Appendix 7. Risk of bias (RoB) of the studies included in the individual participant data meta-analysis.

Reference	**Study name**	**Study participation**		**Study attrition**		**Predicting variable measurement**		**Outcome**	
		RoB	**Explanation**	**RoB**	**Explanation**	**RoB**	**Explanation**	**RoB**	**Explanation**
Clays, 2014[1]	BELFIT study	Moderate risk	Unclear how participating companies were selected. Also, a substantial part of the selected participant (25%) did not participate	Moderate risk	Of 2,363 eligible workers, 1456 were analysed. Loss to follow-up is unclear	Moderate risk	Accuracy of the occupational physical activity questionnaire is unclear. The Minnesota Leisure Time Physical Activity Questionnaire has shown reasonable accuracy[2]	Low risk	Ascertainment through registry seems adequate
Saidj, 2013[3]	Health 2006 (H2006)	Moderate risk	Participation rate was only 44% (although it was a random sample of the source population)	Moderate	Of 3,471 eligible workers, 2.544 were included. Unclear loss to follow-up	Low risk	PAS2 questionnaire was used which has shown reasonable validity[4]	Low risk	Ascertainment through registry seems adequate (based on personal communicatio n with researchers – not reported in the referred paper)
Sjøl, 2003[5]	MONICA Denmark	Moderate risk	Participation rate was below 80% (i.e., 79%)	Moderate	Unclear loss to follow-up	Moderate risk	Although reproducibility has been assessed, validity of the l physical	Low risk	Ascertainment through registry seems adequate

							activity questionnaire is unclear		
Krause, 2017[6]	KIHD study	Low risk	There was an 83% participation rate and an adequate description of the sample (Table 1)	Low risk	There was no loss of follow-up. All working participants were included and National Finnish death registries have complete data for all Finnish residents	Low risk	Occupational physical activity questionnaire showed good reliability (test-retest correlation 0.69[7]). The Minnesota Leisure Time Physical Activity Questionnaire has shown reasonable accuracy[2]	Low risk	Ascertainment through registry seems adequate
Pulsford, 2015[8]	Whitehall II study	Moderate risk	Participation rate was below 80% (i.e., 73%).	Moderate risk	Unclear how many participant were lost to follow-up and there appear to be differences between those who did and did not participate in the follow-up measurements	High risk	The Minnesota Leisure Time Physical Activity Questionnaire has shown reasonable accuracy (justifying a lower risk of bias score). However occupational physical activity assessment	Low risk	Ascertainment through registry seems adequate

							based on job classification is prone to a high risk of bias (based on personal communication with the study		
Eaton, 1995[9]	IIHDS study	Low risk	Authors report no significant differences between participant who did and did not participate	Low risk	Approximately 8463/10059=84% were followed up (although the percentage may be slightly different for those with physical activity reporting)	Moderate risk	Unclear accuracy of the used questionnaires (two single questions and source of these questions is unclear)	Moderate risk	Multiple ways of ascertainment were used, showing high agreement
Autenrieth, 2011[10]	MONICA/KORA Augsburg	Moderate risk	A random sample of the population was drawn and adequate description of the sample is provided (Table 1). 77% participated	Low risk	20 out of 6637 participants were lost to follow-up	Moderate risk	MOSPA questionnaire was used which has shown reasonable accuracy[11]	Low risk	Ascertainment through registry and death certificate (for reason of mortality) seems adequate
Rosengren, 1997[12]	Primary Prevention Study	Moderate risk	Participation rate was below 80% (i.e., 75%)	Low risk	All participants in the study were followed up	Moderate risk	Unclear accuracy of the used questionnaires. For leisure-time physical activity a reference is provided[13]	Low risk	Ascertainment through registry seems adequate

Richard, 2015[14]*	NHANES study	Low risk	NHANES has shown to be generalizable to the US population	Low risk	Only 26 participants did not have follow-up data	Moderate risk	Classification scheme according to profession and using Ainsworth tables to assess occupational physical activity	Low risk	Mortality was ascertained from registries
Moe, 2013[15]	HUNT study	Moderate risk	Participation rate was below 80% (i.e., 70%)	Low risk	All participants were followed up	Moderate risk	Accuracy of questions used is unclear (two questions were used to assess occupational physical activity, with unclear source)	Low risk	Ascertainment through registry seems adequate
Franzon, 2015[16]	ULSAM study	Low risk	All eligible participants were invited and 82% participated	Low risk	11 out of 2322 participants were lost to follow-up	Moderate risk	Accuracy of questionnaire used is unclear	Low risk	Ascertainment through registry seems adequate
Huerta, 2016[17]	EPIC Spain study	High risk	Source population of the sample and its representativeness regarding that population is unclear. Participation rate is also unclear	Low risk	Approximately 3k participants out of 41k were lost to follow-up (7%)	Low risk	EPIC-PAQ questionnaire was used which has shown reasonable accuracy[18].	Low risk	Ascertainment through registry seems adequate
Johnsen, 2016[19]	WOLF study	Low risk	There was an 82% response rate. Adequate description of the	Low risk	9,961/10,416=96 % were followed.	Moderate risk	Accuracy of questions is unclear	Low risk	Ascertainment through registry seems adequate

			sample is provided (Table 1)						
Bahls, 2018[20]	SHIP-START1 study	Moderate risk	A random sample of the population was drawn, with 68% response rate. Adequate description of the sample is provided (Table 1)	Moderate risk	Unclear how many participants were lost to follow-up	Low risk	Baecke questionnaire was used which has shown reasonable accuracy[21]	Low risk	Ascertainment through registry seems adequate
Bahls, 2018[20]	CARLA study	Moderate	A random sample of the population was drawn with unclear response rate. Adequate description of the sample is provided (Table 2)	Moderate risk	Unclear how many participants were lost to follow-up	Low risk	Baecke questionnaire was used which has shown reasonable accuracy[21]	Low risk	Ascertainment through registry seems adequate
Wanner, 2014[22]	The Swiss MONICA study	Low risk	A two-stage sampling procedure was used drawing a sample of 51 out of 651 communities after stratification according to their size; and drawing a random sample from the resident population files of these communities (for more details see Bopp et al.: BMC	Low risk	99% of participants were followed up (while another 165 participants were excluded due to missing data)	Moderate risk	Accuracy (i.e., validity) of questions is unclear	Low risk	Ascertainment through national registry seems adequate

			Public Health 2010 10:562)						
Wanner, 2014[22]	NRP 1A study	Moderate risk	Sampling procedure is unclear (with a combination of a random and convenience sample used).	Low risk	93% of participants were followed up (while another 500 participants were excluded due to missing data)	Moderate risk	Accuracy (i.e., validity) of questions is unclear	Low risk	Ascertainment through national registry seems adequate
Petersen, 2012[23]	Danish National Health Interview Surveys	Low risk	National representative sample, in which at least 80% of the eligible participants took part. Good description of the sample	Low risk	143 participants (~1%) were lost due to unknown vital status, and 1946 because they did not provide physical activity data (~16 drop out in total)	Moderate risk	Questionnaire is well describe. But its origin and accuracy are unclear	Low risk	Ascertainment through registry seems adequate
Dalene, 2021[24]	Norwegian study	Moderate risk	National representative sample and good description of the sample. However, 71% of the eligible participants took part in the study	Low risk	Due to registry data used, the vast majority of participants appeared to be followed up (2% drop out).	Low risk	Saltin-Grimby Physical Activity Level with known accuracy was used.	Low risk	Ascertainment through registry seems adequate
Holtermann, 2012[25]	Copenhagen City Heart Study	Moderate risk	Representative sample for the Copenhagen area, with good description of the sample. However, only 70-74% of eligible participants took part in the study	Low risk	Due to registry data used, the vast majority of participants appeared to be followed up.	Moderate risk	The questionnaire was earlier used and well described. However, its origin and accuracy is unclear.	Low risk	Ascertainment through registry seems adequate

Holtermann, 2021[26]	Copenhagen General Population Study	Moderate risk	Representative sample for the Copenhagen area, with good description of the sample. However, only 43% of eligible participants took part in the study	Low risk	Due to registry data used, the vast majority of participants appeared to be followed up.	Moderate risk	The questionnaire was earlier used. However, its origin and accuracy is unclear.	Low risk	Ascertainment through registry seems adequate
Holtermann, 2009[27]	Copenhagen male study	Moderate risk	High response rate (87%) and good description of the sample. Sample of workers from various companies.	Low risk	Only nine men had missing answers, and 14 had emigrated during the follow-up	Moderate risk	The questionnaire was earlier used. However, its origin and accuracy is unclear.	Low risk	Ascertainment through registry seems adequate
* Although a reference is made to the paper by Richard and colleagues (which is the only paper we identified on the topic using NHANES data and based on which the current risk of bias assessment has been conducted), different measurement waves were included for our meta-analysis. Measurements of the following waves were used in which all dependent and confounding variables were assessed: 2005-2006, 2007-2008, 2009-2010, 2011-2012. For outcomes the 2015 follow-up measurements were used.									

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