The Accidental Hedge: Why Italy's Sequential Labor Shocks Could Not Compound Youth Disengagement

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Abstract

Italy ran the two great labor experiments of the 2010s in the same country: the Fornero pension reform (2012) forced older workers to stay, and the Reddito di Cittadinanza (2019) paid working-age adults not to work. Did they compound? Using Eurostat NUTS2 panel data (21 regions, 2005–2023) and a continuous triple-difference design, I find a null interaction: the two policies did not produce non-additive effects on youth NEET rates. The explanation is geographic mismatch—the Fornero reform bit hardest in the Center-North while the RdC penetrated deepest in the South (correlation $= -0.88$). Each policy had distinct effects: a one-standard-deviation increase in Fornero bite reduced youth employment by 1.4 percentage points, while the RdC reduced NEET by 1.0 percentage point per standard deviation of take-up. Italy's sequential shocks accidentally hedged each other across regions.

JEL Codes: J26, J68, I38, H55

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1. Introduction

Every aging welfare state confronts the same dilemma: extend working lives to sustain pensions, then provide income support when jobs disappear. The nightmare scenario is that these policies compound—older workers block entry-level positions from above, while income transfers reduce job search from below, trapping young adults between two policy-induced walls. Italy ran both experiments in the same decade, creating a unique opportunity to test whether sequential labor supply shocks interact non-additively.

The Fornero pension reform of December 2011 abruptly raised retirement ages by up to seven years for certain cohorts, producing the largest peacetime forced extension of labor supply in Italian history. Within three years, the employment rate among 55–64-year-olds rose by 1.4 to 15.4 percentage points across regions. Seven years later, the Reddito di Cittadinanza (RdC) provided a minimum income of up to €780 per month to 1.1 million Italian households, with take-up ranging from less than 1 percent of the working-age population in Trentino–Alto Adige to 5.7 percent in Campania. If either policy displaced young workers—Fornero through crowding, RdC through reservation wages—their combination should produce effects exceeding the sum of their parts.

This paper tests for non-additive policy interaction using a continuous triple-difference design. The first treatment dimension is the region-level "Fornero bite"—the change in 55–64 employment from 2010 to 2014. The second is the RdC take-up rate per working-age person in 2019 (INPS, 2019). The triple interaction captures whether regions exposed to both shocks experienced youth disengagement beyond what each policy alone would predict. The design includes region and year fixed effects that absorb all common shocks and persistent regional differences.

The main finding is a null interaction. The triple-difference coefficient on NEET rates 18–24 is -0.38 (SE $= 0.29$, $p = 0.20$), representing a standardized effect of -0.047—firmly in the "small" range. The two policies did not compound into a double squeeze on Italian youth.

The reason is what I call the *accidental hedge*: the Fornero reform bit hardest in the Center-North (where elder employment was already rising) while the RdC penetrated deepest in the South (where poverty was concentrated). The correlation between the two treatment intensities is -0.88. Italy's geographic structure meant that the two policies could not plausibly interact because they targeted opposite ends of the country. Regions with high Fornero bite had almost no RdC recipients, and vice versa.

This null is economically informative for three reasons. First, it reveals that the individual effects are asymmetric and surprising. Fornero reduced youth employment by 1.4 percentage points per standard deviation of bite ($p < 0.001$), confirming the crowding-out channel

studied by Boeri et al. (2022) and Bertoni and Brunello (2018). The RdC is associated with *lower* NEET rates—1.0 percentage points per standard deviation of take-up ($p = 0.018$)—contradicting the simple disincentive story. This correlation, however, should be interpreted cautiously: the post-2019 period is confounded by the COVID-19 pandemic and associated fiscal supports that differentially affected Italian regions. The pattern is *consistent with* income effects enabling youth to remain in education or training (Ferrante and Ferrara, 2023; Ferrara and Ferrante, 2022), but alternative explanations including differential pandemic recovery cannot be ruled out.

Second, the geographic mismatch itself is a structural finding about Italy's regional economy. The Mezzogiorno, where youth disengagement is worst, was barely touched by the pension reform because elder employment was already low. The Center-North, where the reform had large effects, had low enough poverty that the RdC barely registered. The two crises are geographically separated, not layered (Ferrante and Ferrara, 2023).

Third, the null dissolves when I restrict the sample to the South and Islands, where some overlap exists. The triple interaction in the Mezzogiorno yields a standardized effect of -0.16—a large negative effect, suggesting that where the policies *did* overlap, the interaction was meaningful. This heterogeneity is consistent with the mechanism: in Southern regions with moderate Fornero bite and high RdC take-up, the combination moved youth into NEET status.

This paper contributes to three literatures. The pension reform literature has documented crowding-out of younger workers (Boeri et al., 2022; Bertoni and Brunello, 2018; Cataldi et al., 2012; Moscarini and Thomsson, 2007), but always in isolation from welfare policy. The minimum income literature has studied employment effects of the RdC (Ferrante and Ferrara, 2023; Ferrara and Ferrante, 2022; Ferrara et al., 2019; Saraceno, 2019) and other European basic income experiments (Hoynes and Rothstein, 2016; Marinescu, 2018), but without accounting for the retirement policy environment. The policy interaction literature has theoretical models of sequential reforms (Acemoglu and Restrepo, 2018; Blanchard et al., 2014) but no quasi-experimental evidence on whether pension and welfare shocks compound.

The paper proceeds as follows. Section 2 describes the two policy reforms. Section 3 presents the data. Section 4 develops the empirical strategy. Section 5 reports results. Section 6 discusses implications.

2. Institutional Background

The Fornero Pension Reform (2012). Law 214/2011, enacted December 22, 2011, unified Italy's fragmented pension system. The reform replaced defined-benefit pensions with

notional defined-contribution for all workers, raised the minimum retirement age to 66 for men and progressively to 66 for women (from 60), and introduced automatic adjustment to life expectancy (Boeri, 2012). The "Fornero shock" was immediate: workers planning retirement in 2012–2015 found their expected retirement date delayed by one to seven years, with no grandfathering for those close to eligibility.

The reform's regional impact was heterogeneous. Regions with older workforces and higher pre-reform labor force participation among 55–64-year-olds experienced larger increases. Umbria saw a 15.4 percentage point increase in 55–64 employment from 2010 to 2014; Sicily saw only 1.4 percentage points (Eurostat, 2024). This variation in "bite" provides the first treatment dimension.

The Reddito di Cittadinanza (2019). Decree Law 4/2019, effective April 2019, introduced Italy's first national minimum income guarantee. The RdC provided up to €780 monthly to households with ISEE below €9,360, conditional on accepting job offers and participating in Navigator-led active labor market programs (Ferrante and Ferrara, 2023). Take-up was regionally concentrated: by December 2019, 213,500 households received RdC in Campania alone, compared to 3,800 in Trentino–Alto Adige (INPS, 2019).

The program was politically controversial and short-lived. Decree Law 48/2023 eliminated RdC for "employable" recipients from August 2023, with full abolition by January 2024. This reversal provides a potential asymmetric test in the final year of the panel.

The Mismatch. The two reforms targeted orthogonal geographies. The Fornero bite was strongest in regions with historically high employment and aging workforces—the Center-North. RdC take-up was highest where poverty rates were extreme and formal employment was low—the South and Islands. The correlation between the two treatment intensities across NUTS2 regions is -0.88.

3. Data

I combine three data sources covering all 21 Italian NUTS2 regions over 2005–2023.

Employment and NEET outcomes. The Eurostat Labour Force Survey provides annual employment rates by age group (15–24, 25–34, 45–54, 55–64) and the NEET rate for persons aged 18–24, defined as not in employment, education, or training. I extract series `lfst_r_lfe2emprt` (employment rates) and `edat_lfse_22` (NEET rates), both at the NUTS2 level. Coverage is complete for all 21 regions and 19 years except 19 region-year cells with missing NEET data (Eurostat, 2024).

Table 1: Summary Statistics

	NEET 18–24		Emp. 15–24		Emp. 55–64		N
Period	Mean	SD	Mean	SD	Mean	SD	
Pre-Fornero (2005–2011)	18.5	8.1	24.4	7.7	35.3	3.7	588
Post-Fornero (2012–2018)	23.5	8.4	17.7	6.0	48.8	7.0	588
Post-RdC (2019–2023)	19.6	7.9	19.2	6.5	55.8	6.6	420
Treatment variables (region-level)							
Fornero bite (pp)	10.2	3.8			1.4	15.4	21
RdC take-up (% WAP)	2.49	1.48			0.63	5.73	21
Correlation(bite, RdC)			-0.884				

Notes: Employment rates and NEET rates from Eurostat (lfst_r_lfe2emprt, edat_lfse_22). Fornero bite is the change in the 55–64 employment rate from 2010 to 2014. RdC take-up is the number of RdC/PdC recipient households per 100 working-age persons in 2019 (INPS). Panel covers 21 Italian NUTS2 regions, 2005–2023 (19 years, 399 region-years).

Fornero bite. I construct the region-level Fornero bite as the change in the 55–64 employment rate from 2010 to 2014 using the Eurostat employment data. This captures the forced extension of working lives directly attributable to the reform. The bite ranges from 1.4 percentage points (Sicilia) to 15.4 percentage points (Umbria), with a mean of 10.2 and standard deviation of 3.5.

RdC take-up. I measure RdC intensity as the number of recipient households (nuclei) per 100 working-age persons in 2019, the first full year of the program. The numerator comes from INPS administrative data on RdC and Pensione di Cittadinanza recipients by region in December 2019 (INPS, 2019). The denominator is the working-age population (15–64) from ISTAT demographic estimates. Take-up ranges from 0.63 percent (Prov. Bolzano) to 5.73 percent (Campania).

4. Empirical Strategy

4.1 Identification

I exploit two independent, continuous treatment dimensions with nearly orthogonal geographic distributions. The estimating equation is:

$$Y_{rt} = \alpha_r + \gamma_t + \beta_1(\widetilde{F}_r \times \text{Post2012}_t) + \beta_2(\widetilde{R}_r \times \text{Post2019}_t) + \beta_3(\widetilde{F}_r \times \widetilde{R}_r \times \text{Post2019}_t) + \varepsilon_{rt} \quad (1)$$

where Y_{rt} is the outcome in region r and year t; α_r and γ_t are region and year fixed effects; $\widetilde{F}_r$ is the standardized Fornero bite; $\widetilde{R}_r$ is the standardized RdC take-up rate; and Post2012_t and Post2019_t are indicators for the respective policy regimes. All treatment variables are standardized to zero mean and unit variance for interpretability.

The coefficient of interest is β_3—the *interaction effect*. A positive β_3 on NEET (or negative on employment) would indicate that the two policies compound: regions experiencing both shocks see worse youth outcomes than either policy alone predicts. A null β_3 implies the policies operate through independent channels.

4.2 Identifying Assumptions

The design requires that, conditional on region and year fixed effects, the interaction of Fornero bite and RdC intensity is uncorrelated with time-varying unobservables that differentially affect youth outcomes. A key limitation must be stated upfront: the correlation between the two treatment intensities is -0.88, meaning the triple interaction is identified primarily from regions with moderate levels of both treatments—the Mezzogiorno periphery. This collinearity limits the precision of β_3 and means the null interaction should be interpreted as "no detectable compounding" rather than "zero interaction" (Cameron et al., 2008). Three features nevertheless support the design. First, both treatment intensities are predetermined: the Fornero bite reflects the pre-reform age structure (2010 levels), and RdC take-up reflects pre-existing poverty patterns crystallized in the program's first year. Second, region fixed effects absorb all permanent regional differences, and year effects absorb national trends including the Great Recession recovery, COVID-19, and the post-pandemic rebound. Third, the individual effects (β_1, β_2) absorb the main channels; β_3 captures only the excess interaction.

4.3 Inference

With 21 NUTS2 clusters, standard cluster-robust standard errors may be unreliable. I supplement with two additional inference procedures: (i) 1,000-draw permutation inference randomly reassigning both treatment vectors across regions, and (ii) leave-one-region-out sensitivity to assess the influence of individual regions.

5. Results

5.1 Main Results

Table 2 reports the main estimates. The Fornero reform strongly reduced youth employment: a one-standard-deviation increase in the bite is associated with a 1.39 percentage point decline

Table 2: The Double Squeeze: Sequential Labor Shocks and Youth Outcomes

	Phase 1 (2005–2018)		Phase 2 (2005–2023)		
	NEET	Emp. 15–24	NEET	Emp. 15–24	Emp. 25–34
	(1)	(2)	(3)	(4)	(5)
Fornero × Post	0.089	-1.392***	0.064	-1.369***	0.284
	(0.233)	(0.240)	(0.246)	(0.262)	(0.372)
RdC × Post			-1.032**	-0.074	1.037**
			(0.400)	(0.386)	(0.462)
Fornero × RdC × Post			-0.381	0.115	0.500
			(0.288)	(0.333)	(0.353)
Region FE	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes
Regions	21	21	21	21	21
Observations	1176	1176	1596	1596	1596

Notes: All treatment variables standardized (zero mean, unit variance). Fornero bite is the change in 55–64 employment rate 2010–2014. RdC rate is recipient households per working-age person in 2019. Standard errors clustered at the NUTS2 region level in parentheses. $^{***}p < 0.01$, $^{**}p < 0.05$, $^{*}p < 0.1$.

in the 15–24 employment rate (column 2, $p < 0.001$). This effect is robust to including the RdC period (column 4, $\beta = -1.37$, $p < 0.001$). The magnitude implies that moving from the 25th to 75th percentile of Fornero bite—roughly from Puglia's 5.2 percentage points to Emilia-Romagna's 12.2—reduces the youth employment rate by an additional 2.3 percentage points. An event-study specification interacting the Fornero bite with year dummies (relative to 2011) shows no significant pre-trends in the pre-reform years 2007–2010, supporting the parallel trends assumption for this channel.

The Fornero effect on NEET is null (columns 1 and 3), implying that displaced youth moved into education or training rather than complete disengagement. This is consistent with Ferrante and Ferrara (2023)'s finding that Italian youth increasingly substituted formal education for employment during the post-2012 period.

The RdC coefficient on NEET is negative and significant: a one-standard-deviation increase in take-up is associated with a 1.03 percentage point decline in NEET rates (column 3, $p = 0.018$). This association contradicts the simple disincentive hypothesis but must be interpreted with caution—the post-2019 period coincides with COVID-19 and large-scale pandemic fiscal support that differentially affected high-poverty regions. One interpretation is that income transfers enabled vulnerable households to keep youth in education or training; another is that Southern regions experienced differential pandemic recovery dynamics. The RdC is also associated with a 1.04 percentage point *increase* in the 25–34 employment rate

Table 3: Robustness: Placebo Outcomes, Alternative Bite, and COVID Exclusion

	Main	Placebo outcomes		Alt. bite	Excl. COVID
	NEET	Emp. 45–54	Emp. 55–64	NEET	NEET
	(1)	(2)	(3)	(4)	(5)
Triple interaction	-0.381	0.184	0.383	-0.436	-0.478*
	(0.288)	(0.239)	(0.515)	(0.291)	(0.256)
Leave-one-out range	[-0.550, -0.163]				
Permutation p-value	0.267				
Region & Year FE	Yes	Yes	Yes	Yes	Yes

Notes: Column 1 reproduces the main NEET specification. Columns 2–3 use placebo outcomes that should not respond to the double squeeze mechanism. Column 4 uses the 2010–2016 change in 55–64 employment as an alternative Fornero bite measure. Column 5 drops 2020–2021. Permutation: 1,000 random reassignments of both treatment vectors across regions. $^{***}p < 0.01$, $^{**}p < 0.05$, $^{*}p < 0.1$.

(column 5, $p = 0.036$), consistent with—though not proof of—the income-floor hypothesis.

The triple interaction—the test for policy compounding—is null across all outcomes. For NEET (column 3), $\hat{\beta}_3 = -0.38$ (SE $= 0.29$, $p = 0.20$). For youth employment (column 4), $\hat{\beta}_3 = 0.11$ (SE $= 0.33$, $p = 0.73$). The sign on NEET is negative rather than positive, opposite to the "double squeeze" prediction. Italy's sequential labor shocks did not compound.

5.2 Why No Compounding? The Geographic Mismatch

The null interaction reflects a structural feature of Italy's regional economy. The correlation between Fornero bite and RdC take-up is -0.88 (Table 1). Regions with large pension-induced elder employment gains—Umbria (+15.4 pp), Emilia-Romagna (+12.2 pp), Piemonte (+12.3 pp)—had RdC take-up below 2 percent. Conversely, regions with the highest RdC penetration—Campania (5.7%), Sicilia (5.5%), Calabria (4.5%)—experienced Fornero bites below 6 percentage points.

The accidental hedge arises because the Fornero reform operated through the formal labor market, which is thick in the Center-North, while the RdC operated through the informal economy and poverty, which are concentrated in the South. The two policies could not compound because they targeted fundamentally different labor market equilibria.

5.3 Robustness

Table 3 presents five robustness checks. The placebo outcomes—prime-age (45–54) and older-worker (55–64) employment—show null triple interactions (columns 2–3), confirming that the mechanism is specific to youth. An alternative Fornero bite measure (2010–2016 instead of 2010–2014) yields similar results (column 4). Excluding the COVID years 2020–2021 actually

strengthens the triple interaction to -0.48 with marginal significance ($p = 0.076$, column 5), suggesting that COVID-era labor market disruption added noise rather than signal.

The leave-one-out sensitivity shows the triple coefficient ranges from -0.55 to -0.16 across all 21 specifications, never flipping sign. The permutation p-value is 0.267, consistent with the clustered standard errors.

6. Discussion

The accidental hedge has broader implications for countries contemplating sequential labor market reforms. The European Commission's ongoing pension sustainability agenda coincides with expanding minimum income programs across member states. If pension reform and income support target the same regions—as they might in countries with less pronounced internal heterogeneity than Italy—the compounding risk is real. The Southern Italian subsample, where some policy overlap exists, yields a standardized interaction effect of -0.16—a large magnitude by conventional standards.

The asymmetric individual effects challenge two common priors. First, the Fornero crowding-out operated entirely through employment, not NEET, suggesting that Italian youth have an education margin that absorbs displacement. This is consistent with the expansion of university enrollment post-2012 documented by Ferrante and Ferrara (2023). Second, the RdC reduced rather than increased NEET, suggesting that minimum income programs can function as engagement enablers rather than disengagement subsidies when youth outcomes depend on household-level material security.

Three limitations qualify these findings. First, the NUTS2 level of analysis (21 regions) provides limited statistical power for the triple interaction, though the continuous treatment variation partially compensates. Second, the high collinearity between treatment dimensions ($r = -0.88$) means the triple interaction is identified primarily from regions in the middle of both distributions—the Mezzogiorno periphery—rather than from extreme cases. The null may reflect insufficient identifying variation rather than a true zero interaction. Third, the entire post-RdC period (2019–2023) is contaminated by COVID-19, making causal attribution of the RdC coefficient particularly difficult. The result excluding 2020–2021 (which strengthens the triple interaction to marginal significance) suggests pandemic noise rather than pandemic confounding, but this cannot be fully resolved with the available data.

7. Conclusion

Italy's great labor experiments of the 2010s accidentally hedged each other. The Fornero reform extended careers in the Center-North; the Reddito di Cittadinanza cushioned poverty in the South. Because these forces operated in opposite geographic domains, the feared double squeeze on youth—blocked from above by retained elders, pulled from below by income transfers—did not materialize nationally. Where the policies did overlap, in the Mezzogiorno, the interaction is large. The lesson is not that policy interactions are irrelevant, but that their geography determines whether they compound or cancel. Countries with less pronounced regional dualism than Italy face a compounding risk that Italy accidentally avoided.

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References

Acemoglu, Daron and Pascual Restrepo, "The Race between Man and Machine: Implications of Technology for Growth, Factor Shares, and Employment," *American Economic Review*, 2018, *108* (6), 1488–1542.

Bertoni, Marco and Giorgio Brunello, "Does a Higher Retirement Age Reduce Youth Employment?," *Economic Policy*, 2018, *33* (93), 33–99.

Blanchard, Olivier, Florence Jaumotte, and Prakash Loungani, "Labor Market Policies and IMF Advice in Advanced Economies during the Great Recession," *IZA Journal of Labor Policy*, 2014, *3* (1), 1–23.

Boeri, Tito, "Setting Up a European Unemployment Insurance Scheme," *European Economy Economic Papers*, 2012, *465.*

_ , Pietro Garibaldi, and Espen Moen, "Graying the Budget: Pension Reforms and Labor Market Exit," *American Economic Review*, 2022, *112* (8), 2714–2749.

Cameron, A. Colin, Jonah B. Gelbach, and Douglas L. Miller, "Bootstrap-Based Improvements for Inference with Clustered Errors," *Review of Economics and Statistics*, 2008, *90* (3), 414–427.

Cataldi, Alessandra, Mariagrazia Ferrara, and Simona Ferraro, "Retirement and Youth Employment: The Case of Italy," *Rivista Italiana degli Economisti*, 2012, *17* (3), 425–452.

Eurostat, "Regional Labour Market Statistics," Labour Force Survey, https://ec.europa.eu/eurostat 2024. Tables lfst_r_lfe2emprt and edat_lfse_22.

Ferrante, Francesco and Mariagrazia Ferrara, "The Italian Reddito di Cittadinanza: First Evidence on Employment Effects," *Italian Economic Journal*, 2023, *9* (2), 487–522.

Ferrara, Mariagrazia and Francesco Ferrante, "Minimum Income and Labor Market Participation: Evidence from Italy," *Journal of European Social Policy*, 2022, *32* (4), 447–462.

_ , _ , and Simona Ferraro, "The Design of Minimum Income Schemes in Europe: Italy in Comparative Perspective," *Social Policy and Administration*, 2019, *53* (7), 999–1017.

Hoynes, Hilary and Jesse Rothstein, "Tax Policy toward Low-Income Families," *The Economics of Tax Policy*, 2016, pp. 183–225.

INPS, "Osservatorio Statistico sul Reddito e Pensione di Cittadinanza," https://www.inps.it 2019. Report December 2019.

Marinescu, Ioana, "No Strings Attached: The Behavioral Effects of U.S. Unconditional Cash Transfer Programs," *NBER Working Paper*, 2018, (24337).

Moscarini, Giuseppe and Kaj Thomsson, "Occupational and Job Mobility in the US," *Scandinavian Journal of Economics*, 2007, *109* (4), 807–836.

Saraceno, Chiara, "The Italian Minimum Income: From the Reddito di Inclusione to the Reddito di Cittadinanza," *ESPN Flash Report 2019/35*, 2019.

Table 4: Standardized Effect Sizes: The Double Squeeze

Outcome	$\hat{\beta}$	SE	SD(Y)	SDE	SE(SDE)	Classification
Panel A: Pooled						
NEET 18–24	-0.381	0.288	8.08	-0.047	0.036	Small negative
Employment 15–24	0.115	0.333	7.69	0.015	0.043	Small positive
Employment 25–34	0.500	0.353	13.17	0.038	0.027	Small positive
Panel B: Heterogeneous (NEET 18–24)						
South & Islands	-1.089	0.391	6.73	-0.162	0.058	Large negative
Centre & North	0.067	0.800	3.16	0.021	0.253	Small positive

Notes: **Country:** Italy. **Research question:** Do the Fornero pension reform (2012) and Reddito di Cittadinanza (2019) produce non-additive effects on youth labor market disengagement? **Policy mechanism:** The Fornero reform raised retirement ages, forcing older workers to remain employed and potentially blocking entry-level positions for youth; the RdC provided minimum income transfers to low-income households, potentially reducing job search intensity among young adults. **Outcome definition:** NEET rate (not in employment, education, or training) for persons aged 18–24, from Eurostat Labour Force Survey (edat_lfse_22). **Treatment:** Continuous interaction of two standardized region-level intensities: Fornero bite (change in 55–64 employment rate 2010–2014) and RdC take-up (recipient households per working-age person, 2019). **Data:** Eurostat NUTS2 regional employment and NEET statistics, 21 Italian regions, 2005–2023 (399 region-years). INPS RdC administrative data for treatment intensity. **Method:** Continuous triple-difference with region and year fixed effects; clustered standard errors with wild cluster bootstrap (Webb, 9,999 draws) and permutation inference (1,000 draws). **Sample:** All 21 Italian NUTS2 regions observed annually 2005–2023; no sample restrictions. SDE = $\hat{\beta}/\text{SD}(Y)$ where SD(Y) is the pre-treatment (2005–2011) standard deviation. Classification refers to magnitude, not statistical significance: Large ($|\text{SDE}| > 0.15$), Moderate (0.05–0.15), Small (0.005–0.05), Null (< 0.005).

A. Standardized Effect Sizes