

Family size and domestic violence: Analysis in the Pacific region

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- **Domestic violence** is a significant problem which continues to be widespread and underreported in the Pacific region

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 - 1 in 4 women age 20-24 years married by age 15 and 18, which is higher than the average rate in the Asia and Pacific of 1 in 5 women
 - Contraceptive adoption stands between 20-30% of the population, significantly lower than the Asia and Pacific's average of 60%

Context

Figure 1: Women who experience intimate partner violence (IPV), 2000-22

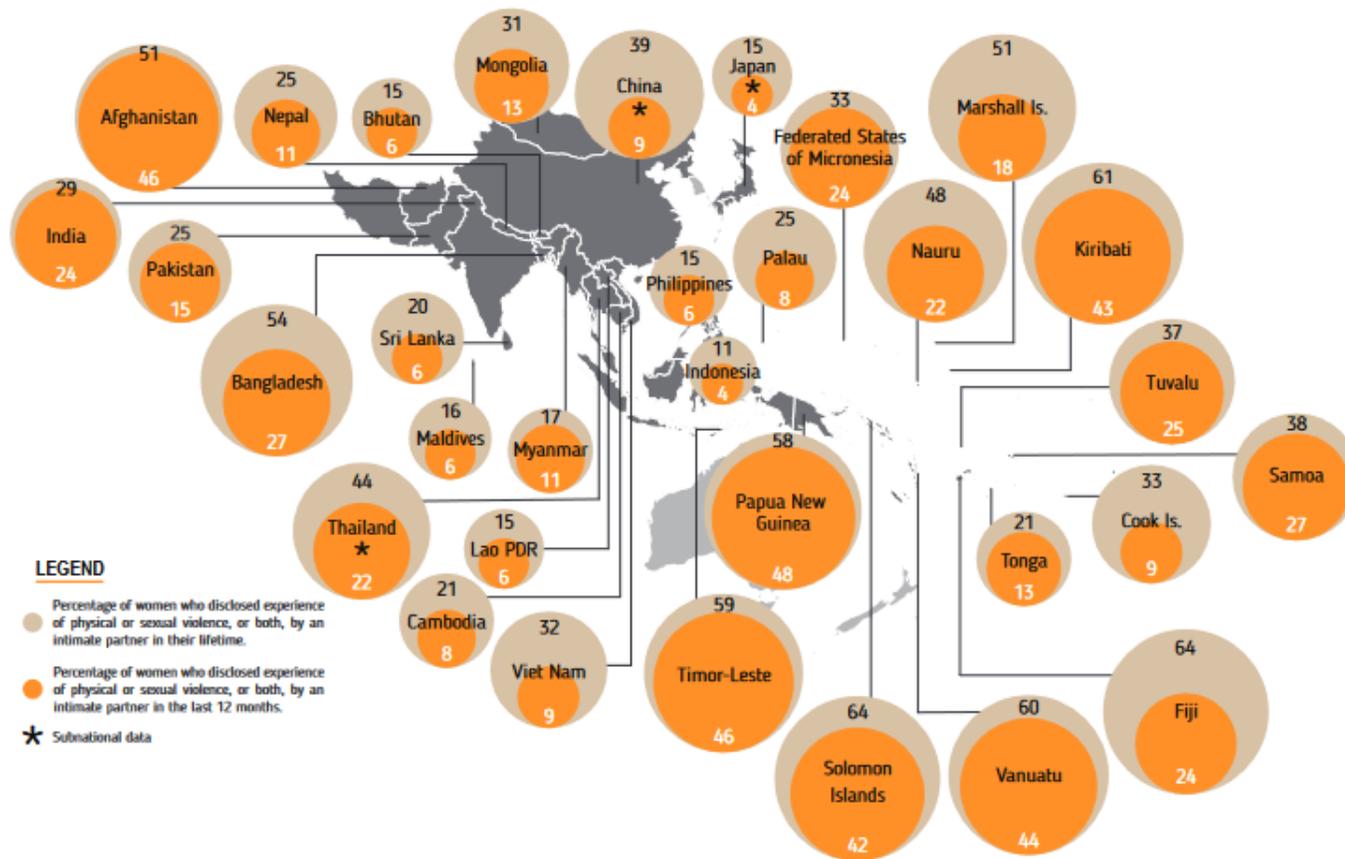
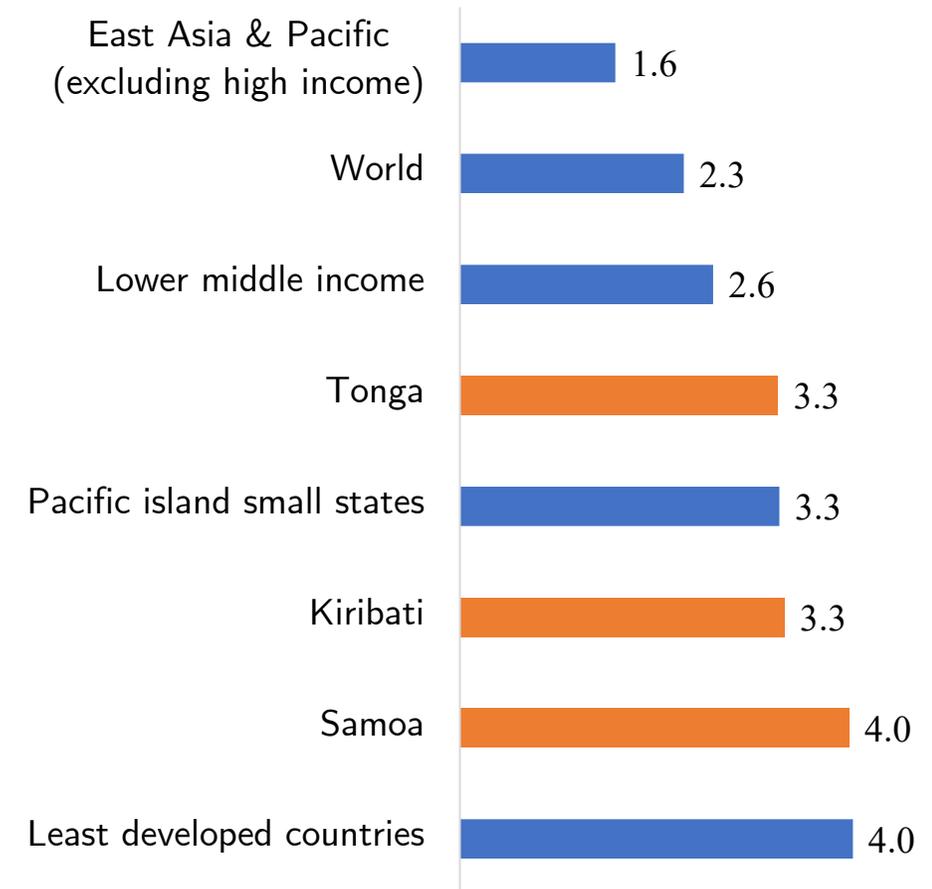


Figure 2: Total fertility rate (births per women), 2021



Source: United Nations Population Fund (2022)

Context

Figure 3: Domestic violence and fertility, 2000 and 2010

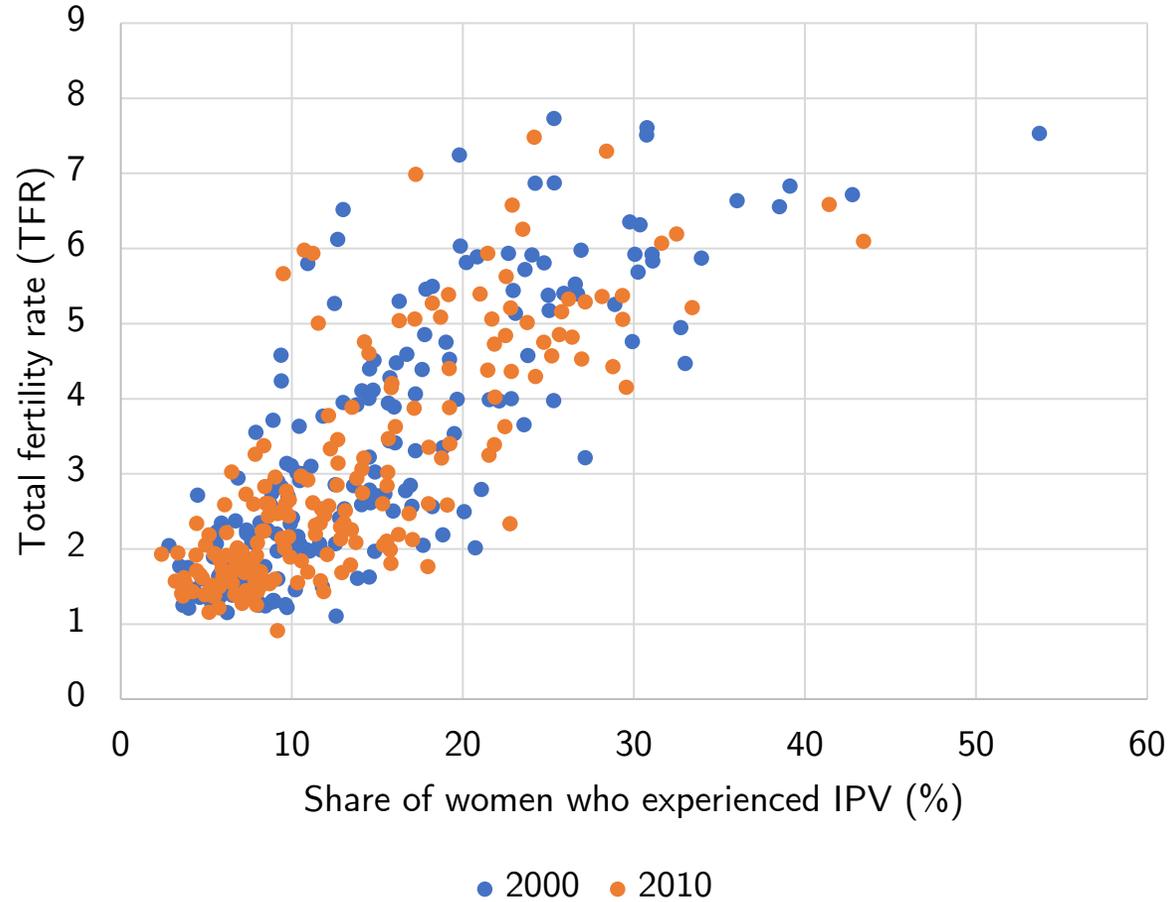
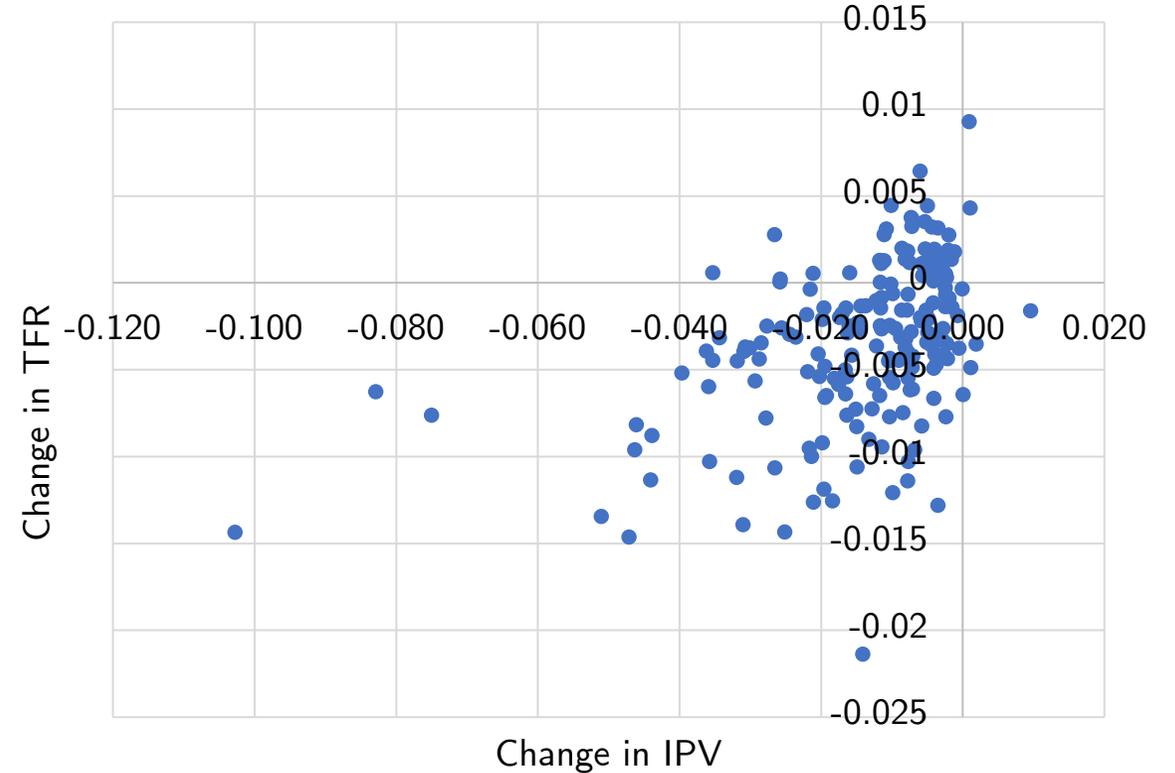


Figure 4: Change in domestic violence and fertility



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 - **Empirical evidence**: low socioeconomic status and resource-poor husbands were more likely to physically abuse their wives (Allen & Straus, 1980; Browker, 1983; Pagelow, 1981)
 - **Factors** derived from resource theory predicting domestic violence: socioeconomic status, status inconsistency, and number of children (Hoffman et al., 1994)

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- Larger families are more likely to resort to violence because the pressure to provide for multiple children is greater (Hoffman et al., 1994)
- Positive relationship between family size and domestic violence (Brinkerhoff & Lupri, 1988b; Ellsberg et al., 2001; Farrington, 1989; Straus et al., 1980)



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- **Outcomes** are (1) female domestic violence; and (2) child violence
- **Endogenous regressor** is the number of children age 15 and below
- **Other covariates** include the household location of residence (urban/rural), socioeconomic status, non-homogamous education level between spouses, presence of children under 2 years old, relationship status (married or cohabitating), child's birth order, child spacing, and whether or not other siblings are enrolled in school

Outcome

Outcome	Description	Unit
Female domestic violence		
Emotional violence	Women ages 15-49 years who have experienced specified acts of emotional violence committed by their current husband/ partner in the past 12 months. Emotional violence refers to a pattern of degrading and humiliating conduct towards a person in a manner to intimidate or harass under threats, verbal abuse, or constant humiliation.	Dummy [Yes=1; 0=otherwise]
Physical violence	Women ages 15-49 years who have experienced specified acts of physical violence committed by their current husband/ partner in the past 12 months. Physical violence refers to any act or conduct which causes bodily pain, harm or danger to life and impair the health of a person.	Dummy [Yes=1; 0=otherwise]
Sexual violence	Women ages 15-49 years who have experienced specified acts of sexual violence committed by their current husband/ partner in the past 12 months. Sexual violence is used to describe any act of a sexual nature that is abusive, humiliating, degrading, or otherwise infringes upon the dignity of the victim.	Dummy [Yes=1; 0=otherwise]
Women's and men's attitudes towards domestic violence	Women and men between the ages of 15 and 49 about their views on domestic violence, specifically whether or not they believe their husbands or partners are justified in hitting or beating them in various situations (including if she goes out without telling him, if she neglects the children, if she argues with him, if she refuses sex with him, or if she burns the food).	Dummy [Yes=1; 0=otherwise]
Child violence		
Physical violence	Children ages 1-14 years who experienced physical punishment which includes shaking the child, hitting or slapping him/her on the hand/arm/leg, hitting him/her on the bottom or elsewhere on the body with a hard object, spanking or hitting him/her on the bottom with a bare hand, hitting or slapping him/her on the face, head or ears, and beating him/her over and over as hard as possible.	Dummy [Yes=1; 0=otherwise]
Severe physical violence	Children ages 1-14 years who experienced severe physical punishment which includes hitting or slapping him/her on the face, head or ears, and beating him/her over and over as hard as possible.	Dummy [Yes=1; 0=otherwise]
Violent discipline	Children ages 1-14 years who experienced physical punishment and/or psychological aggression by caregivers in the past one month.	Dummy [Yes=1; 0=otherwise]
Caregiver's attitudes towards physical punishment	Mothers/caretakers of children age 1-14 years believe that physical punishment is needed to bring up, raise, or educate a child properly.	Dummy [Yes=1; 0=otherwise]

Summary statistics

Variable	Kiribati			Samoa			Tonga			All		
	Obs	Mean	Std. Dev.	Obs	Mean	Std. Dev.	Obs	Mean	Std. Dev.	Obs	Mean	Std. Dev.
<i>Endogenous treatment</i>												
No. of children	4,235	1.32	1.42	4,530	1.25	1.66	3,157	1.26	1.54	11,922	1.28	1.55
<i>Outcome variables</i>												
Emotional violence	2,098	0.38	0.49	1,567	0.17	0.37	1,215	0.14	0.35	4,880	0.25	0.44
Physical violence	2,099	0.39	0.49	1,567	0.19	0.39	1,215	0.13	0.34	4,881	0.26	0.44
Sexual violence	2,099	0.21	0.41	1,567	0.15	0.35	1,214	0.03	0.16	4,880	0.14	0.35
Any violence	2,099	0.52	0.50	1,567	0.32	0.47	1,215	0.19	0.39	4,881	0.37	0.48
Women's attitude to DV	4,115	0.71	0.45	4,015	0.34	0.47	2,857	0.41	0.49	10,987	0.50	0.50
Men's attitude to DV	2,032	0.61	0.49	1,198	0.26	0.44	1,225	0.18	0.38	4,455	0.39	0.49
Violent discipline	3,635	0.91	0.29	3,994	0.87	0.33	2,336	0.87	0.33	9,965	0.89	0.32
Attitude towards violent discipline	2,449	0.42	0.49	2,209	0.79	0.41	1,626	0.36	0.48	6,284	0.53	0.50
<i>Instrumental variables</i>												
Twin	3,836	0.03	0.18	4,070	0.07	0.25	2,607	0.04	0.19	10,513	0.05	0.21
Same sex siblings	3,836	0.40	0.49	4,070	0.42	0.49	2,607	0.38	0.49	10,513	0.40	0.49
First child is female	3,836	0.48	0.50	4,070	0.48	0.50	2,607	0.47	0.50	10,513	0.48	0.50
<i>Other covariates</i>												
Rural	4,235	0.56	0.50	4,530	0.68	0.47	3,157	0.71	0.45	11,922	0.65	0.48
Age	4,235	30.08	9.45	4,530	30.01	10.23	3,157	29.52	10.26	11,922	29.91	9.97
With 2 y.o. child	4,235	0.37	0.48	4,530	0.39	0.49	3,157	0.25	0.43	11,922	0.35	0.48
Married	4,146	0.64	0.48	4,135	0.49	0.50	2,892	0.56	0.50	11,173	0.56	0.50
Children is closely space	3,836	0.18	0.38	4,070	0.27	0.44	2,607	0.19	0.40	10,513	0.22	0.41
Child's sibling is at school	3,836	0.90	0.30	4,070	0.87	0.34	2,607	0.86	0.34	10,513	0.88	0.33
Husband/partner is drinking	2,095	0.61	0.49	1,567	0.51	0.50	1,214	0.64	0.48	4,876	0.59	0.49
Female's fear of husband/partner	2,095	0.60	0.49	1,567	0.20	0.40	1,211	0.11	0.31	4,873	0.35	0.48

Correlation: Family size & domestic violence

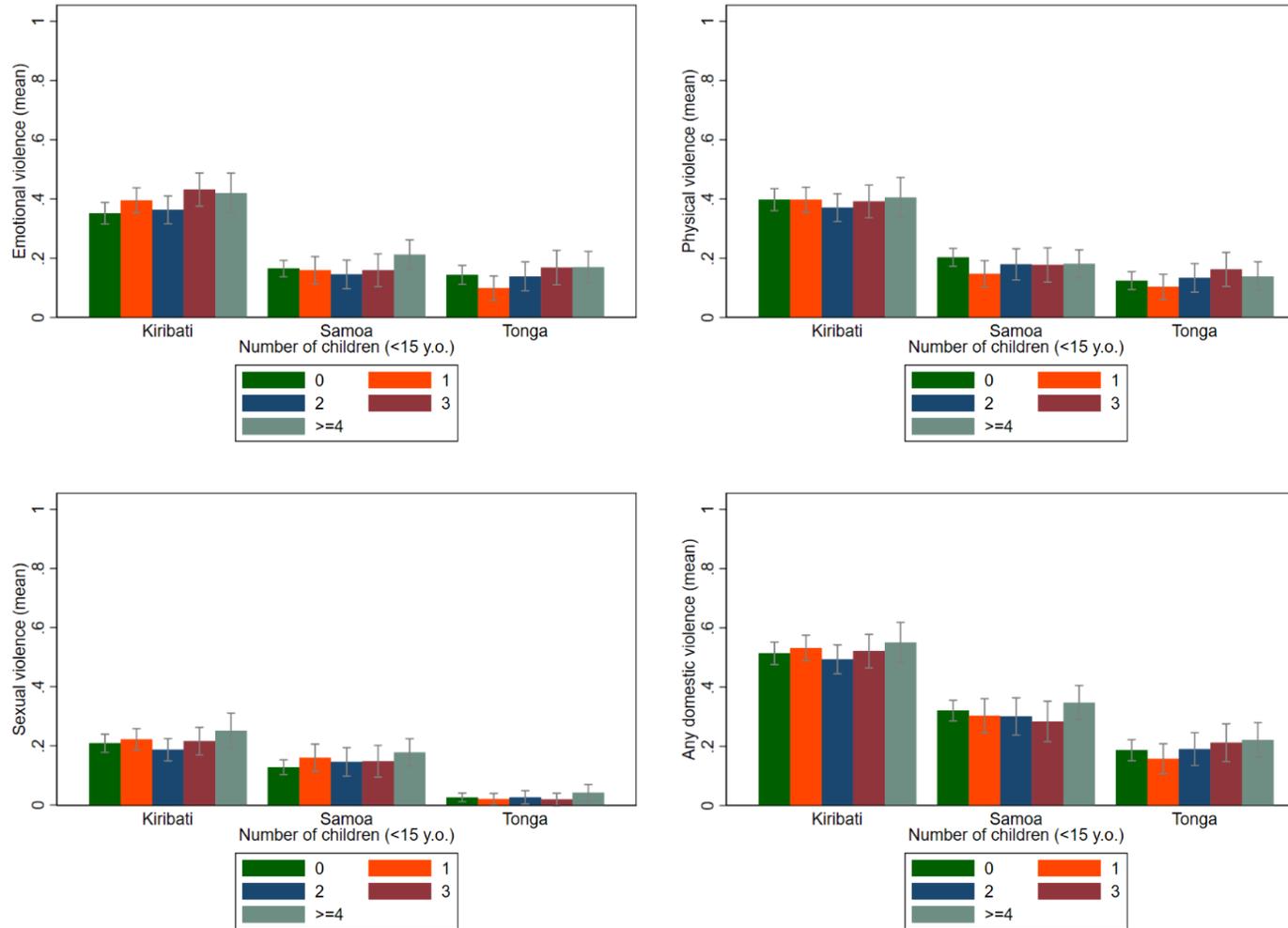


Figure 5: Correlation between number of children and domestic violence prevalence

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$$\hat{F}_i = \delta_0 + \mathbf{X}'_i \boldsymbol{\delta}_1 + \mathbf{Z}'_i \boldsymbol{\tau} + v_i$$

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- Z_i are the instrumental variables that predict the number of children less than 15 years old

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 - *Potential omitted-variable bias*: negative stigma that surrounds having a daughter
- **To address the omitted-variable bias in part**, the regressions also control for characteristics such as age, household wealth, birth spacing, as well as male adult drinking behaviour and females' fear of partner as proxies of household stress or tensions.

Instrumental variables: First stage

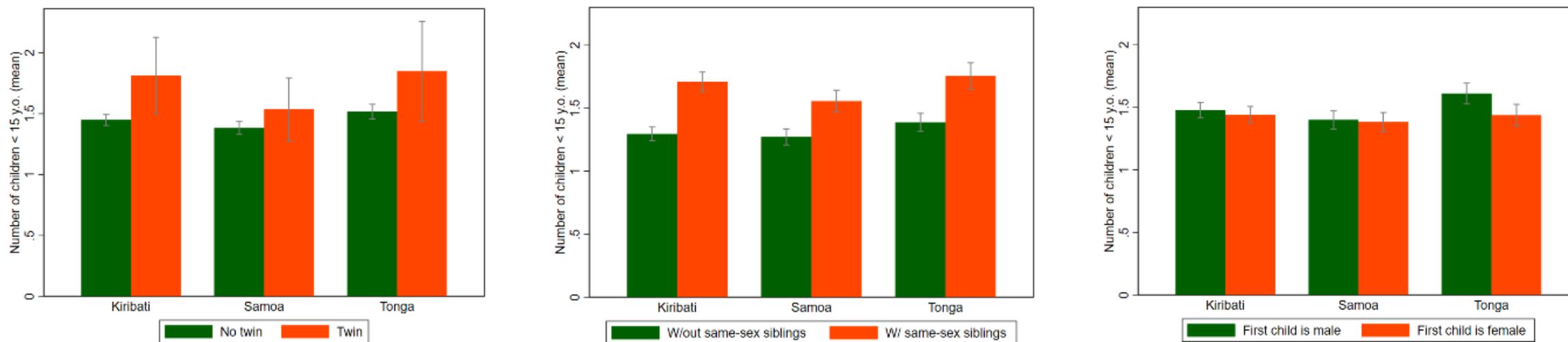


Figure 6: Correlation between the endogenous treatment and instruments

Instrumental variables: First stage

	Dependent variable: No. of children			
	Kiribati	Samoa	Tonga	All
Twin	0.610*** (0.220)	-0.190 (0.210)	0.036 (0.290)	0.054 (0.132)
Same-sex siblings	0.410*** (0.067)	0.201** (0.094)	0.249** (0.103)	0.298*** (0.049)
Female first child	-0.016 (0.062)	-0.093 (0.092)	-0.122 (0.098)	-0.067 (0.047)
F-stat	24.769	8.986	9.804	31.976
Observation	1882	1451	1054	4387

Main results: Family size and attitudes towards DV (1)

	Women's attitude			Men's attitude		
	OLS	Reduced-form	2SLS	OLS	Reduced-form	2SLS
Panel A: Kiribati						
No. of children	0.018*** (0.006)		0.059 (0.046)	0.015* (0.009)		-0.004 (0.055)
Twin		0.117*** (0.039)			0.042 (0.069)	
Same-sex siblings		0.004 (0.016)			-0.004 (0.026)	
Female first child		0.007 (0.017)			0.014 (0.025)	
Observations	3734	3734	3734	1761	1761	1761
Panel B: Samoa						
No. of children	0.007 (0.005)		0.223 (0.142)	-0.005 (0.011)		-0.026 (0.074)
Twin		0.031 (0.042)			0.043 (0.070)	
Same-sex siblings		0.042** (0.019)			0.038 (0.033)	
Female first child		0.015 (0.018)			0.040 (0.032)	
Observations	3618	3618	3618	1031	1031	1031

Main results: Family size and attitudes towards DV (2)

	Women's attitude			Men's attitude		
	OLS	Reduced-form	2SLS	OLS	Reduced-form	2SLS
Panel C: Tonga						
No. of children	-0.012*		0.024	0.013		-0.050
	(0.007)		(0.069)	(0.010)		(0.061)
Twin		0.038			0.132	
		(0.054)			(0.096)	
Same-sex siblings		-0.014			-0.017	
		(0.024)			(0.030)	
Female first child		-0.026			0.030	
		(0.022)			(0.027)	
Observations	2377	2377	2377	924	924	924
Panel D: All						
No. of children	0.005		0.076*	0.007		-0.017
	(0.003)		(0.043)	(0.006)		(0.063)
Twin		0.048*			0.060	
		(0.027)			(0.044)	
Same-sex siblings		0.018			0.005	
		(0.011)			(0.017)	
Female first child		0.002			0.025	
		(0.011)			(0.016)	
Observations	9729	9729	9729	3716	3716	3716

Main results: Family size and child violence (1)

	Any physical violence			Severe physical violence			Any violent discipline			Attitudes towards violent discipline		
	OLS	Reduced-form	2SLS	OLS	Reduced-form	2SLS	OLS	Reduced-form	2SLS	OLS	Reduced-form	2SLS
Panel A: Kiribati												
No. of children	0.005 (0.004)		-0.007 (0.033)	0.016*** (0.005)		-0.021 (0.042)	-0.000 (0.003)		0.006 (0.027)	-0.005 (0.008)		-0.037 (0.056)
Twin		-0.005 (0.033)			0.020 (0.040)			0.000 (0.029)			-0.007 (0.069)	
Same-sex siblings		0.000 (0.013)			-0.014 (0.016)			0.005 (0.010)			-0.017 (0.023)	
Female first child		0.024* (0.012)			0.010 (0.015)			0.020** (0.010)			-0.017 (0.021)	
Observations	3634	3634	3634	3634	3634	3634	3634	3634	3634	2448	2448	2448
Panel B: Samoa												
No. of children	0.008** (0.004)		0.197 (0.153)	0.009** (0.004)		0.012 (0.088)	0.005* (0.003)		0.167 (0.127)	-0.004 (0.006)		-0.043 (0.063)
Twin		-0.042 (0.033)			0.011 (0.033)			-0.025 (0.025)			-0.056 (0.044)	
Same-sex siblings		0.022 (0.015)			0.002 (0.014)			0.021* (0.012)			-0.017 (0.019)	
Female first child		-0.044*** (0.015)			-0.009 (0.014)			-0.028** (0.012)			0.009 (0.018)	
Observations	3993	3993	3993	3993	3993	3993	3993	3993	3993	2208	2208	2208

Main results: Family size and child violence (2)

	Any physical violence			Severe physical violence			Any violent discipline			Attitudes towards violent discipline		
	OLS	Reduced-form	2SLS	OLS	Reduced-form	2SLS	OLS	Reduced-form	2SLS	OLS	Reduced-form	2SLS
Panel C: Tonga												
No. of children	-0.001 (0.006)		0.021 (0.058)	-0.002 (0.006)		0.031 (0.066)	0.003 (0.004)		-0.023 (0.050)	0.009 (0.008)		-0.003 (0.073)
Twin		-0.049 (0.054)			0.035 (0.064)			-0.052 (0.048)			0.036 (0.065)	
Same-sex siblings		0.001 (0.019)			0.007 (0.021)			0.002 (0.016)			-0.023 (0.026)	
Female first child		-0.015 (0.019)			-0.002 (0.020)			0.004 (0.015)			-0.025 (0.025)	
Observations	2336	2336	2336	2336	2336	2336	2336	2336	2336	1626	1626	1626
Panel D: All												
No. of children	0.005* (0.003)		0.036 (0.036)	0.008*** (0.003)		0.001 (0.036)	0.003 (0.002)		0.033 (0.028)	-0.001 (0.004)		-0.049 (0.040)
Twin		-0.038 (0.023)			0.017 (0.024)			-0.027 (0.018)			-0.024 (0.033)	
Same-sex siblings		0.010 (0.009)			-0.002 (0.009)			0.011 (0.007)			-0.019 (0.013)	
Female first child		-0.012 (0.009)			-0.000 (0.009)			-0.003 (0.007)			-0.010 (0.012)	
Observations	9963	9963	9963	9963	9963	9963	9963	9963	9963	6282	6282	6282

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 - In a similar vein, **attitudes that rationalize violent behaviour** among both males and females also have a positive association with an increase in the number of children
- However, the **2SLS results** indicate little evidence of effects
 - No detectable effects, but the sign of the coefficient corresponds to the theoretically predicted outcomes

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Thank You