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Precision Aging Network Scored Surveys

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Valeria Pfeifer [on behalf of the Precision Aging Network][1,2]
[1]University of Arizona; [2]University of Missouri-Kansas City

Lisa White
The University of Arizona

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We use this protocol and it's working

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Abstract

This protocol describes the scoring algorithms for validated or scoreable surveys collected through the Precision Aging Network.

Introduction

1 This protocol provides details for the scoring of seven surveys:

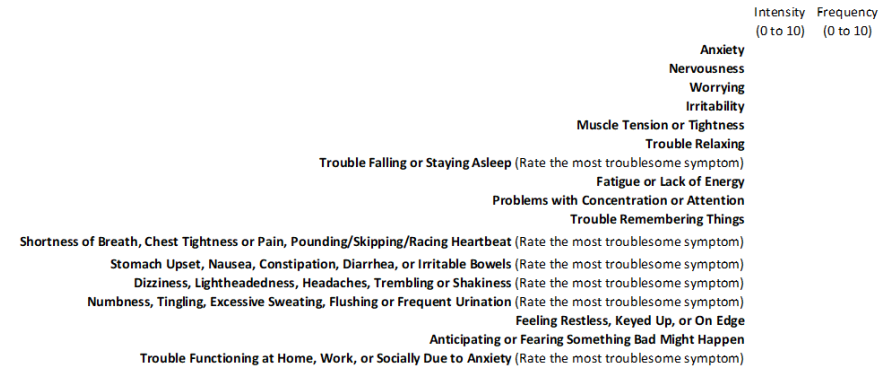
1. Anxiety Symptoms Questionnaire (ASQ)
2. Perceived Social Support: Three-Item Loneliness Scale, Multidimensional Scale of Perceived Social Support (MSPSS)
3. Perceived Stress
4. Quick Physical Activity Rating (QPAR)
5. Satisfaction With Life Scale (SWLS)
6. Sleep: Medical Outcome Study (MOS) Sleep Measure
7. Social Stressors

For each survey, we highlight the survey variables and scoring.

Anxiety Symptoms Questionnaire (ASQ)

2 The participants were asked how intense or bothersome and how frequently they experience different symptoms associated with anxiety.

Materials



Variables and Scoring

The raw survey data are structured so the intensity of a symptom is followed by the frequency, therefore all of the odd variable numbers are symptom intensities and all of the even variable numbers are symptom frequencies.

	Variable Name	Variable Description	Score Calculation
	anxiety_intensity	Sum of anxiety intensities. Scale of 0-170.	Sum of all odd variables (anx_v101 + anx_v103 + anx_v105 + anx_v107 + anx_v109 + anx_v1011 + anx_v1013 + anx_v1015 + anx_v1017 + anx_v1019 + anx$anx_v1021 + anx_v1023 + anx_v1025 +

	Variable Name	Variable Description	Score Calculation
			anx_v1027 + anx_v1029 + anx_v1031 + anx_v1033)
	anxiety_frequency	Sum of anxiety frequencies. Scale of 0-170.	Sum of all even variables (anx_v102 + anx_v104 + anx_v106 + anx_v108 + anx_v1010 + anx_v1012 + anx_v1014 + anx_v1016 + anx_v1018 + anx_v1020 + anx_v1022 + anx_v1024 + anx_v1026 + anx_v1028 + anx_v1030 + anx_v1032 + anx_v1034)
	anxiety_total	Sum of all anxiety symptoms intensities and frequencies. Scale of 0-340.	Sum of anxiety_intensity and anxiety_frequency

References

Baker A, Simon N, Keshaviah A, Farabaugh A, Deckersbach T, Worthington JJ, et al. Anxiety Symptoms Questionnaire (ASQ): development and validation. *General Psychiatry*. 2019;32:e100144. https://doi.org/10.1136/gpsych-2019-100144

Three-Item Loneliness Scale

3 This scale measures perceived social isolation by asking the participant to rate how often they feel different aspects of loneliness (Hughes, 2004).

Materials

	Hardly Ever	Some of the Time	Often
How often do you feel you lack companionship?			
How often do you feel left out?			
How often do you feel isolated from others?			

Variables and Scoring

This survey asked if the participant felt they lacked companionship, felt left out, or felt isolated from others and to rate each of the statements as "Hardly Ever" = 1, "Some of the Time" = 2, or "Often" = 3. The combination of these three ratings gives the overall loneliness score for each participant. The items used to calculate the scale were taken from the first section of the Perceived Social Support survey.

	Variable Name	Variable Description	Score Calculation
	loneliness_total	Participant's loneliness score. Scale of 3-9, where higher score means more loneliness.	Sum of all loneliness variables (socsupp_v101 + socsupp_v102 + socsupp_v103)

Reference

Hughes, Mary Elizabeth, et al. "A Short Scale for Measuring Loneliness in Large Surveys: Results From Two Population-Based Studies." *Res Aging*, vol. 26, no. 6, 2004, pp. 655–672, https://doi.org/10.1177/0164027504268574.

Multidimensional Scale of Perceived Social Support

4 This survey measures participants' perceptions of support from three sources: family, friends, and a significant other. Each source is assessed with four items rated on a 5-point Likert scale. The total measure of perceived social support is calculated by summing all three source ratings.

Materials

	1	2	3	4	5	6	7
There is a special person who is around when I need them.							
There is a special person with whom I can share my joys and sorrows.							
My family really tries to help me.							
I get the emotional help and support I need from my family.							
I have a special person who is a real source of comfort to me.							
My friends really try to help me.							
I can count on my friend when things go wrong.							
I can talk about my problems with my family.							
I have friends with whom I can share my joys and sorrows.							
There is a special person in my life who cares about my feelings.							
My family is willing to help me make decisions.							
I can talk about my problems with my friends.							

Variables and Scoring

The items used to calculate the scale were taken from the second section of the Perceived Social Support survey.

	Variable Name	Variable Description	Score Calculation
	MSPSS_family	Average of familial social support scores. Scale of 0-7, where higher score indicates more social support from family.	Sum across items related to family and then divide by 4. (socsupp_v106 + socsupp_v107 + socsupp_v1011 + socsupp_v1014)/4
	MSPSS_friends	Average of friend group social support scores. Scale of 0-7, where higher score indicates more social support from friends.	Sum across items related to friends and then divide by 4. (socsupp_v109 + socsupp_v1010 + socsupp_v1012 + socsupp_v1015)/4
	MSPSS_so	Average of significant other social support scores. Scale of 0-7, where higher score indicates more social support from a significant other.	Sum across items related to signitificant other and then divide by 4. (socsupp_v104 + socsupp_v105 + socsupp_v108 + socsupp_v1013)/4
	MPSS_total	Sum of all 12 items. Scale of 7-84 where higher score indicate more social support.	Sum of all 12 items. (socsupp_v104 + socsupp_v105 + socsupp_v106 + socsupp_v107 + socsupp_v108 + socsupp_v109 + socsupp_v1010 + socsupp_v1011 + socsupp_v1012 + socsupp_v1013 + socsupp_v1014 + socsupp_v1015)

Reference

Zimet, G. D., Dahlem, N. W., Zimet, S. G., & Farley, G. K. (1988). The Multidimensional Scale of Perceived Social Support. *Journal of Personality Assessment*, *52*(1), 30–41. https://doi.org/10.1207/s15327752jpa5201_2

Perceived Stress

5 This survey asked participants 10 questions about their perceived levels of stress during the previous month on a scale from 0 to 4, where 0 = Never and 4 = Very Often.

Materials

Items

1. In the last month, how often have you been upset because of something that happened unexpectedly?
2. In the last month, how often have you felt that you were unable to control the important things in your life?
3. In the last month, how often have you felt nervous and “stressed”?

4. In the last month, how often have you felt confident about your ability to handle your personal problems?
5. In the last month, how often have you felt that things were going your way?
6. In the last month, how often have you found that you could not cope with all the things that you had to do?
7. In the last month, how often have you been able to control irritations in your life?
8. In the last month, how often have you felt that you were on top of things?
9. In the last month, how often have you been angered because of things that were outside of your control?
10. In the last month, how often have you felt difficulties were piling up so high that you could not overcome them?

Variables and Scoring

	Variable Name	Variable Description	Score Calculation
	stress_total	Sum of perceived stress on a 0-40 scale, where higher scores indicate more perceived stress.	stress_v101 + stress_v102 + stress_v103 + (4 - stress_v104) + (4 - stress$stress_v105) + stress_v106 + (4 - stress$stress_v107) + (4 - stress$stress_v108) + stress_v109 + stress_v1010

References

Cohen, S., Kamarck, T., & Mermelstein, R. (1983). A Global Measure of Perceived Stress. *Journal of Health and Social Behavior*, *24*(4), 385–396. https://doi.org/10.2307/2136404

Quick Physical Activity Rating (QPAR)

6 The QPAR assesses a person's activity levels by asking how often one participates in different types of physical activities in a week and for how many hours per day. The different activities are then used to calculate different levels of physical activity (mild, moderate, heavy) and then summed to an overall physical activity rating.

Materials

Please rate the patient's physical activity over the **past 4 weeks.** Choose the ***one best answer*** for days per week and hours per day that best fits.

Type of Activity	Intensity *(office use)*	How many days per week (Check One)				How many hours per day (Check One)	Total Dose *(office use)*
		Never (0 days)	Seldom (1-2 days)	Sometimes (3-4 days)	Often (5-7 days)		
Participate in sitting activities such as reading, book clubs, discussion groups, or handicrafts	1					___ LESS THAN 1 HOUR ___ 1-2 HOURS ___ MORE THAN 2 HOURS	
Walk outside for any reason such as fun or exercise, walking the dog, in a mall, or around a track or path	1					___ LESS THAN 1 HOUR ___ 1-2 HOURS ___ MORE THAN 2 HOURS	
Engage in light activities such as bowling, billiards, golf with a cart, shuffleboard, fishing, or playing catch	1					___ LESS THAN 1 HOUR ___ 1-2 HOURS ___ MORE THAN 2 HOURS	
Engage in moderate activities such as doubles tennis, dancing, hunting, skating, golf without a cart, or hiking (flat terrain)	2					___ LESS THAN 1 HOUR ___ 1-2 HOURS ___ MORE THAN 2 HOURS	
Engage in strenuous activities such as jogging, swimming, cycling, singles tennis, skiing, hiking (hilly terrain), or climbing stairs for exercise	3					___ LESS THAN 1 HOUR ___ 1-2 HOURS ___ MORE THAN 2 HOURS	
Any exercises to increase muscle strength or endurance, such as lifting weights, pushups, pullups, or chin-ups	2					___ LESS THAN 1 HOUR ___ 1-2 HOURS ___ MORE THAN 2 HOURS	
Engage in flexibility activities such as stretching, yoga, chair yoga, or Tai Chi	1					___ LESS THAN 1 HOUR ___ 1-2 HOURS ___ MORE THAN 2 HOURS	
Any light housework or labor, such as dusting, washing dishes, mopping floors, ironing, or office work	1					___ LESS THAN 1 HOUR ___ 1-2 HOURS ___ MORE THAN 2 HOURS	
Any moderate housework or labor such as vacuuming, washing windows, scrubbing floors, laundry, or moderate manual labor	2					___ LESS THAN 1 HOUR ___ 1-2 HOURS ___ MORE THAN 2 HOURS	
Any heavy housework or labor such as home repairs, painting, yard work, moving furniture, or heavy manual labor	3					___ LESS THAN 1 HOUR ___ 1-2 HOURS ___ MORE THAN 2 HOURS	

Fig 1. The Quick Physical Activity Rating (QPAR).

https://doi.org/10.1371/journal.pone.0241641.g001

Variables and Scoring

Multiply intensity (1-3), frequency (0-3), and duration (0-3) per item, sum up all doses for original scoring. Sum of frequency * duration summed up per intensity level requested by Lee

	Variable Name	Variable Description	Score Calculation (Before 03/22/2025)	Score Calculation (After 03/22/2025)
	qpar_mild_dose	Sum of activity doses within mild level of activity. Max mild dose: 45.	qpar_v101 * qpar_v109 + qpar_v102 * qpar_v1010 + qpar_v103 * qpar_v1011 + qpar_v107 * qpar_v1015 + qpar_v108 * qpar_v1016	
	qpar_moderate_dose	Sum of activity doses within moderate levels of activity. Max dose: 54 (36 before 03/22/2025).	2 * (qpar_v104 *qpar_v1012 + qpar_v106 * qpar_v1014)	2 * (qpar_v104 *qpar_v1012 + qpar_v106 * qpar_v1014 + qpar_v1017 * qpar_v1018)
	qpar_heavy_dose	Sum of activity doses within heavy levels of activity. Max dose: 54 (27 before 03/22/2025).	3 * qpar_v105 * qpar_v1013	3 * (qpar_v105 * qpar_v1013 + qpar_v1019 * qpar_v1020)
	qpar_total	Sum of all doses of activity on a 0-153 scale (0-108 scale before 03/22/2025) where higher score indicates higher level of activity	qpar_mild_dose + qpar_moderate_dose + qpar_heavy_dose	

Reference
Galvin JE, Tolea MI, Rosenfeld A, Chrisphonte S (2020) The Quick Physical Activity Rating (QPAR) scale: A brief assessment of physical activity in older adults with and without cognitive impairment. PLoS ONE 15(10): e0241641. https://doi.org/10.1371/journal.pone.0241641

Satisfaction With Life Scale (SWLS)

7 This survey asked participants to rate five statements related to life satisfaction using the Likert 7 point scale.

Materials

____ In most ways my life is close to my ideal.

____ The conditions of my life are excellent.

____ I am satisfied with my life.

____ So far, I have gotten the important things I want in life.

____ If I could live my life over, I would change almost nothing.

Variables and Scoring

	Variable Name	Variable Description	Score Calculation
	swls_total	Sum of life satisfaction on a 5-35 scale. 20 indicates "neutral life satisfaction", scores above 20 mean more satisfaction with life and below 20 indicates lower satisfaction with life.	Sum of life satisfaction ratings. (swls_v101 + swls_v102 + swls_v103 + swls_v104 + swls_v105)

Reference
Diener, E., Emmons, R. A., Larsen, R. J., & Griffin, S. (1985). The Satisfaction With Life Scale. *Journal of Personality Assessment*, *49*(1), 71–75. https://doi.org/10.1207/s15327752jpa4901_13

Medical Outcome Study (MOS) Sleep Measure

8 The items from this survey come from the MOS-Sleep Measure which evaluates various aspects of sleep, like average sleep duration and perceived adequacy.

Variables and Scoring

	Variable Name	Variable Description	Score Calculation
	sleep_quantity	Average sleep duration in hours.	sleep_v1022
	sleep_initiation	Frequency of trouble falling asleep on a 1-6 scale where higher scores indicate fewer troubles falling asleep.	sleep_v1026
	sleep_maintenance	Ability to maintain sleep on a scale of 2-12 where higher scores indicate better sleep maintenance.	sleep_v1023 + sleep_v1027
	sleep_perceived_adequacy	Perceived adequacy of sleep on a 2-12 scale where higher scores indicate less perceived adequacy of sleep.	sleep_v1024 + sleep_v1031
	sleep_respiratory_problems	Frequency of respiratory problems during sleep on a 2-12 scale where higher scores indicate fewer problems and better sleep.	sleep_v1025 + sleep_v1029
	sleep_somnolence	Frequency of somnolence (excessive daytime sleepiness) experiences on a 3-36 scale where higher scores indicate fewer somnolence symptoms and better sleep.	sleep_v1028 + sleep_v1030 + sleep_v1032

Reference

Hays RD & Stewart AL. Sleep measures. In: Stewart AL & Ware JE (eds.). *Measuring functioning and well-being: The Medical Outcomes Study approach*. Durham, NC: Duke University Press, 1992, pp. 235-259.

Social Stressors

9 This survey asked participants about the types and levels of social stress in their lives over the past year. The first portion of each question asked whether they experienced a stressful event and, if they answered yes, then asked how stressful that event was on a scale from 1-3, where 1 = Mildly Stressful, 2 = Stressful, and 3 = Very Successful.

Materials

Social Stressors

Please try to think back over the past year. Did any of these things happen? If *yes*, how stressful were those events for you? (Mark one box on each line)	*NO*	*YES*		
		Mildly Stressful	*Stressful*	*Very Stressful*
Did your spouse or partner die?	☐1	☐2	☐3	☐4
Did your spouse or partner have a serious illness?	☐1	☐2	☐3	☐4
Did a close friend or family member die or have a serious illness (other than your spouse or partner)?	☐1	☐2	☐3	☐4
Did you have any major problems with money?	☐1	☐2	☐3	☐4
Did you have a divorce or break-up with a spouse or partner?	☐1	☐2	☐3	☐4
Did a family member or close friend have a divorce or break-up?	☐1	☐2	☐3	☐4
Did you have a major conflict with children or grandchildren?	☐1	☐2	☐3	☐4
Did you have any major accidents, disasters, mugging, unwanted sexual experiences, robberies or similar events?	☐1	☐2	☐3	☐4
Did you or a family member or close friend lose their job or retire?	☐1	☐2	☐3	☐4
Were you physically abused by being hit, slapped, pushed, shoved, punched or threatened with a weapon by a family member or close friend?	☐1	☐2	☐3	☐4
Were you verbally abused by being made fun of, severely criticized, told you were a stupid or worthless person, or threatened with harm to yourself, your possessions, or your pets, by a family member or close friend?	☐1	☐2	☐3	☐4
Did a pet die?	☐1	☐2	☐3	☐4

We encourage you to fill out the form completely, but you are under no obligation to answer any specific question. **All information provided is confidential.**

Variables and Scoring

	Variable Name	Variable Description	Score Calculation
	socstress_total	Level of stressful life events and stress experienced on a 0-36 scale where higher scores mean more stress.	socstress_v101_yes + socstress_v102_yes + socstress_v103_yes + socstress_v104_yes + socstress_v105_yes + socstress_v106_yes + socstress_v107_yes + socstress_v108_yes + socstress_v109_yes + socstress_v1010_yes + socstress_v1011_yes + socstress_v1012_yes
	nr_of_stressful_events	The number of stressful events experienced in the last year, not considering the intensity of the experienced stress. 0-12 scale where 0 indicates no stressful events.	socstress_v101 + socstress_v102 + socstress_v103 + socstress_v104 + socstress_v105 + socstress_v106 + socstress_v107 + socstress_v108 + socstress_v109 + socstress_v1010 + socstress_v1011 + socstress_v1012

Reference

Kershaw, K. N., Brenes, G. A., Charles, L. E., Coday, M., Daviglus, M. L., Denburg, N. L., Kroenke, C. H., Safford, M. M., Savla, T., Tindle, H. A., Tinker, L. F., & Van Horn, L. (2014).

Associations of Stressful Life Events and Social Strain With Incident Cardiovascular Disease in the Women's Health Initiative. *Journal of the American Heart Association*, *3*(3), e000687-n/a. https://doi.org/10.1161/JAHA.113.000687