

Eliciting Trade-Offs Between Equity and Efficiency: A Methodological Scoping Review

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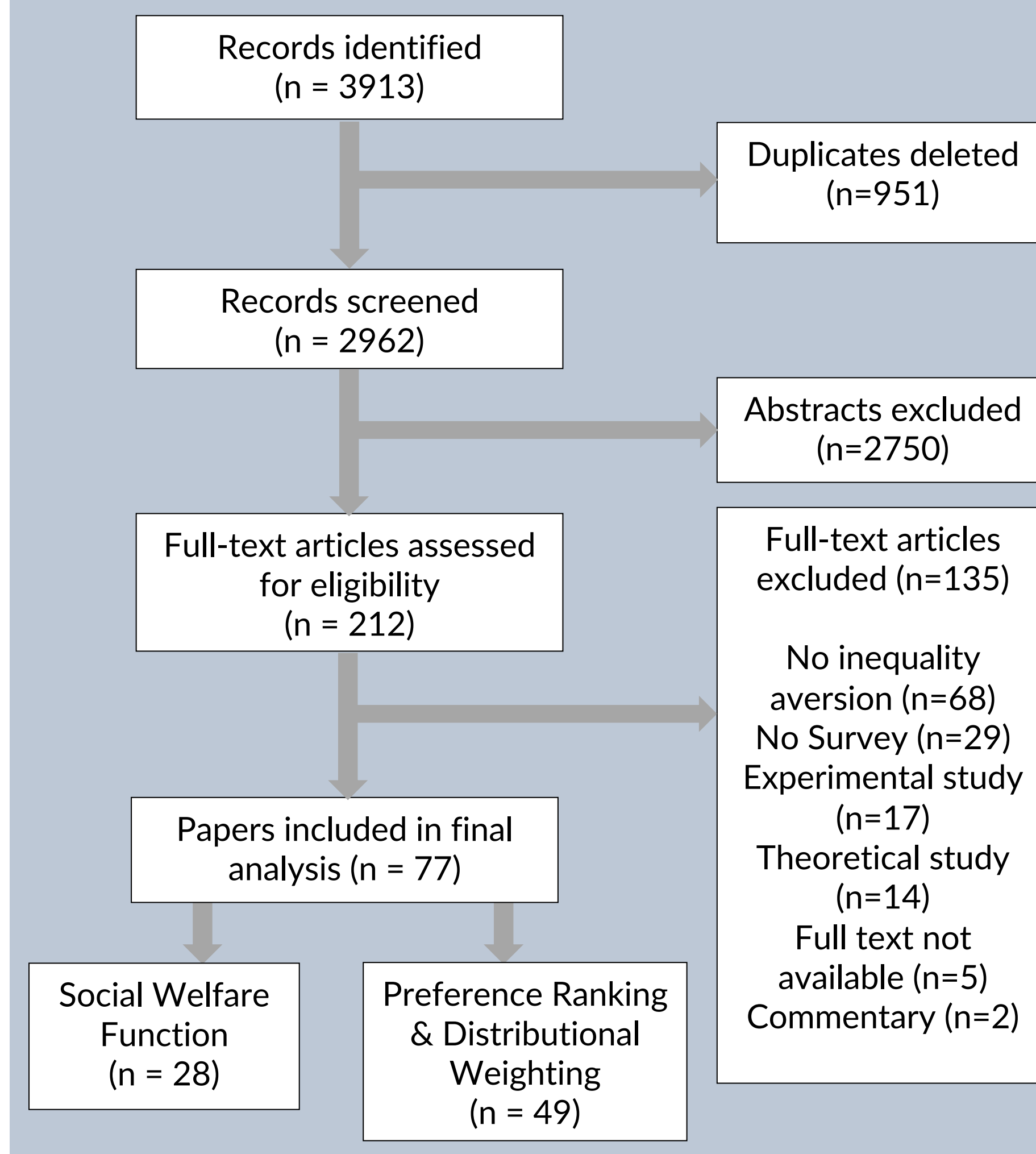
Background

- Novel approaches to cost-effectiveness analysis (CEA) expand outcomes to include equity considerations by weighting CEA results
- Methods require representative weighting values to accurately reflect population preferences
- We conducted a scoping review of studies that elicit trade-offs between equity and efficiency characteristics using:
 - social welfare function approaches
 - preference rankings or distributional weights approaches
- Characteristics and methods used to elicit trade-offs between equity and efficiency are compared

Methods

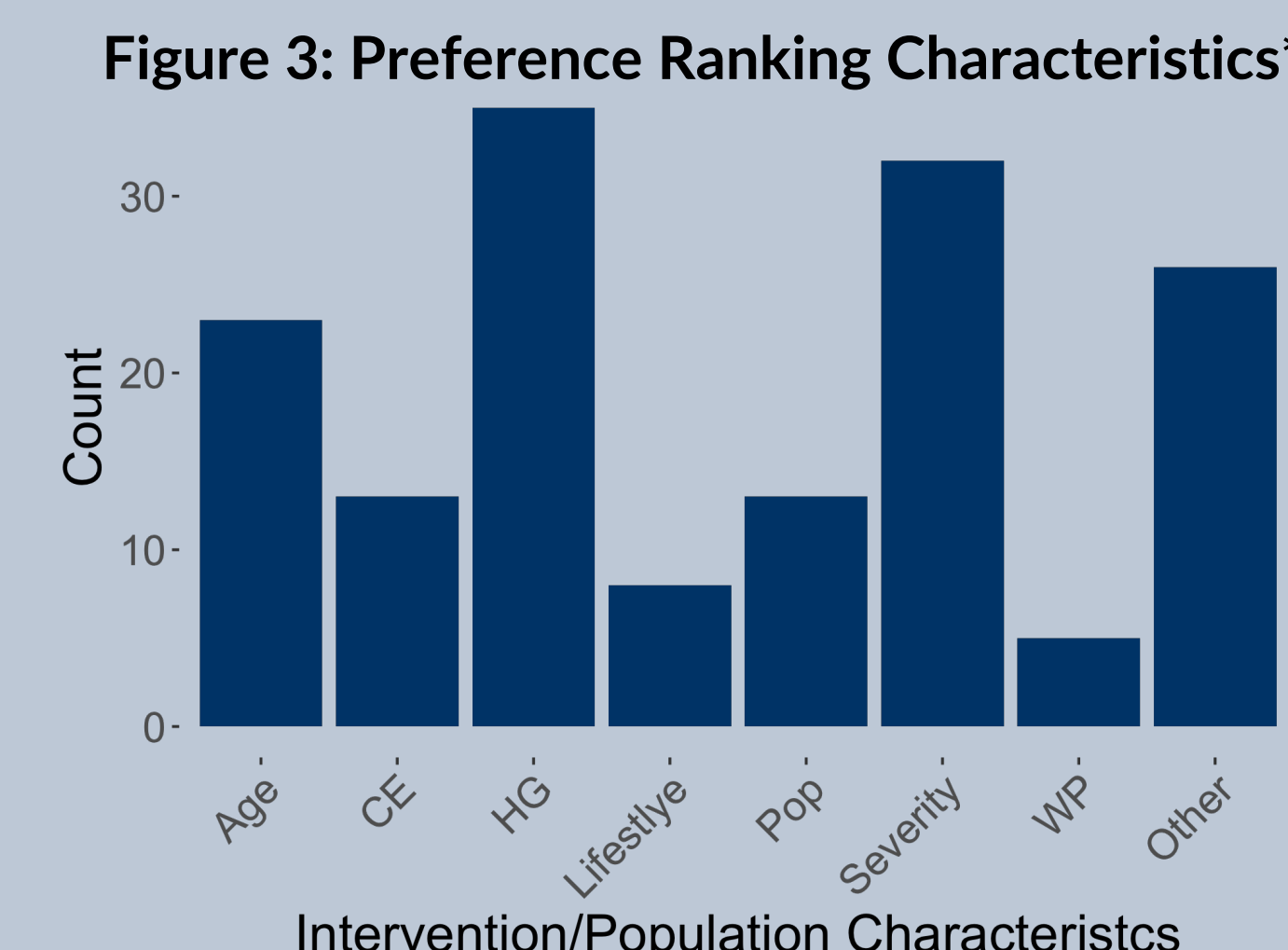
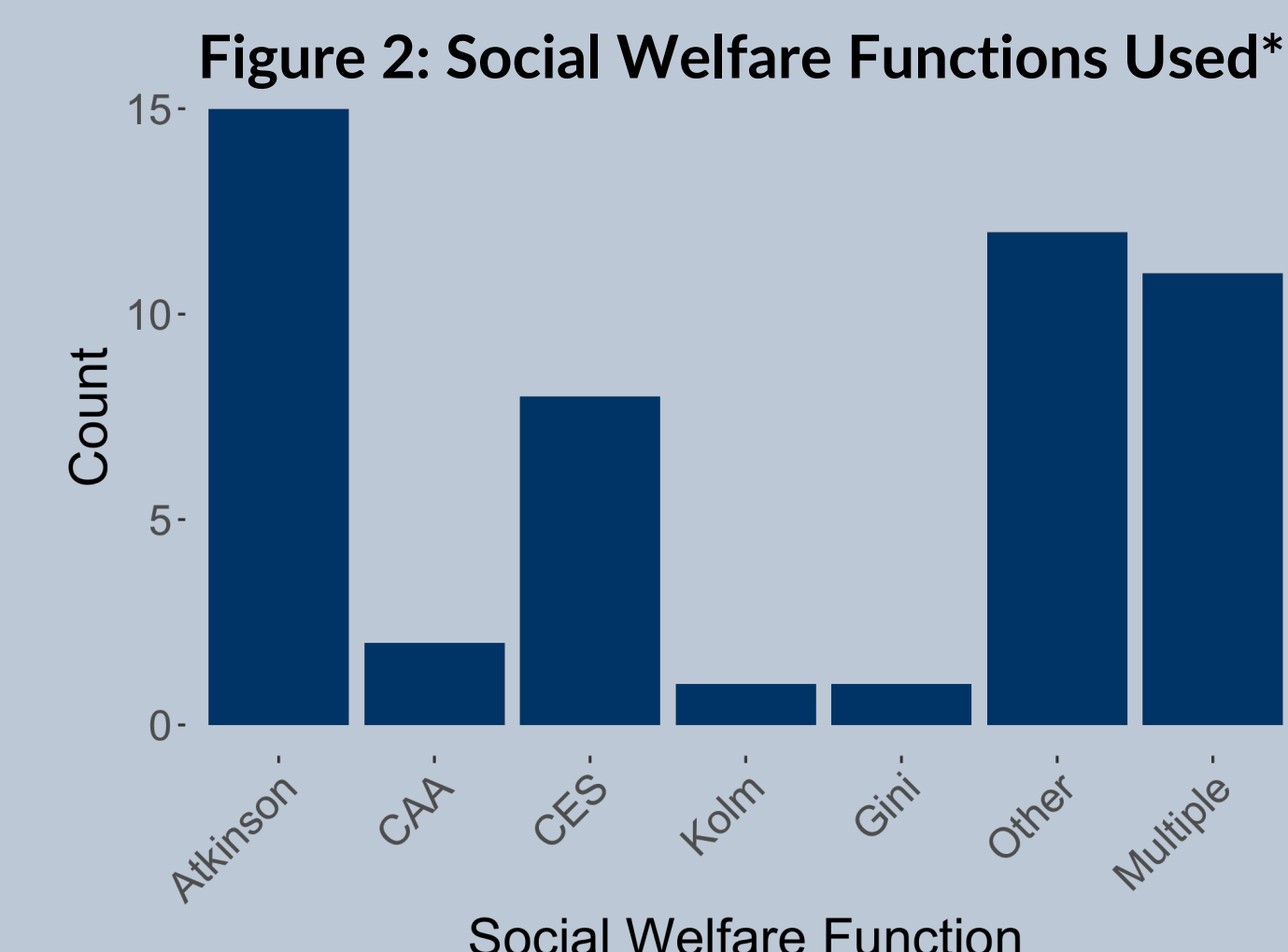
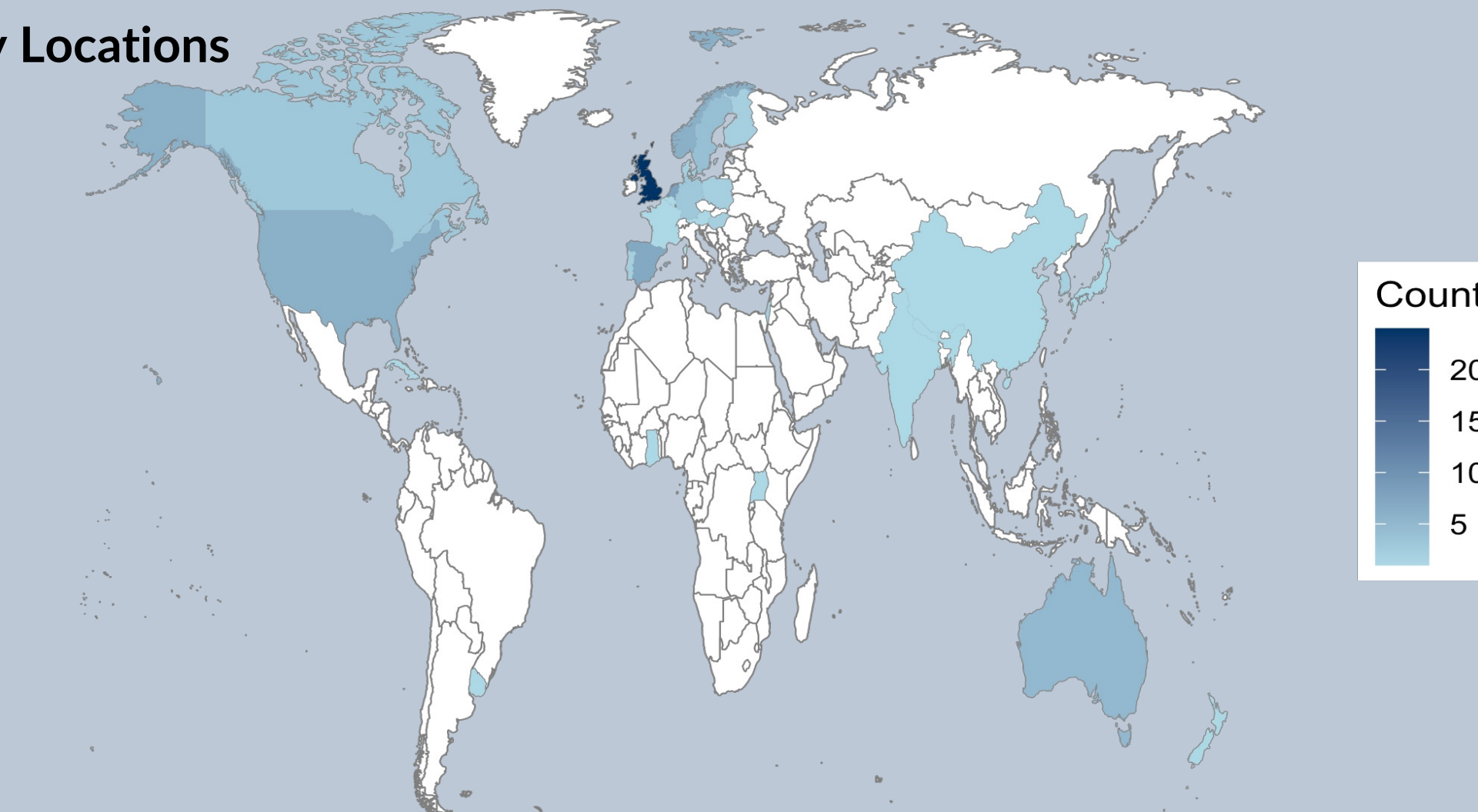
- **Databases:** Ovid, EconLit, and Scopus
- **Inclusion criteria:** (1) peer-reviewed or (2) grey literature; (3) English; (4) survey-based; (5) elicit a trade-off in equity and efficiency.
- **Exclusion criteria:** (1) did not conduct a trade-off; (2) theoretical studies
- **Extracted:** (1) location, (2) sample size, (3) population, (4) approach, (5) inequality type, (6) survey method, (7) trade-off characteristics, (8) social welfare functional form, (9) results, and (10) study limitations.
- Studies grouped by method:
 1. social welfare function
 2. preference ranking and distributional weighting
- Results classified as: (1) clear evidence of aversion; (2) mixed evidence of aversion; or (3) no evidence of aversion based on study conclusion and the social welfare function parameter value or the mix of preferred characteristics and their weights.

PRISMA Diagram



Characteristics of Included Studies

Figure 1: Study Locations



*CAA: Constant Absolute Aversion; CES – Constant Elasticity of Substitution; CE – Cost-Effectiveness; HG – Health Gain; Pop – Population Size; WP – Willingness-to-Pay; BTO – Benefit Trade-Off; PTO – Person Trade-Off

Table 1: Study Method Details*

Characteristics of Included Studies	Preference Ranking		Social Welfare Function	
	N	%	N	%
Sample Size				
<500	22	47	20	24
≥500	25	53	7	26
Sample Type				
General Public	26	53	9	33
Representative Sample	7	14	6	22
Health Policy Experts	10	20	2	7
Students	7	14	11	41
Researchers/Clinicians	11	22	0	0
Other	2	4	2	7
Type of Aversion				
Income	0	0	10	37
Health	48	98	20	74
Income/Health	0	0	1	4
Other	1	2	1	4
Survey Approach				
BTO	4	8	16	59
Leaky Bucket	0	0	4	15
Stated Preference	2	4	3	11
PTO	7	14	3	11
DCE	23	47	2	7
Ranking	4	8	1	4
Other	12	24	2	7
Veil of Ignorance	1	2	9	33

Results

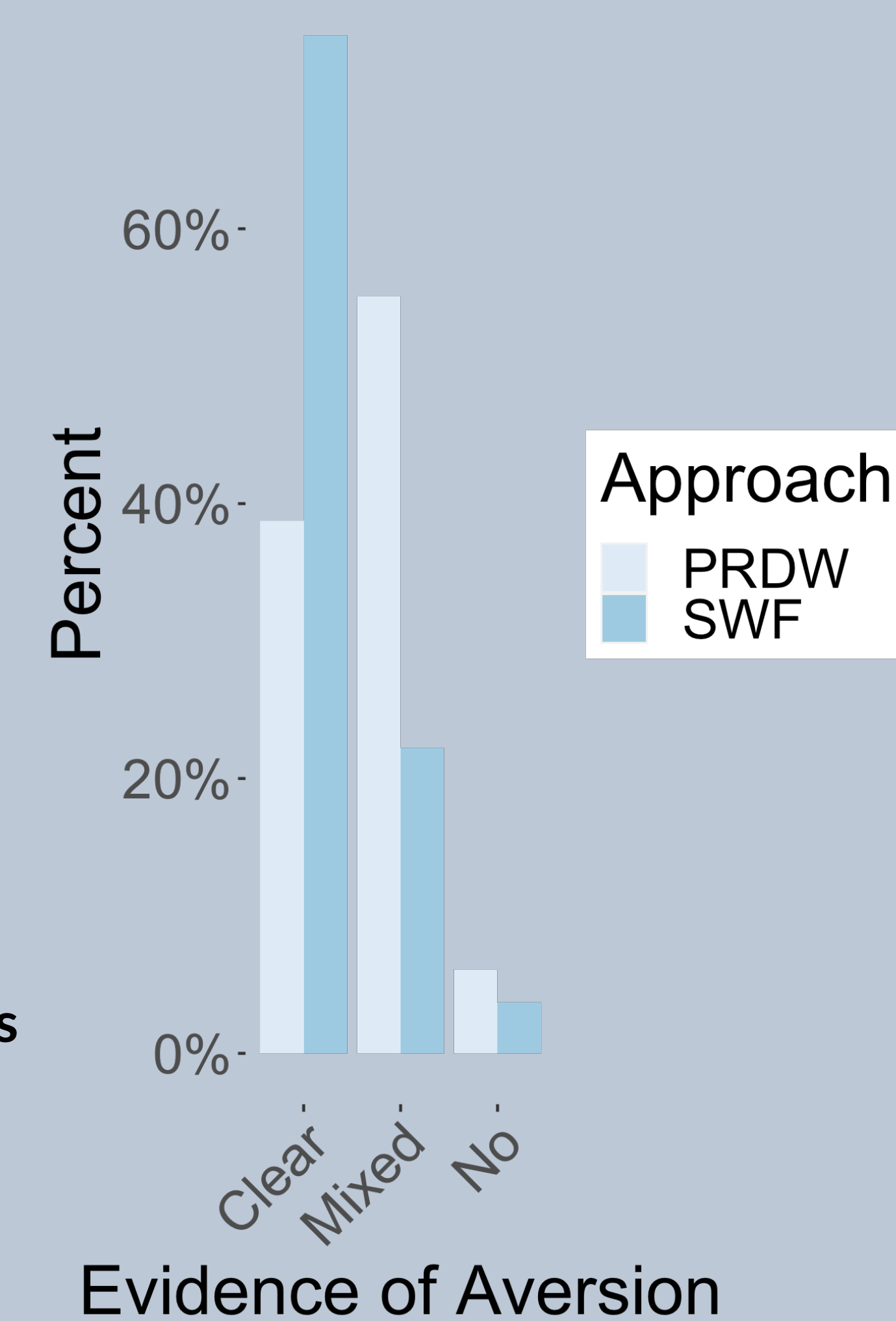
Social Welfare Function Approaches

- Clear evidence (n=20); mixed (n=6); no evidence (n=1) of aversion to inequality*
- Differences by sociodemographic characteristics (n=13)
 - Political ideology (n=6) with more conservative respondents being less inequality averse than liberal ones
 - Income (n=3) and education (n=2)
- No sociodemographic characteristic differences (n=4) did not report differences (n=10)

Preference Ranking and Distributional Weighting Approaches

- Clear evidence (n=19); mixed (n=27); no evidence (n=3) of aversion to inequality
- Health gains and cost-effectiveness often among the most highly ranked or weighted characteristics
- Differences by sociodemographic characteristics (n=15)
 - Gender (n=8) where men were more likely to express preferences for efficiency
 - Profession (n=5) and education (n=4)
- No sociodemographic characteristic differences (n=7) did not report differences (n=27)
- Studies conducted in multiple countries suggest varying attitudes toward inequality

Figure 4: Study Results*



*Two papers report results from one study; PRDW – Preference Ranking and Distributional Weighting approach; SWF – Social Welfare Function approach

Conclusions

- **Substantial heterogeneity was found in study design characteristics:** survey methods, question framing, functional form used for social welfare function approaches, and trade-off characteristics for preference ranking and distributional weighting approaches
- **Three challenges for equity-informed CEA:**
 1. Unclear how averse societies are to inequality and what parameter or weighting values to use
 2. Lack of representative samples limit applicability of study findings
 3. The variety of characteristics identified as important in preference ranking and distributional weighting studies illustrate the importance of considering characteristics of the treated population when incorporating equity considerations into CEA
- Within and between study heterogeneity limit the adoption of weights for equity-informed CEA

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