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Self-rated health and physical activity in the European Union

Summary

Objectives: This article is the first in a series of four that present data about physical activity in the 15 member states of the European Union collected by the Eurobarometer 58.2. On a descriptive and multivariate level, the analysis investigates the relationship between physical activity and self-rated health in the different nations.

Methods: Data were collected in 2002 as part of the Eurobarometer by face-to-face interviews. A total of 16 230 respondents age 15 years and older were interviewed. Sample sizes ranged about 1 000 respondents in most nations. Physical activity status (insufficiently active, sufficiently active, and highly active) was assessed using the last 7-days short-version of the International Physical Activity Questionnaire (IPAQ).

Results: On a descriptive level of analysis, results indicated positive relationships between physical activity status and self-rated health across populations subgroups as divided by age, gender, income, and educational attainment. Also on a multivariate level of analysis, physical activity status was significantly related to a better self-rated health. In an analysis on the national level, some variations in the predictive power of physical activity status for self-rated health could be observed.

Conclusion: Results provide some indication for a positive relationship between physical activity, as assessed with the IPAQ, and self-rated health. That in most nations sufficient levels of physical activity were not positively related to self-rated health might be explained by difficulties in assessing moderate forms of physical activity, and also differences of the context (at home, for leisure, at work, for transportation) where physical activity takes place.

Keywords: Physical activity – Self-rated health – Subjective health status – International Physical Activity Questionnaire.

The recommendations for physical activity have shifted in the last decade. While in the 1990s the focus of public health recommendations on physical activity was on 3–5 exercise bouts per week (American College of Sports Medicine 1978; 1990), since 1995 (Pate et al. 1995) "health-enhancing physical activities" of moderate intensities are recommended. These health enhancing physical activities are defined as "…any physical activities that benefit health and functional capacity without undue harm and risk" (Foster 2000), and include not only traditional forms of exercise but also activities such as brisk walking, gardening or window washing. These shift in recommendations followed study results that indicated that already moderate levels of intensity of physical activity can yield important health benefits (Blair et al. 1992; Pate et al. 1995), and that these health benefits arise predominantly through the increased caloric expenditures of physical activity. This led to the conclusion that, beside traditional forms of exercise, also physical activities in other contexts (e.g., at home, for transportation, at work) would produce important health benefits.

Following these shift in public health recommendations for physical activity, there have been made international efforts to develop standardized measurement instruments for physical activity that allow for the assessment of physical activity of different intensities, and across different contexts. One of the instruments that fulfil these criteria is the International Physical Activity Questionnaire (IPAQ) (Craig et al. 2003). The IPAQ assesses the amount of vigorous and moderate physical activity, and walking across different contexts in the last seven days, and can be used to calculate metabolic equivalents for respondents. Since the IPAQ is a relatively new instrument it has been used in a limited number of international research projects, and its measurement properties are yet not fully understood (Rütten et al. 2003a; 2003b). This pertains, beyond measurement properties of the IPAQ, also

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to the predictive power that the IPAQ has as a determinant of an individual's health (Rütten et al. 2003b).

The purpose of this article is twofold. Firstly, to present data on the relationship between physical activity, as assessed with the IPAQ, and self-rated health for sociodemographic population subgroups across the European Union. And secondly, to compare the effects of physical activity, as assessed with the IPAQ, on self-rated health across nations. Using a large cross-national sample, this article intends to contribute to the understanding of physical activity as a determinant of health status across the member states of the European Union.

The use of self-rated health as an indicator seems to be justified because of the well-known validity of this question as a predictor of mortality (Idler & Benyamini 1997). While a number of studies have shown that positive relationships between self-rated health status and physical activity do exist (Norman et al. 2002), the effect of physical activity including moderate intensity and across contexts, as assessed by the IPAQ, on self-rated health is not fully understood. Physical activity of moderate intensity is in general associated with a lower overall mortality (Paffenbarger et al. 1993; Lee & Skerret 2001), lower risks of coronary heart disease, cardiovascular disease or stroke (Blair et al. 2001) and a number of other health benefits (US Department of Health and Human Services 1996; Sallis & Owen 1998; US Department of Health and Human Services 2002) its relationship with self-rated health is, however, less clear.

While there have been some studies that compare levels of physical activity across the European Union (Martinez-Gonzalez 1999), this one is the first to report data on the relationship between physical activity and self-rated health for all member states. Using data from 15 nations, it enables the comparison of the effects of physical activity across contexts on an important health measure. Such knowledge is important for the future development of public health recommendations in regard to physical activity.

Methods

Data were collected between October and December of 2002 as part of the Eurobarometer 58.2. The Eurobarometer is conducted since 1970 and has, in the meantime, provided valuable cross-national data on a wide variety of topics (Mossialos & King 1999). The Eurobarometer 58.2 dealt with questions on smoking, environmental pollution, health status, mental health, physical activity, and developmental aid. Fieldwork was carried out in the 15 member states of the European Union by a consortium of market and public opinion research agencies (INRA; GfK Worldwide).

The population covered by the Eurobarometer were women and men aged 15 years and older of the nationalities of the European Union. Data were collected by personal interviews. In all countries, a multi-stage, random sample design was applied. Within the sample framework, for each nation a number of sample points was drawn with the probability for each sample point being proportional to population size and population density. These sampling points were drawn systematically for the existing national administrative units. Sampling points consisted of a randomly drawn starting address, and further addresses were drawn by a standard random route procedure. Within the household, respondents were drawn at random. The realized sample sizes for each nation were: Belgium (1 110), Denmark (1 000), eastern Germany (1 020), western Germany (1 022), Greece (1 003), Spain (1 000), France (1 037), Ireland (1 013), Italy (1 027), Luxembourg (602), the Netherlands (1 035), Austria (1 023), Portugal (1 002), Finland (1 024), Sweden (1 000), Great Britain (1 010), Northern Ireland (302). Across nations, the mean response rate for the face-to-face interviews was 54.6 %.

Physical activity was assessed using the last 7-days short-version of the International Physical Activity Questionnaire (IPAQ). The IPAQ has been tested for reliability and validity in a cross-national study (Craig et al. 2003). The IPAQ measures the frequency, duration, and level of intensity of physical activity in the last seven days across all contexts. The last 7-days short-version does not allow the separation of physical activities performed in different contexts. Physical activity status (insufficiently active, sufficiently active, highly active) was calculated following guidelines that have been set out by the IPAQ Executive Committee for the last 7-days short-version (IPAQ Executive Committee 2003). Recommendations for the truncation of data were not applied.

Following these guidelines, individuals are sufficiently active if they have performed a minimum of three days of vigorous activity of at least 20 minutes per day, or a minimum of five days of moderate intensity physical activity or walking of a least 30 minutes per day, or a minimum of five days of any combination of walking, moderate or vigorous physical activity accumulating a total of at least 600 MET-min/week. Individuals are highly active if they have performed vigorous physical activity on a minimum of three days accumulating at least 1 500 MET-min/week, or a minimum of seven days of any combination of walking, moderate or vigorous physical activity accumulating a total of at least 1 500 MET-min/week. Individuals that do not meet these criteria are insufficiently active. The physical activity related energy expenditures (MET-min/week) were calculated by following existing guidelines (Ainsworth et al. 2000). For vigorous physical activity, the total minutes per week were multiplied with the

Table 1 Percentage of individuals age 15 years and older who report good or very good self-rated health status according to physical activity status, sociodemographic characteristics, and nation (95 % CI)

	n	Insufficiently active	Sufficiently active	Highly active
All	15 476	59.6 (58.3–61.0)	69.8 (68.3–71.3)	77.8 (76.8–78.8)
Gender				
Female	8 328	57.8 (56.0–59.6)	68.7 (66.7–70.7)	75.8 (74.3–77.2)
Male	7 148	62.1 (60.0–64.2)	71.1 (68.9–73.4)	79.8 (78.4–81.2)
Age				
15–24	2 350	83.8 (80.7–87.9)	87.0 (84.1–89.9)	89.9 (88.3–91.6)
25–39	4 267	78.1 (75.9–80.4)	82.6 (80.2–85.1)	86.6 (85.1–88.0)
40–54	3 827	65.9 (63.2–68.6)	68.5 (65.4–71.5)	76.3 (74.3–78.3)
55+	5 032	37.9 (35.8–40.0)	54.1 (51.3–56.9)	59.9 (57.6–62.2)
Gross household income				
––	2 633	41.4 (38.4–44.5)	55.3 (51.3–59.4)	67.3 (64.4–70.2)
–	2 714	56.1 (52.8–59.4)	64.9 (61.1–68.7)	72.6 (70.2–75.1)
+	2 512	64.9 (61.4–68.4)	70.6 (67.0–74.3)	78.9 (76.6–81.3)
++	2 477	74.3 (71.0–77.5)	79.5 (76.2–82.7)	83.6 (81.5–85.7)
Age when finished full–time education				
Up to 15	4 000	40.0 (37.7–42.4)	54.5 (51.3–57.8)	60.6 (58.0–53.1)
16–19	6 040	65.3 (63.2–67.4)	71.9 (69.5–74.3)	79.3 (77.8–80.8)
20 and older	3 893	70.3 (67.7–73.0)	74.0 (71.2–76.8)	82.9 (81.2–84.7)
Still studying	1 543	85.8 (81.9–89.6)	89.2 (86.0–92.4)	91.4 (89.5–93.2)
Smoking				
Never, occ.	10 628	58.2 (56.6–59.9)	69.1 (67.3–70.9)	77.8 (76.6–79.0)
Regularly	4 815	62.7 (60.3–65.1)	71.2 (68.5–73.9)	77.9 (76.1–79.6)
Nation				
Austria	974	68.2 (63.5–72.8)	79.4 (74.0–84.9)	87.2 (83.8–90.6)
Belgium	1033	61.4 (56.8–66.0)	73.2 (67.3–79.1)	81.3 (77.4–85.3)
Denmark	971	64.8 (58.7–71.0)	73.8 (68.2–79.5)	81.9 (78.5–85.3)
Finland	997	51.0 (44.7–57.3)	56.9 (51.2–62.7)	69.9 (65.7–74.1)
France	1 007	62.6 (58.1–67.2)	72.7 (66.9–78.5)	78.6 (74.2–83.0)
Germany (West)	948	47.5 (41.3–53.6)	54.0 (46.8–61.1)	67.3 (63.1–71.4)
Germany (East)	952	47.4 (41.1–53.6)	52.5 (45.5–59.4)	64.0 (59.8–68.2)
Great Britain	990	52.7 (47.6–57.8)	76.3 (70.7–82.0)	80.6 (76.7–84.5)
Greece	982	74.9 (70.1–79.7)	83.0 (77.5–88.5)	83.7 (80.4–87.0)
Ireland	1 002	76.7 (72.2–81.1)	84.5 (79.9–89.1)	96.8 (95.1–98.5)
Italy	950	53.0 (47.8–58.3)	64.3 (58.2–70.4)	70.0 (65.2–74.8)
Luxembourg	575	66.9 (59.6–74.2)	70.3 (62.3–78.3)	82.8 (78.3–87.2)
Netherlands	968	67.3 (60.8–73.9)	76.3 (69.9–82.6)	79.6 (76.4–82.9)
Northern Ireland	297	66.0 (58.2–73.7)	76.9 (65.1–88.8)	85.7 (78.7–92.8)
Portugal	935	28.5 (23.5–33.5)	49.8 (42.9–56.6)	62.9 (58.1–67.6)
Spain	924	68.5 (63.3–73.8)	78.9 (73.7–84.0)	85.0 (81.4–88.7)
Sweden	970	57.6 (52.3–63.0)	69.6 (64.3–74.8)	76.9 (72.4–81.4)

factor 8, for moderate physical activity with the factor 4, and for walking with the factor 3.3. The sum of these three products are the MET-min/week.

In the analysis, the monthly gross household income is presented as the national income quartile that the respondent belonged to; "––" refers to the lowest national quartile, "+ +" to the highest national quartile. Self-rated health status was assessed with the question: "How is your health in general?" Answer categories were "very good", "good", "fair", "bad", and "very bad". In the analysis, respondents who reported a "very good" to "good" health status were compared to respondents who reported a "fair" to "very bad" health status. The question on self-rated health has shown to be a good predictor of an individual's overall health status in a number of studies (Idler & Benyamini 1997).

In the multivariate part of the analysis, a series of logistic regression models were calculated, with self-rated health being the dependent variable. Those models were adjusted for the variables gender, age, income, educational status, smoking status, and nationality. Respondents who reported having been severly restricted in doing certain activities due to health problems in the past six months (n = 1104) were excluded from the analysis. In the latter part of the analysis, the regressions were split by nation, to allow for a comparison of the odds ratios for the different physical activity levels (sufficiently active and highly active compared to insufficiently active) on self-rated health. For the sampling units Luxembourg and Northern Ireland this step was not performed, due to the smaller sample sizes in these nations.

Table 2 Odds ratios and 95 % CI for self-rated health as good or very good vs fair to bad [1]

		Adjusted OR	CI 95 %	p-value
Gender				
	Male	1.00		
	Female	0.85	0.77–0.94	0.001
Age	15–24	1.00		
	25–39	0.87	0.69–1.11	0.261
	40–54	0.45	0.35–0.57	<0.001
	55+	0.23	0.18–0.29	< 0.001
Income quartile				
	––	1.00		
	–	1.37	1.19–1.56	< 0.001
	+	1.63	1.41–1.89	< 0.001
	++	2.07	1.77–2.43	< 0.001
Age when finished education				
	Up to 15 years	1.00		
	16–19 years	1.46	1.28–1.67	< 0.001
	20+ years	1.79	1.53–2.09	< 0.001
	Still studying	2.17	1.60–2.93	< 0.001
Smoking				
	Never or occasional	1.00		
	Regular	0.79	0.70–0.88	< 0.001
Physical activity status				
	Insufficiently active	1.00		
	Sufficiently active	1.41	1.23–1.60	< 0.001
	Highly active	1.82	1.62–2.05	< 0.001
Nation	Germany (West)	1.00		
	Austria	2.77	2.09–3.66	< 0.001
	Belgium	1.14	0.85–1.51	0.381
	Denmark	2.12	1.63–2.76	< 0.001
	Finland	0.89	0.70–1.13	0.348
	France	1.57	1.22–2.02	0.001
	Germany (East)	0.80	0.63–1.02	0.068
	Great Britain	1.61	1.22–2.12	0.001
	Greece	2.92	2.21–3.86	<0.001
	Ireland	5.07	3.50–7.34	< 0.001
	Italy	0.94	0.72–1.23	0.656
	Luxemburg	1.66	1.20–2.31	0.003
	Netherlands	2.18	1.64–2.90	< 0.001
	Northern Ireland	1.81	1.17–2.81	0.008
	Portugal	0.53	0.41–0.68	< 0.001
	Spain	2.44	1.82–3.26	< 0.001
	Sweden	1.60	1.25–2.06	< 0.001

[1] Adjusted for gender, age, income, educational status, smoking and nationality. Respondents who reported having been severly restricted in doing certain activities due to health problems in the past six months were excluded

Results

A total of 16 230 interviews were conducted in the member states. Table 1 presents the percentage of respondents who evaluated their health as being "very good" or "good" according to physical activity status, sociodemographic characteristics and nation. Overall, 59.6 % of those who were insufficiently active had a good self-rated health status, while 69.8 % of those who were sufficiently active had a good self-rated health status, and 77.8 % of those who were highly active had a good self-rated health.

Across all age groups, those who were sufficiently active rated their health better than those who were insufficiently active, and those who were highly active rated there health better than those who were sufficiently active. The rate of respondents who reported good self-rated health increased by physical activity status among the different gross household income groups, and the different educational status groups. In all nations, respondents who were sufficiently active or highly active were more likely to report a good self-rated health status compared to those being insufficiently active. Across nations, the percentage of respondents who reported good self-rated health varied widely.

Table 2 presents results for a logistic regression with self-rated health as the dependent variable. Self-rated health varied significantly by age, income quartile, educational status, and smoking status. Those being of older age and those who were smoking regularly were less likely to report a good self-rated health. Individuals with higher income and a higher

Table 3 Odds ratios and 95% CI for self-rated health as good or very good vs fair to bad by physical activity status compared to insufficient levels of activity (OR 1.00) by nation[1]

	Sufficienly active OR (95 CI)	p	Highly active OR (95 CI)	p
Austria	2.07 (1.16–3.68)	0.014	2.53 (1.46– 4.38)	0.001
Belgium	1.43 (0.80–2.48)	0.233	1.91 (1.12– 3.26)	0.017
Denmark	1.11 (0.66–1.86)	0.699	1.44 (0.91– 2.30)	0.121
Finland	0.89 (0.56–1.40)	0.603	1.31 (0.86– 2.01)	0.206
France	1.53 (0.95–2.45)	0.080	1.91 (1.24– 2.92)	0.003
Germany (West)	1.21 (0.72–2.03)	0.476	1.74 (1.13– 2.69)	0.012
Germany (East)	1.03 (0.62–1.72)	0.901	1.82 (1.20– 2.75)	0.005
Great Britain	2.04 (1.20–3.46)	0.008	2.83 (1.72– 4.66)	< 0.001
Greece	0.99 (0.49–2.00)	0.973	1.02 (0.61– 1.70)	0.933
Ireland	1.31 (0.81–2.12)	0.268	5.50 (2.84–10.61)	< 0.001
Italy	2.21 (1.28–3.82)	0.004	1.95 (1.20– 3.16)	0.007
Luxembourg[2]				
Netherlands	1.31 (0.64–2.68)	0.453	1.55 (0.90–2.67)	0.115
Northern Ireland[2]				
Portugal	1.69 (0.99–2.87)	0.053	2.04 (1.29–3.24)	0.002
Spain	1.55 (0.86–2.81)	0.149	1.83 (1.02–3.27)	0.149
Sweden	1.73 (1.27–2.67)	0.012	2.09 (1.36–3.22)	0.001

[1] Adjusted for gender, age, income, educational status, smoking and nationality. Respondents who reported having been severly restricted in doing certain activities due to health problems in the past six months were excluded.
[2] Not performed due to smaller sample sizes compared to other nations.

educational status were more likely to report at least a good self-rated health. In regard to physical activity status, those being sufficiently active (OR 1.41), and those being highly active (OR 1.82) were significantly more likely to report at least good self-rated health compared to those being insufficiently active. Compared to western Germany, residents in most other European nations were more likely to report good self-rated health, exceptions being residents in Portugal, Finland, Italy, and eastern Germany.

Table 3 shows the odds ratios of the physical activity status variable in a logistic regression model split by nation with self-rated health as a dependent variable. Regression models were adjusted for gender, age, income, educational status and smoking in each nation. The odds ratios for those being sufficiently active compared to those being insufficiently active of having good self-rated health ranged between OR 0.89 (Finland) and OR 2.21 (Italy) in the different nation. For those being highly active, the odds ratios ranged from OR 1.02 (Greece) to OR 5.50 (Ireland) of having a good self-rated health compared to those being insufficiently active.

Discussion

The article presented data on the relationship between physical activity and self-rated health for population subgroups of the European Union, and examined the effect of physical activity of different intensities and across contexts on self-rated health in the different member states. Results indicated that, across population subgroups, as divided by gender, age, income, educational attainment, and smoking status those who reported to be sufficiently active or highly active also reported better self-rated health. This relationship could be observed in the different nations as well, with those being more active reporting in all nations better self-rated health compared to those being less active.

On a multivariate level of analysis, physical activity status was a significant predictor of self-rated health when adjusted for gender, age, income, educational status, smoking status and nationality. If the effect of physical activity on self-rated health was compared across different nations, those being sufficiently active reported in two out of 15 sampling units a significantly ($p < 0.01$) better self-rated health than those being insufficiently active. For those being highly active, in eight out of 15 sampling units significant ($p < 0.01$) better self-rated health compared to those being insufficiently active could be observed.

It has to be recognized that, with the cross-sectional nature of the data, causality of the relationship between physical activity and self-rated health cannot be implied. While it is in general acknowledged that physical activity yields important health benefits and thus might also improve ones perception of health status, it cannot be excluded that some individual's do not take part in physical activity due to health problems. To partly control for this problem, respondents who had reported a health problem that had severly restricted their activities in the past six months were excluded from the analysis. Other limitations of the study include the in general in regard to validity and reliability problematic assessment of physical activity by questionnaire, and the in some nations comparably low response rate.

Overall, these results indicate a positive relationship between physical activity, as assessed with the IPAQ, and self-rated health. However, the reported odds ratios, especially for those being sufficiently active, remain relatively low, and not in all nations could positive effects of physical activity on self-rated health be observed. That in some nations no such relationship could be found, might be explained with differences in the context where physical activity takes place. Some studies have in this regard hinted, that the health benefits of physical activity might vary by the context in which it is performed. Lawlor et al. (2002) showed that elderly women benefit from walking rather than domestic physical activity, and Andersen et al. (2000) found pronounced relationships between leisure-time physical activity and mortality compared to physical activity performed in other contexts.

Results indicated pronounced differences in the self-rated health status across the nations of the European Union. Such differences have been described before (Inglehart & Rabier 1986), and have shown to correspond well with differences in life-expectancy across the European Union (Carlson 1998). To some part, such differences might be related to socioeconomic inequalities across nations (Mackenbach et al. 1997), but it has also been suggested, that these differences in self-rated health evaluation might be caused by differences in the degree of civic engagement (Carlson 1998), as it has been observed for the United States (Kawachi et al. 1999). Further, differences in health behaviours other than physical activity might contribute to existing differences in the self-rated health status across nations. That individual health behavior might influence self-ratings of health has recently been shown (Kaplan & Baron-Epel 2003), and it has also been suggested that changes in the self-rating of health correspond to changes in health related behaviours (Bailis et al. 2003).

The assessment of physical activity with the IPAQ as it was performed in this study has the advantage that cross-national comparisons of physical activity patterns can be relatively easily made. On the other hand, results of the performed validation studies of the IPAQ (Craig et al. 2003; Rütten et al. 2003a; 2003b) suggest that the IPAQ, as many other self-administered instruments for the assessment of physical activity, does produce data with a limited reliability and validity. If the relatively low effect of sufficient levels of physical activity on self-rated health, as observed in this study, is due to the difficulties in assessing physical activity (especially of moderate intensities), or due to the incorporation of physical activity across all contexts in the concept of "health-enhancing physical activity" can with this study not be stated. The question if physical activities that go beyond traditional forms of exercise, such as windows washing or physical activity at the work place, do have positive effects on self-rated health has in this regard not been answered and might be of interest for future studies.

Zusammenfassung

Subjektiver Gesundheitsstatus und körperliche Aktivität in der Europäischen Union

Fragestellung: Dieser Beitrag ist der erste in einer Reihe von vier Beiträgen, die Daten zu körperlicher Aktivität aus dem Eurobarometer 58.2 für die 15 Mitgliedsstaaten der Europäischen Union vorstellen. In diesem Beitrag werden mit Hilfe deskriptiver und multivariater Analyseverfahren Zusammenhänge zwischen körperlicher Aktivität und dem subjektiven Gesundheitsstatus untersucht.

Methoden: Die Daten wurden im Jahre 2002 als Teil des Eurobarometers mit persönlichen Interviews erhoben. Insgesamt wurden 16 230 Personen ab 15 Jahren befragt; die durchschnittliche Samplegrösse lag in den meisten Nationen bei ca. 1 000 Interviews. Körperliche Aktivität (unzureichend körperlich aktiv, ausreichend körperlich aktiv, körperlich hoch-aktiv) wurde mit der „letzten sieben Tage Kurzversion" des International Physical Activity Questionnaire (IPAQ) erfasst.

Ergebnisse: Im Ergebnis zeigten sich für alle, nach soziodemographischen Variablen (Alter, Einkommen, Bildungsstatus) aufgeteilten Subpopulationen positive Beziehungen zwischen körperlicher Aktivität und subjektiver Gesundheit. Auch auf multivariater Ebene ist körperliche Aktivität ein signifikanter Prädiktor der subjektiven Gesundheit. Werden multivariate Modelle für die einzelnen Nationen berechnet, so zeigen sich in den verschiedenen Nationen unterschiedliche Effekte von körperlicher Aktivität auf die subjektive Gesundheit.

Schlussfolgerungen: Das Ergebnis verdeutlicht Zusammenhänge zwischen einem ausreichenden und hohen Mass an körperlicher Aktivität, erfasst über den IPAQ, und dem subjektiven Gesundheitsstatus. Das für die meisten Nationen keine signifikanten Zusammenhänge zwischen einem ausreichenden Mass an körperlicher Aktivität und dem Gesundheitsstatus nachweisbar waren, mag zum einen an der Schwierigkeit liegen, moderate Formen körperlicher Aktivität über einen Fragebogen zu erfassen, zum anderen aber auch an Unterschieden im Kontext (zu Hause, in der Freizeit, bei der Arbeit, zum Transport) der betriebenen körperlichen Aktivitäten zwischen den Nationen.

Résumé

La santé auto-évaluée et l'activité physique dans l'Union Européenne

Objectifs: Cet article est le premier d'une série de quatre décrivant les données sur l'activité physique dans les 15 états membres de l'Union Européenne collectées par l'enquête Eurobaromètre 58.2. Les données sont analysées de manière descriptive et multivariée à la recherche des relations entre l'activité physique et la santé auto-évaluée dans les différents pays.

Méthodes: Les données ont été collectées en 2002 au cours de l'enquête Eurobaromètre par interviews en face à face. Un total de 16 230 répondants d'âge égal ou supérieur à 15 ans ont été interviewés. Les échantillons étaient d'environ 1 000 personnes dans la plupart des pays. L'activité physique (insuffisamment actif, suffisamment actif, très actif) était évaluée à l'aide de la version courte des sept derniers jours du Questionnaire International sur l'Activité Physique (IPAQ).

Résultats: Les résultats de l'analyse descriptive montrent une relation positive entre le statut d'activité physique et la santé auto-évaluée dans les sous-groupes de population par âge, sexe, revenus, et niveau éducatif. L'analyse multivariée montre que le statut d'activité physique est significativement lié à une meilleure santé auto-évaluée. Au niveau national, quelques variations sont observées au niveau du pouvoir prédictif du statut d'activité physique sur la santé auto-évaluée.

Conclusions: Les résultats fournissent des indications sur une relation positive entre l'activité physique évaluée par l'IPAQ et la santé auto-évaluée. Le fait que dans la plupart des pays, des niveaux suffisants d'activité physique ne sont pas positivement reliés à la santé auto-évaluée peut être expliqué par la difficulté d'évaluer d'une part les formes modérées d'activité physique et d'autre part le contexte dans lequel l'activité se fait (maison, loisir, travail, transports).

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References

American College of Sports Medicine (1978). The recommended quantity and quality of exercise for developing and maintaining fitness in healthy adults. Med Sci Sports Exerc *10*: VII–X.

American College of Sports Medicine (1990). Position stand: the recommended quantity and quality of exercise for developing and maintaining cardioresiratory and muscular fitness in healthy adults. Med Sci Sports Exerc *22*: 265–74.

Andersen LB, Schnohr P, Schroll M (2000). All-cause mortality associated with physical activity during leisure time, work, sports, and cycling to work. Arch Intern Med *160*: 1621–8.

Ainsworth B, Haskell W, Whitt, et al. (2000). Compendium of physical activities: a update of activity codes and MET intensities. Med Sci Sports Exerc *32*: Suppl. 498–504.

Bailis DS, Segall A, Chipperfield JG (2003). Two views of self-rated health status. Soc Sci Med *56*: 203–17.

Blair SN, Kohl HW, Gordon NF (1992). How much physical activity is good for health? Annu Rev Public Health *13:* 99–126.

Blair SN, Cheng Y, Holder JS (2001). Is physical activity or physical fitness more important in defining health benefits? Med Sci Sports Exerc *33*: Suppl. 379–99.

Carlson P (1998). Self-perceived health in East and West Europe: another European health divide. Soc Sci Med *46*: 1355–66.

Craig CL, Marshall AL, Sjöström M, et al. (2003). International physical activity questionnaire: 12-country reliability and validity. Med Sci Sports Exerc *35*: 1381–95.

Foster C (2000). Guidelines for health-enhancing physical activity promotion programs. British heart foundation health promotion research group. Oxford: University of Oxford Press.

Idler EL, Benyamini Y (1997). Self-rated health and mortality: a review of 25 community studies. J Health Soc Behav *38*: 21–37.

Inglehart R, Rabier JR (1986). Aspirations adapt to situations – But why are the Belgians so much happier than the French? A cross-cultural analysis of subjective quality of life. In Andrews FM, eds. Research on quality of life. Ann Arbor: University of Michigan: 1–56.

International Physical Activity Questionnaire Executive Committee (2003). Guidelines for data processing and analysis of the International Physical Activity Questionnaire (IPAQ) – short form. http://www.ipaq.ki.se/dloads/scoringIPAQshortaug03.pdf

Kaplan G, Baron-Epel O (2003). What lies behind the subjective evaluation of health status? Soc Sci Med *56*: 1669–76.

Kawachi I, Kennedy BP, Glass R (1999). Social capital and self-rated health: a contextual analysis. Am J Public Health *89*: 1187–93.

Lawlor DA, Taylor M, Bedford C, et al. (2002). Is housework good for health? Levels of physical activity and factors associated with activity in elderly women: results from the British Women's Heart and Health Study. JECH *56*: 473–8.

Lee I, Skerrett PJ (2001). Physical activity and all-cause mortality: what is the dose-response relation? Med Sci Sports Exerc *33* (Suppl. *6*): 459–71.

Mackenbach JP, Kunst AE, Caveelars AE, et al. (1997). Socioeconomic inequalities in morbidity and mortality in western Europe. Lancet *349*: 1655–9.

Martinez-Gonzalez MS, Martinez A, Hu FB, et al. (1999). Physical inactivity, sedentary lifestyle and obesity in the European Union. Int J Obes Relat Metab Disord *23*: 1192–201.

Mossialos E, King D (1999). Citizens and rationing: analysis of a European survey. Health Policy *49*: 75–135.

Norman A, Bellocco R, Vaida F, et al. (2002). Total physical activity in relation to age, body mass, health, and other factors in a cohort of Swedish men. Int J Obes Relat Metab Disord *26*: 670–5.

Paffenbarger RS, Hyde RT, Wing AL, et al. (1993). The association of changes in physical activity level and other lifestyle characteristics with mortality among men. N Engl J M *328*: 538–45.

Pate RR, Pratt M, Blair SN, et al. (1995). Physical activity and public health: a recommendation from the Centers for Disease Control and prevention and the American College of Sports Medicine. *JAMA 273*: 402–7.

Rütten A, Ziemainz H, Schena F, et al. (2003a). Using different physical activity measurements in eight European countries: results of the European Physical Activity Surveillance system (EUPASS) time series study. Public Health Nutr *6*: 371–6.

Rütten A, Vuillemin A, Ooijendijk WTM, et al. (2003b). Physical activity monitoring in Europe: the European Physical Activity Surveillance System (EUPASS) approach and indicator testing. Public Health Nutr *6*: 377–84.

Sallis JF, Owen N (1998). Physical activity and behavioral medicine. Thousand Oaks: Sage.

US Department of Health and Human Services (1996). Physical activity and health: a report of the Surgeon General. Atlanta: US Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion.

US Department of Health and Human Services (2002). Physical activity fundamental to preventing disease. Atlanta: US Department of Health and Human Services; Office of the Assistant Secretary for Planning and Evaluation.

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