Appendix: Algorithmic Fairness Beyond Legally Protected Groups and When Group Labels Are Unknown

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The following table is a replication of **Table 1** in the main manuscript with the references to the papers that used the variables in subgroup performance analysis. The table was obtained from the PMC search.

Group Label Categories	References	Total
Demographic Variables		
Age	(Buda et al. 2022; Campbell, Bose, and Masino 2024; Dakshit et al. 2023; Dang et al. 2024; Dibaji et al. 2024; Draghi et al. 2024; Gao et al. 2024; Gisselbaek et al. 2024; Hafner, Peifer, and Hafner 2023; Heidari et al. 2024; Huang et al. 2024; Jiang et al. 2024; Juwara, El-Hussuna, and El Emam 2024; B. Li et al. 2023; C. Li et al. 2023; M. Lin et al. 2023; Mazurenko et al. 2024; Meng et al. 2022; Salahuddin et al. 2023; Schuch et al. 2023; Siddiqui et al. 2024; Souza et al. 2023; Teeple et al. 2023; Thompson et al. 2021; Wang et al. 2024; Watson et al. 2024)	26/73 (36%)
Sex	(Buda et al. 2022; Dang et al. 2024; Watson et al. 2024; Juwara, El-Hussuna, and El Emam 2024; Salahuddin et al. 2023; Campbell, Bose, and Masino 2024; Dakshit et al. 2023; Dibaji et al. 2024; Draghi et al. 2024; Gao et al. 2024; Gisselbaek et al. 2024; Hafner, Peifer, and Hafner 2023; Heidari et al. 2024; Huang et al. 2024; Jiang et al. 2024; B. Li et al. 2023; C. Li et al. 2023; M. Lin et al. 2023; Mazurenko et al. 2024; Meng et al. 2022; Siddiqui et al. 2024; Souza et al. 2023; Teeple et al. 2023; Thompson et al. 2021; Wang et al. 2024; Chang et al. 2024; de Hond et al. 2024; Ding et al. 2023; Heidari et al. 2021; Honarvar et al. 2022; F. Li et al. 2023; X. Liang et al. 2023; M. Liu et al. 2024; J. Park et al. 2022; Puyol-Antón et al. 2022; Reis et al. 2024; Straw, Rees, and Nachev 2024; Sivarajkumar, Huang, and Wang 2023; Solans Noguero et al. 2023; Stanley et al. 2022; Straw and Wu 2022; Ungless, Ross, and Belle 2023; Sufian et al. 2024; M. Yang, El-Attar, and Chaspari 2024; Yaseliani, Noor-E-Alam, and Hasan 2024)	49/73 (67%)
Race/Ethnicity	(Libin et al. 2024; Dang et al. 2024; Watson et al. 2024; J. Yang et al. 2023; Campbell, Bose, and Masino 2024; Draghi et al. 2024; Gao et al. 2024; Gisselbaek et al. 2024; Hafner, Peifer, and Hafner 2023; Huang et al. 2024; Jiang et al. 2024; C. Li et al. 2023; M. Lin et al. 2023; Mazurenko et al. 2024; Meng et al. 2022; Schuch et al. 2023; Siddiqui et al. 2024; Teeple et al. 2023; Thompson et al. 2021; Wang et al. 2024; Chang et al. 2024; de Hond et al. 2024; Ding et al. 2023; Honarvar et al. 2022; F. Li et al. 2023; X. Liang et al. 2023; M. Liu et al. 2024; Puyol-Antón et al. 2022; Stanley et al. 2022; M. Yang, El-Attar, and Chaspari 2024; Yaseliani, Noor-E-Alam, and Hasan 2024; Cronjé et al. 2023; Huti et al. 2023; Y. Liang et al. 2024; Y. C. Lin et al. 2024; Y. Liu et al. 2024; Wong et al. 2024; Y. Park et al. 2021; Poulain, Tarek, and Beheshti 2023; P. Yang et al. 2024)	47/73 (64%)

Region/Nationality	(Libin et al. 2024; Dang et al. 2024; Draghi et al. 2024; Conev et al. 2023; Correa-Medero et al. 2024)	7/73 (10%)
Marital Status	(Meng et al. 2022; Yaseliani, Noor-E-Alam, and Hasan 2024)	2/73 (3%)
Handedness	(B. Li et al. 2023)	1/73 (1%)
Grand Total		**66/73 (90%)**
Socioeconomic Variables		
Income	(Buda et al. 2022; Dang et al. 2024; Schuch et al. 2023; Teeple et al. 2023; Yaseliani, Noor-E-Alam, and Hasan 2024)	5/73 (7%)
Education	(Dang et al. 2024; Jiang et al. 2024; B. Li et al. 2023; Teeple et al. 2023; Zhang et al. 2023)	5/73 (7%)
Employment Status	(Buda et al. 2022)	1/73 (1%)
Working Position	(Buda et al. 2022)	1/73 (1%)
Level of Work	(Buda et al. 2022)	1/73 (1%)
Working Conditions (e.g., 35h/week)	(Yaseliani, Noor-E-Alam, and Hasan 2024)	1/73 (1%)
Insurance	(Bing et al. 2022; Libin et al. 2024; Campbell, Bose, and Masino 2024; Meng et al. 2022; Teeple et al. 2023; Ateya et al. 2024)	6/73 (8%)
Self-reported Health Status	(Libin et al. 2024)	1/73 (1%)
Smoking	(Sufian et al. 2024)	1/73 (1%)
Grand Total		**14/73 (19%)**
Clinical Variables		
Disease Status (Parkinson's Disease, Human Papillomavirus, Unilateral Vocal Fold Paralysis)	(Salahuddin et al. 2023; Souza et al. 2023; Low et al. 2024)	3/73 (4%)
Comorbidities (Cardiovascular Disease, Diabetes)	(Dang et al. 2024)	1/73 (1%)
Cancer Types (Ovarian, Bowel, Lung, Breast)	(Watson et al. 2024)	1/73 (1%)
Parkinson's Disease	(Patil and Ford 2024)	1/73 (1%)
Bowel Obstruction	(Juwara, El-Hussuna, and El Emam 2024)	1/73 (1%)
Tumor Size Status (Head and Neck tumors)	(Salahuddin et al. 2023)	1/73 (1%)
Lymph Node Size (Head and Neck tumors)	(Salahuddin et al. 2023)	1/73 (1%)
Chemotherapy (Head and Neck tumors)	(Salahuddin et al. 2023)	1/73 (1%)
BMI	(Heidari et al. 2024)	1/73 (1%)
Radiological grade	(Heidari et al. 2024)	1/73 (1%)

Oxford Knee Scores	(Heidari et al. 2024)	1/73 (1%)
Disease Region and Intensity (e.g., brain spatial location)	(Stanley, Souza, Winder, et al. 2024; Stanley, Souza, Wilms, et al. 2024)	1/73 (1%)
Grand Total		**10/73 (14%)**
System/Institutional Variables		
Scanner Type (e.g., T1-weighted, Harmonized T1-weighted, log-Jacobians)	(Souza et al. 2023)	1/73 (1%)
Scanner Vendor (e.g., General Electric, Philips, Siemens)	(Dibaji et al. 2024)	1/73 (1%)
Scanner Field (e.g., 1.5T, 3T)	(Dibaji et al. 2024)	1/73 (1%)
Hospital Location (e.g., high-income and low-income countries)	(J. Yang et al. 2023; 2024)	2/73 (3%)
Grand Total		**4/73 (5%)**

Table 1: Group label definitions from the PMC literature search. Counts are per paper; percentages are of 73 papers; totals within a category need not sum to 100%.