSTR | .24 | .50 | .19 | PSTR | -.22 | .97 | .01 |
| PUMO | .43 | .07 | .54 | PUMO | -.51 | -.65 | .00 |
| PVRE | .41 | -.46 | .00 | PVRE | -.33 | .43 | .00 |
| PSPA | .16 | -.13 | .16 | PSPA | -.37 | .96 | .00 |
| PLIJ | .10 | .23 | .27 | PLIJ | -.46 | -.95 | .00 |
| PLJU | .43 | -.30 | .04 | PLJU | -.44 | -.10 | .50 |
| PKON | .26 | .59 | .00 | PKON | -.17 | -.68 | .00 |
| POSA | .03 | -.81 | .00 | POSA | -.36 | -.26 | .02 |
| BOCI | -.26 | -.50 | .00 | BOCI | -.18 | .53 | .00 |
| BGLA | -.16 | -.76 | .01 | BGLA | -.05 | -.97 | .00 |
| BKRA | .13 | -.09 | .30 | BKRA | -.71 | -.80 | .00 |
| BNOG | .59 | .71 | .00 | BNOG | -.64 | -.54 | .00 |
| BZEL | .21 | .10 | .30 | BZEL | .17 | -.02 | .83 |
| D = .86 | RO = .93 | F = 48.25 | | D = .87 | RO = .93 | F = 53.74 | |
| D1 = 15 | D2 = 118 | P = 0.000 | | D1 = 15 | D2 = 118 | P = 0.000 | |

Latent space

| | AGOD | | | | KSPO | | |
|---|---|---|---|---|---|---|---|
| | R | B | Q | | R | B | Q |
| FAC1 | .24 | .26 | .00 | FAC1 | -.17 | .29 | .00 |
| FAC2 | .57 | .65 | .00 | FAC2 | -.60 | -.41 | .00 |
| FAC3 | .12 | -.33 | .00 | FAC3 | -.60 | -.58 | .00 |
| D = .39 | RO = .63 | F = 28.17 | | D = .55 | RO = .74 | F=52.01 | |
| D1 = 3 | D2 = 130 | P = 0.000 | | D1 = 3 | D2 = 130 | P=0.000 | |

The regression in the latent space not only supports these results but also stresses them in proportion to beta coefficients values.

The positive beta coefficient of the second factor relates to the problem in reduced communication and informs us of the outset of a hardly acceptable process that exists in younger age but that is not apparent at that age. The first factor supports this statement, however the position of variables PSTR, PKON and OLJU also testifies to the approach of accepting the status quo, one explanation being the avoidance of conflicts. Such doubts and dissatisfaction might result in anger.

The third factor represents a structure that tends to stability. It is characterized by numerous subjective discomforts.

Based on the described relations to chronological age it is to be expected that, first, the level of communication will be reduced, then the processes of adaptation and latency would follow with the consequences which will in the final stage tend towards the determination of the individual behaviour caused by the environmental influence, and consequently to numerous obvious subjective discomforts (Gruden, 1992).

Regression of KSPO variable completely supports such considerations. In the manifest space most variables have a significant beta coefficient. The most pronounced on the positive pole are PNEM, PSTR, PSPA, BOCI and PVRE and on the negative one BGLA, PLIJ, BKRA, PKON, PUMO and BNOG.

Psychosomatic consequences of reduced activity with a prevalence of drug taking and headaches are identifiable on the negative pole. In the regression function, however, positive projections of anxiety, fear, insomnia and lack of time come as a surprise. It seems that these discomforts increase proportionally to engagement in sport. However, since these are logical predictors they can be viewed as motivational impulses driving kinesiologic engagement. This essentially means that middle-aged women try to solve their problems by doing exercises (Popović, 1989; Daniels, 1980).

The awareness of the possibility of meeting biological, mental and social needs by recreational exercises may improve personal activity, communication with one's environment and consequently the quality of life (Relac, 1978; Medved, 1978).

In this way discomforts accumulated on the negative side of the regression function should lose some of their importance.

The regression in the latent space is clearer if we remember the same function in the chronological age. The first factor means communication (kinesiological and recreational) as a consequence of the way of life. The second factor is in a way an awareness of unacceptable adaptation. Sport is actually the factor capable of weakening the structure tending to a closure of an individual to a maximum degree. Sport is at the same time the factor opposing loss of concentration, the fact that is evident from the third factor beta coefficient.

From the correlation of two criteria variables amounting to -.43 it is evident that the kinesiological engagement decreases with age, the fact that can be understandable but not acceptable.

Sport recreational programmes are a valuable activity whereby many objectives with positive consequences

related to health can be achieved. However, it must be pointed out that subjective condition has its origin in the mental and social relations of an individual towards their environment. Only after an insight into the subjective status has been achieved, it is possible to design quality recreational programmes. On the contrary, the programmes, no matter how good they are, might be overcome by influences a great number of which have been considered in this paper (Andrijašević, 1995).

## Conclusion

A set of 15 variables was used in a sample of 134 women in order to assess their subjective experience of health. In addition, a variable assessing engagement in sport activities and the information on chronological age were also used.

By using a regression analysis in a manifest and latent space with the data first transformed into the image form, the relation of subjective health experience compared to chronological age was established.

Based on the obtained results an assumption was made that properly designed recreational programmes should not forget an intensive initial analysis of an individual in order to define the purpose and objective of the kinesiological communication and activity as principal guidelines of one's mental and physical health. Kinesiological activity has a powerful motivational function, the assumption on which to build a system the aim of which should be the prevention of unacceptable adaption in a sense of accepting passivity in all phases of life.

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