

Supplementary Online Content

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eTable 1. Comparisons of RR and 95% CI of Delayed Intellectual Development on WISC-IV Tests of Adolescents Whose Mother Enrolled in the Micronutrient Supplementation Trial by Maternal Supplementation Groups in Shaanxi Province, China 2002-2016

eTable 2. *P* Values for Interaction Terms Between Treatments and Modified Categories

eTable 3. Comparisons of Mean, SD and 95% CI of WISC-IV Test Scores of Adolescents Whose Mother Enrolled in the Micronutrient Supplementation Trial by Maternal Supplementation Groups, and Initial Time and Total Consumed of Supplements in Shaanxi Province, China 2002-2016

eTable 4. Comparisons of RR and 95% CI of Delayed Development of WISC-IV Tests of Adolescents Whose Mother Enrolled in the Micronutrient Supplementation Trial by Maternal Supplementation Groups, and Initial Time and Total Consumed of Supplements in Shaanxi Province, China 2002-2016

eTable 5. Comparisons of Mean, SD and 95% CI of WISC-IV Test Scores of Adolescents Whose Mother Enrolled in the Micronutrient Supplementation Trial by Maternal Supplementation Groups, and Initial Time in Shaanxi Province, China 2002-2016

eTable 6. Comparisons of Mean, SD and 95% CI of WISC-IV Test Scores of Adolescents Whose Mother Enrolled in the Micronutrient Supplementation Trial by Maternal Supplementation Groups, and Total Supplements Consumed in Shaanxi Province, China 2002-2016

eTable 7. Comparisons of Mean, SD and 95% CI of WISC-IV Test Scores of Adolescents Whose Mother Enrolled in the Micronutrient Supplementation Trial by Maternal Supplementation Groups and Household Wealth in Shaanxi Province, China 2002-2016

eFigure. Comparisons of Mean and 95% CI of WISC-IV Test Scores Among Adolescents Sampled Randomly from Followed Participants Whose Mother Enrolled in the Micronutrient Supplementation Trial in Shaanxi Province, China 2002-2016

This supplementary material has been provided by the authors to give readers additional information about their work.

eTable 1. Comparisons of RR and 95% CI of Delayed Intellectual Development on WISC-IV Tests of Adolescents Whose Mother Enrolled in the Micronutrient Supplementation Trial by Maternal Supplementation Groups in Shaanxi Province, China 2002-2016

WISC-IV	Supplementation groups	N (%)	Comparing MMNs or Iron/Folic acid versus Folic acid alone	Comparing MMNs versus Iron/Folic acid
			Adjusted RR(95%CI) a	Adjusted RR(95%CI) a
FSIQ				
	Folic acid	159(21.7)	Ref.	
	Iron/Folic acid	140(20.7)	0.92(0.77 to 1.11)	Ref.
	MMNs	134(18.9)	0.85(0.72 to 1.01)	0.92(0.80 to 1.05)
VCI				
	Folic acid	132(18.0)	Ref.	
	Iron/Folic acid	108(16.0)	0.88(0.76 to 1.00)	Ref.
	MMNs	97(13.7)	0.78(0.63 to 0.96)	0.89(0.74 to 1.06)
WMI				
	Folic acid	183(25.0)	Ref.	
	Iron/Folic acid	164(24.2)	1.00(0.84 to 1.21)	Ref.
	MMNs	153(21.6)	0.87(0.73 to 1.03)	0.86(0.74 to 1.01)
PRI				
	Folic acid	199(27.2)	Ref.	
	Iron/Folic acid	170(25.1)	0.94(0.81 to 1.09)	Ref.
	MMNs	174(24.6)	0.89(0.77 to 1.03)	0.95(0.80 to 1.12)
PSI				
	Folic acid	136(18.6)	Ref.	

	Iron/Folic acid	126(18.6)	0.99(0.80 to 1.23)	Ref.
	MMNs	120(17.0)	0.88(0.74 to 1.04)	0.89(0.71 to 1.11)

Abbreviations: RR, relative risk; CI, confidence interval; MMNs, multiple micronutrients; WISC-IV, Wechsler intelligence scale for children, fourth edition; FSIQ, full-scale intelligence quotient; VCI, verbal comprehension index; WMI, working memory index; PRI, perceptual reasoning index; PSI, processing speed index.

^a Adjusted for assessors and covariates (including parental age, job and education, maternal MUAC at enrollment, parity, birth outcome (SGA), adolescent's sex, school type, and categorical BMI for age z score, and current household wealth) in general estimating equation Poisson models.

eTable 2. *P* Values for Interaction Terms Between Treatments and Modified Categories

WISC-IV	P values for interaction between treatments and initial time and total consumed of supplements		P values for interaction between treatments and household economy at pregnancy	
	Unadjusted	Adjusted ^a	Unadjusted	Adjusted ^a
FSIQ	0.012	0.039	0.734	0.970
VCI	0.006	0.015	0.374	0.353
WMI	0.120	0.387	0.245	0.362
PRI	0.866	0.766	0.201	0.087
PSI	0.061	0.120	0.683	0.772

Abbreviations: WISC-IV, Wechsler intelligence scale for children, fourth edition; FSIQ, full-scale intelligence quotient; VCI, verbal comprehension index; WMI, working memory index; PRI, perceptual reasoning index; PSI, processing speed index.

^a Adjusted for assessors and covariates (including parental age, job and education, maternal MUAC at enrollment, parity, birth outcome (SGA), adolescent’s sex, school type, and categorical BMI for age z score, and current household wealth) in general estimating equation linear models. The missing values of SGA (n=135) were imputed using multiple imputation.

eTable 3. Comparisons of Mean, SD and 95% CI of WISC-IV Test Scores of Adolescents Whose Mother Enrolled in the Micronutrient Supplementation Trial by Maternal Supplementation Groups, and Initial Time and Total Consumed of Supplements in Shaanxi Province, China 2002-2016

Initial time and total consumed of supplements	WISC-IV	Supplementation groups	N	Mean(SD)	Comparing MMNs or Iron/Folic acid versus Folic acid alone	Comparing MMNs versus Iron/Folic acid
					Adjusted Difference (95%CI) ^a	Adjusted Difference (95%CI) ^a
<12 weeks gestation and consumption ≥180	FSIQ					
		Folic acid	250	97.2(12.2)	Ref.	
		Iron/Folic acid	249	98.2(11.4)	1.16(-0.81 to 3.14)	Ref.
		MMNs	233	99.9(12.0)	2.16(0.41 to 3.90)	0.99(-1.05 to 3.03)
	VCI					
		Folic acid	250	101.3(15.5)	Ref.	
		Iron/Folic acid	249	103.1(14.8)	2.09(-0.27 to 4.45)	Ref.
		MMNs	23	106.1(15.8)	4.29(1.33 to 7.24)	2.20(-0.79 to 5.18)

Initial time and total consumed of supplements	WIS C-IV	Supplementation groups	N	Mean(SD)	Comparing MMNs or Iron/Folic acid versus Folic acid alone	Comparing MMNs versus Iron/Folic acid
					Adjusted Difference (95%CI) ^a	Adjusted Difference (95%CI) ^a
			3)		
	WMI					
		Folic acid	250	94.0(10.3)	Ref.	
		Iron/Folic acid	249	94.9(10.5)	0.73(-0.90 to 2.36)	Ref.
		MMNs	233	95.7(10.9)	1.19(-0.85 to 3.23)	0.46(-1.63 to 2.55)
	PRI					
		Folic acid	250	95.7(12.6)		
		Iron/Folic acid	249	96.6(11.5)	0.72(-1.47 to 2.91)	Ref.
		MMNs	233	96.5(10.2)	0.39 (-1.41 to 2.19)	-0.33(-2.08 to 1.42)
	PSI					
		Folic acid	250	99.4(13.4)	Ref.	
		Iron/Folic acid	24	99.4(12.5)	0.14(-2.43 to 2.71)	Ref.

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Initial time and total consumed of supplements	WIS C-IV	Supplementation groups	N	Mean(SD)	Comparing MMNs or Iron/Folic acid versus Folic acid alone	Comparing MMNs versus Iron/Folic acid
					Adjusted Difference (95%CI) ^a	Adjusted Difference (95%CI) ^a
			9			
		MMNs	233	100.4(13.4)	0.77(-1.50 to 3.05)	0.63(-1.33 to 2.59)
≥12 weeks gestation and consumption <180	FSIQ					
		Folic acid	361	97.1(12.6)	Ref.	
		Iron/Folic acid	308	95.6(10.9)	-1.49 (-2.86 to -0.12)	Ref.
		MMNs	348	98.3(12.6)	0.97(-0.80 to 2.74)	2.46(0.98 to 3.94)
	VCI					
		Folic acid	361	101.7(15.9)	Ref.	
		Iron/Folic acid	308	100.4(14.9)	-1.11(-2.89 to 0.67)	Ref.
		MMNs	348	103.2(15.8)	1.34(-1.30 to 3.97)	2.45(0.20 to 4.70)
	WMI					
		Folic acid	36	93.8(11.1)	Ref.	

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Initial time and total consumed of supplements	WIS C-IV	Supplementation groups	N	Mean(SD)	Comparing MMNs or Iron/Folic acid versus Folic acid alone	Comparing MMNs versus Iron/Folic acid
					Adjusted Difference (95%CI) ^a	Adjusted Difference (95%CI) ^a
			1			
		Iron/Folic acid	308	92.6(10.9)	-1.46(-2.98 to 0.06)	Ref.
		MMNs	348	95.2(12.0)	1.02(-0.64 to 2.68)	2.48(0.66 to 4.30)
	PRI					
		Folic acid	361	95.6(12.2)	Ref.	
		Iron/Folic acid	308	95.5(11.1)	0.17(-1.65 to 1.99)	Ref.
		MMNs	348	96.1(12.8)	0.79(-1.50 to 3.08)	0.61(-1.27 to 2.49)
	PSI					
		Folic acid	361	98.8(14.5)	Ref.	
		Iron/Folic acid	308	97.2(11.5)	-1.80(-3.39 to -0.19)	Ref.
		MMNs	348	99.6(14.3)	0.21(-1.49 to 1.91)	2.00(0.32 to 3.68)

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Initial time and total consumed of supplements	WIS C-IV	Supplementation groups	N	Mean(SD)	Comparing MMNs or Iron/Folic acid versus Folic acid alone	Comparing MMNs versus Iron/Folic acid
					Adjusted Difference (95%CI) ^a	Adjusted Difference (95%CI) ^a
Other ^b	FSIQ					
		Folic acid	122	97.5(12.0)	Ref.	
		Iron/Folic acid	120	97.6(13.5)	-0.49(-3.41 to 2.45)	Ref.
		MMNs	127	96.4(13.9)	-0.17(-2.73 to 2.40)	0.31(-2.31 to 2.92)
	VCI					
		Folic acid	122	101.4(14.9)	Ref.	
		Iron/Folic acid	120	102.1(16.0)	-0.11(-3.51 to 3.28)	Ref.
		MMNs	127	100.1(16.9)	-0.03(-3.39 to 3.32)	0.08(-3.44 to 3.60)
	WMI					
		Folic acid	122	93.4(9.8)	Ref.	
		Iron/Folic acid	120	95.0(11.8)	1.02(-1.36 to 3.41)	Ref.

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Initial time and total consumed of supplements	WIS C-IV	Supplementation groups	N	Mean(SD)	Comparing MMNs or Iron/Folic acid versus Folic acid alone	Comparing MMNs versus Iron/Folic acid
					Adjusted Difference (95%CI) ^a	Adjusted Difference (95%CI) _a
		MMNs	127	93.0(11.1)	-0.06(-2.46 to 2.33)	-1.09(-3.74 to 1.57)
	PRI					
		Folic acid	122	95.1(13.1)	Ref.	
		Iron/Folic acid	120	94.9(12.7)	-0.46(-3.56 to 2.65)	Ref.
		MMNs	127	96.0(13.1)	1.20(-1.39 to 3.80)	1.66(-1.45 to 4.77)
	PSI					
		Folic acid	122	101.8(12.6)	Ref.	
		Iron/Folic acid	120	99.3(15.6)	-2.15(-6.03 to 1.73)	Ref.
		MMNs	127	98.7(13.7)	-1.96(-5.28 to 1.37)	0.19(-2.84 to 3.23)

Abbreviations: SD, standard deviation; CI, confidence interval; MMNs, multiple micronutrients; WISC-IV, Wechsler intelligence scale for children, fourth edition; FSIQ, full-scale intelligence quotient; VCI, verbal comprehension index; WMI, working memory index; PRI, perceptual reasoning index; PSI, processing speed index.

^a Adjusted for assessors and covariates (including parental age, job and education, maternal MUAC at enrollment, parity, birth outcome (SGA), adolescent's sex, school type, and categorical BMI for age z score, and current household wealth) in general estimating equation linear models.

^b "Other" refers to the adolescents whose mother initiated supplements after 12 weeks gestation and total consumed beyond 180, or before 12 weeks gestation and total consumed less than 180.

eTable 4. Comparisons of RR and 95% CI of Delayed Development of WISC-IV Tests of Adolescents Whose Mother Enrolled in the Micronutrient Supplementation Trial by Maternal Supplementation Groups, and Initial Time and Total Consumed of Supplements in Shaanxi Province, China 2002-2016

Initiation time and total consumed	WISC-IV	Supplementation groups	N (%)	Comparing MMNs or Iron/Folic acid versus Folic acid alone	Comparing MMNs versus Iron/Folic acid
				Adjusted RR(95%CI) ^a	Adjusted RR(95%CI) ^a
<12 weeks gestation and consumption ≥180	FSIQ				
		Folic acid	57(22.8)	Ref.	
		Iron/Folic acid	48(19.3)	0.85(0.59 to 1.22)	Ref.
		MMNs	34(14.6)	0.68(0.49 to 0.95)	0.80(0.54 to 1.18)
	VCI				
		Folic acid	47(18.8)	Ref.	
		Iron/Folic acid	35(14.1)	0.78(0.54 to 1.11)	Ref.
		MMNs	21(9.0)	0.60(0.39 to 0.93)	0.77(0.49 to 1.23)
		WMI			
		Folic acid	63(25.2)	Ref.	
		Iron/Folic acid	53(21.3)	0.88(0.65 to 1.19)	Ref.
		MMNs	42(18.0)	0.80(0.59 to 1.09)	0.92(0.66 to 1.28)
	PRI				
		Folic acid	69(27.6)	Ref.	
		Iron/Folic acid	58(23.3)	0.87(0.71 to 1.07)	Ref.
		MMNs	52(22.3)	0.85(0.66 to 1.09)	0.97(0.74 to 1.28)
	PSI				

Initiation time and total consumed	WISC-IV	Supplementation groups	N (%)	Comparing MMNs or Iron/Folic acid versus Folic acid alone	Comparing MMNs versus Iron/Folic acid
				Adjusted RR(95%CI) ^a	Adjusted RR(95%CI) ^a
		Folic acid	48(19.2)	Ref.	
		Iron/Folic acid	34(13.7)	0.73(0.46 to 1.17)	Ref.
		MMNs	38(16.3)	0.87(0.53 to 1.42)	1.19(0.76 to 1.86)
≥12 weeks gestation and consumption <180	FSIQ				
		Folic acid	79(21.9)	Ref.	
		Iron/Folic acid	72(23.4)	1.03(0.81 to 1.32)	Ref.
		MMNs	67(19.3)	0.85(0.66 to 1.08)	0.82(0.63 to 1.07)
	VCI				
		Folic acid	66(18.3)	Ref.	
		Iron/Folic acid	54(17.5)	0.92(0.71 to 1.18)	Ref.
		MMNs	51(14.7)	0.77(0.54 to 1.08)	0.84(0.62 to 1.13)
	WMI				
		Folic acid	91(25.2)	Ref.	
		Iron/Folic acid	85(27.6)	1.13(0.92 to 1.39)	Ref.
		MMNs	81(23.3)	0.94(0.73 to 1.19)	0.83(0.65 to 1.06)
	PRI				
		Folic acid	94(26.0)	Ref.	
		Iron/Folic acid	77(25.0)	0.96(0.72 to 1.28)	Ref.
		MMNs	91(26.2)	0.95(0.72 to 1.25)	0.99(0.75 to 1.31)
	PSI				
		Folic acid	75(20.8)	Ref.	
		Iron/Folic acid	71(23.1)	1.08(0.86 to 1.35)	Ref.

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Initiation time and total consumed	WISC-IV	Supplementation groups	N (%)	Comparing MMNs or Iron/Folic acid versus Folic acid alone	Comparing MMNs versus Iron/Folic acid
				Adjusted RR(95%CI) ^a	Adjusted RR(95%CI) ^a
		MMNs	59(17.0)	0.77(0.58 to 1.03)	0.72(0.52 to 0.98)
Other ^b	FSIQ				
		Folic acid	23(18.9)	Ref.	
		Iron/Folic acid	20(16.7)	0.88(0.52 to 1.52)	Ref.
		MMNs	33(26.0)	1.11(0.72 to 1.72)	1.26(0.79 to 2.00)
	VCI				
		Folic acid	19(15.6)	Ref.	
		Iron/Folic acid	19(15.8)	1.16(0.73 to 1.84)	Ref.
		MMNs	25(19.7)	1.10(0.62 to 1.98)	0.95(0.54 to 1.68)
	WMI				
		Folic acid	29(23.8)	Ref.	
		Iron/Folic acid	26(21.7)	0.99(0.59 to 1.65)	Ref.
		MMNs	30(23.6)	0.83(0.52 to 1.30)	0.83(0.54 to 1.28)
	PRI				
		Folic acid	36(29.5)	Ref.	
		Iron/Folic acid	35(29.2)	1.00(0.68 to 1.47)	Ref.
		MMNs	31(24.4)	0.75(0.54 to 1.05)	0.76(0.51 to 1.13)
	PSI				
		Folic acid	13(10.7)	Ref.	
		Iron/Folic acid	21(17.5)	1.49(0.82 to 2.71)	Ref.
		MMNs	23(18.1)	1.38(0.75 to 2.55)	0.93(0.60 to 1.43)

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Abbreviations: RR, relative risk; CI, confidence interval; MMNs, multiple micronutrients; WISC-IV, Wechsler intelligence scale for children, fourth edition; FSIQ, full-scale intelligence quotient; VCI, verbal comprehension index; WMI, working memory index; PRI, perceptual reasoning index; PSI, processing speed index.

^a Adjusted for assessors and covariates (including parental age, job and education, maternal MUAC at enrollment, parity, birth outcome (SGA), adolescent's sex, school type, and categorical BMI for age z score, and current household wealth) in general estimating equation linear models.

^b "Other" refers to the adolescents whose mother initiated supplements after 12 weeks gestation and total consumed beyond 180, or before 12 weeks gestation and total consumed less than 180.

eTable 5. Comparisons of Mean, SD and 95% CI of WISC-IV Test Scores of Adolescents Whose Mother Enrolled in the Micronutrient Supplementation Trial by Maternal Supplementation Groups, and Initial Time in Shaanxi Province, China 2002-2016

Initial time	WISC-IV	Supplementation groups	N	Mean(SD)	Comparing MMNs or Iron/Folic acid versus Folic acid alone	Comparing MMNs versus Iron/Folic acid
					Adjusted Difference (95%CI) ^a	Adjusted Difference (95%CI) ^a
<12 weeks gestation	FSIQ					
		Folic acid	299	97.3(12.2)	Ref.	
		Iron/Folic acid	303	98.5(11.8)	1.38(-0.38 to 3.14)	Ref.
		MMNs	288	99.6(12.6)	2.24(0.55 to 3.92)	0.86(-1.04 to 2.75)
	VCI					
		Folic acid	299	101.3(15.2)	Ref.	
		Iron/Folic acid	303	103.1(15.1)	2.18(-0.09 to 4.45)	Ref.
		MMNs	288	105.1(16.3)	3.64(1.03 to 6.25)	1.46(-1.26 to 4.19)
	WMI					
		Folic acid	299	94.0(10.3)	Ref.	
		Iron/Folic acid	303	95.5(11.1)	1.40(-0.11 to 2.90)	Ref.
		MMNs	288	95.2(11.0)	1.00(-0.88 to 2.88)	-0.39(-2.39 to 1.61)
	PRI					
		Folic acid	299	95.5(12.8)		
		Iron/Folic acid	303	96.5(11.8)	0.77(-1.17 to 2.72)	Ref.

Initial time	WISC-IV	Supplementation groups	N	Mean(SD)	Comparing MMNs or Iron/Folic acid versus Folic acid alone	Comparing MMNs versus Iron/Folic acid
					Adjusted Difference (95%CI) ^a	Adjusted Difference (95%CI) ^a
	PRI	MMNs	288	96.9(10.9)	1.24(-0.42 to 2.90)	0.47(-1.13 to 2.07)
	PSI					
		Folic acid	299	99.9(13.3)	Ref.	
		Iron/Folic acid	303	99.8(12.9)	-0.06(-2.29 to 2.17)	Ref.
		MMNs	288	100.5(13.6)	0.83(-1.11 to 2.77)	0.89(-0.91 to 2.69)
≥12 weeks gestation	FSIQ					
		Folic acid	434	97.1(12.5)	Ref.	
		Iron/Folic acid	374	95.6(11.3)	-1.60(-2.84 to -0.37)	Ref.
		MMNs	420	97.7(12.7)	0.31(-1.26 to 1.88)	1.91(0.61 to 3.22)
	VCI					
		Folic acid	434	101.7(15.9)	Ref.	
		Iron/Folic acid	374	100.5(15.0)	-1.18(-2.73 to 0.37)	Ref.
		MMNs	420	102.6(15.9)	0.73(-1.56 to 3.03)	1.92(-0.05 to 3.89)
	WMI					
		Folic acid	434	93.7(10.8)		
		Iron/Folic acid	374	92.6(10.7)	-1.44(-2.82 to -0.06)	Ref.
		MMNs	420	94.8(11.8)	0.74(-0.83 to 2.30)	2.18(0.41 to 3.95)
	PRI					

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Initial time	WISC-IV	Supplementation groups	N	Mean(SD)	Comparing MMNs or Iron/Folic acid versus Folic acid alone	Comparing MMNs versus Iron/Folic acid
					Adjusted Difference (95%CI) ^a	Adjusted Difference (95%CI) ^a
		Folic acid	434	95.6(12.3)	Ref.	
		Iron/Folic acid	374	95.2(11.3)	-0.06(-1.63 to 1.51)	Ref.
		MMNs	420	95.8(12.7)	0.32(-1.70 to 2.34)	0.38(-1.13 to 1.89)
	PSI					
		Folic acid	434	99.2(14.2)	Ref.	
		Iron/Folic acid	374	97.3(12.5)	-2.07(-3.88 to -0.26)	Ref.
		MMNs	420	99.1(14.1)	-0.61(-2.18 to 0.96)	1.46(-0.18 to 3.11)

Abbreviations: SD, standard deviation; CI, confidence interval; MMNs, multiple micronutrients; WISC-IV, Wechsler intelligence scale for children, fourth edition; FSIQ, full-scale intelligence quotient; VCI, verbal comprehension index; WMI, working memory index; PRI, perceptual reasoning index; PSI, processing speed index.

^a Adjusted for assessors and covariates (including parental age, job and education, maternal MUAC at enrollment, parity, birth outcome (SGA), adolescent's sex, school type, and categorical BMI for age z score, and current household wealth) in general estimating equation linear models.

eTable 6. Comparisons of Mean, SD and 95% CI of WISC-IV Test Scores of Adolescents Whose Mother Enrolled in the Micronutrient Supplementation Trial by Maternal Supplementation Groups, and Total Supplements Consumed in Shaanxi Province, China 2002-2016

Total supplements consumed	WISC-IV	Supplementation groups	N	Mean(SD)	Comparing MMNs or Iron/Folic acid versus Folic acid alone	Comparing MMNs versus Iron/Folic acid
					Adjusted Difference (95%CI) ^a	Adjusted Difference (95%CI) ^a
≥180	FSIQ					
		Folic acid	323	97.2(12.1)	Ref.	
		Iron/Folic acid	315	97.7(11.8)	0.35(-1.46 to 2.17)	Ref.
		MMNs	305	98.7(12.4)	1.08(-0.29 to 2.46)	0.73(-1.05 to 2.51)
	VCI					
		Folic acid	323	101.4(15.6)	Ref.	
		Iron/Folic acid	315	102.7(15.0)	1.24(-0.35 to 2.83)	Ref.
		MMNs	305	104.6(16.1)	2.97(0.51 to 5.42)	1.73(-0.89 to 4.34)
	WMI					
		Folic acid	323	93.8(10.1)	Ref.	
		Iron/Folic acid	315	94.4(10.4)	0.26(-1.25 to 1.78)	Ref.
		MMNs	305	95.0(10.9)	0.80(-0.78 to 2.39)	0.54(-1.06 to 2.14)
	PRI					
		Folic acid	323	95.6(12.6)		

Total supplements consumed	WISC-IV	Supplementation groups	N	Mean(SD)	Comparing MMNs or Iron/Folic acid versus Folic acid alone	Comparing MMNs versus Iron/Folic acid
					Adjusted Difference (95%CI) ^a	Adjusted Difference (95%CI) ^a
		Iron/Folic acid	315	96.1(11.7)	0.14(-2.01 to 2.29)	Ref.
		MMNs	305	95.9(10.8)	-0.12(-1.76 to 1.51)	-0.27(-1.84 to 1.31)
	PSI					
		Folic acid	323	99.7(13.3)	Ref.	
		Iron/Folic acid	315	99.0(13.4)	-0.60(-3.19 to 1.99)	Ref.
		MMNs	305	99.5(13.3)	-0.41(-2.30 to 1.48)	0.19(-1.64 to 2.02)
<180	FSIQ					
		Folic acid	410	97.2(12.6)	Ref.	
		Iron/Folic acid	362	96.3(11.5)	-0.98(-2.15 to 0.19)	Ref.
		MMNs	403	98.3(12.9)	1.09(-0.46 to 2.65)	2.08(0.80 to 3.35)
	VCI					
		Folic acid	410	101.6(15.6)	Ref.	
		Iron/Folic acid	362	100.8(15.2)	-0.60(-2.14 to 0.93)	Ref.
		MMNs	403	102.8(16.1)	1.29(-0.88 to 3.45)	1.89(-0.04 to 3.81)
	WMI					
		Folic acid	410	93.8(11.0)		
		Iron/Folic acid	362	93.4(11.3)	-0.60(-1.92 to 0.72)	Ref.
		MMNs	403	95.0(11.9)	0.93(-0.60 to 2.46)	1.53(-0.13 to 3.19)

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Total supplements consumed	WISC-IV	Supplementation groups	N	Mean(SD)	Comparing MMNs or Iron/Folic acid versus Folic acid alone	Comparing MMNs versus Iron/Folic acid
					Adjusted Difference (95%CI) ^a	Adjusted Difference (95%CI) ^a
	PRI					
		Folic acid	410	95.5(12.4)	Ref.	
		Iron/Folic acid	362	95.6(11.4)	0.16(-1.59 to 1.91)	Ref.
		MMNs	403	96.5(12.9)	1.16(-0.96 to 3.28)	1.00(-0.57 to 2.56)
	PSI					
		Folic acid	410	99.3(14.3)	Ref.	
		Iron/Folic acid	362	97.9(12.0)	-1.66(-3.19 to -0.14)	Ref.
		MMNs	403	99.8(14.4)	0.21(-1.30 to 1.72)	1.87(0.25 to 3.49)

Abbreviations: SD, standard deviation; CI, confidence interval; MMNs, multiple micronutrients; WISC-IV, Wechsler intelligence scale for children, fourth edition; FSIQ, full-scale intelligence quotient; VCI, verbal comprehension index; WMI, working memory index; PRI, perceptual reasoning index; PSI, processing speed index.

^a Adjusted for assessors and covariates (including parental age, job and education, maternal MUAC at enrollment, parity, birth outcome (SGA), adolescent's sex, school type, and categorical BMI for age z score, and current household wealth) in general estimating equation linear models.

eTable 7. Comparisons of Mean, SD and 95% CI of WISC-IV Test Scores of Adolescents Whose Mother Enrolled in the Micronutrient Supplementation Trial by Maternal Supplementation Groups and Household Wealth in Shaanxi Province, China 2002-2016

Household wealth		WISC-IV	Supplementation groups	N	Mean (SD)	Comparing MMNs or Fe/Folic acid versus Folic Acid alone	Comparing MMNs versus Fe/Folic acid
						Adjusted Difference (95%CI) a	Adjusted Difference (95%CI) a
Household wealth in pregnancy	poor in pregnancy	FSIQ					
			Folic acid	228	93.8(12.1)	Ref.	
			Iron/Folic acid	213	94.3(11.7)	0.66(-1.13 to 2.45)	Ref.
			MMS	230	95.0(11.5)	1.54(-0.10 to 3.19)	0.88(-1.00 to 2.75)
		VCI					
			Folic acid	228	98.2(14.9)	Ref.	
			Iron/Folic acid	213	99.7(15.7)	1.62(-0.48 to 3.72)	Ref.
			MMS	230	99.2(14.2)	1.15(-0.93 to 3.24)	-0.47(-2.32 to 1.39)
			WMI				
			Folic acid	228	91.9(10.6)	Ref.	
			Iron/Folic acid	213	91.6(10.5)	-0.72(-2.73 to 1.28)	Ref.
			MMS	230	92.6(11.3)	0.45(-1.76 to 2.67)	1.18(-0.98 to 3.34)
		PRI					
		Folic acid	228	92.8(12.7)	Ref.		
		Iron/Folic acid	213	94.7(11.7)	2.05(-0.31 to 4.41)	Ref.	
		MMS	230	94.8(11.7)	2.62(0.79 to 4.45)	0.57(-1.75 to 2.89)	

Household wealth	WISC-IV	Supplementation groups	N	Mean (SD)	Comparing MMNs or Fe/Folic acid versus Folic Acid alone	Comparing MMNs versus Fe/Folic acid
					Adjusted Difference (95%CI) a	Adjusted Difference (95%CI) a
	PSI					
		Folic acid	228	97.2(12.8)	Ref.	
		Iron/Folic acid	213	95.1(11.6)	-1.55(-4.07 to 0.96)	Ref.
		MMS	230	97.0(13.1)	0.19(-1.99 to 2.38)	1.75(-0.35 to 3.85)
	Not poor in pregnancy	FSIQ				
		Folic acid	505	98.7(12.2)	Ref.	
		Iron/Folic acid	464	98.1(11.4)	-0.63(-2.04 to 0.78)	Ref.
		MMS	478	100.2(12.9)	0.90(-0.52 to 2.31)	1.52(0.24 to 2.81)
	VCI					
		Folic acid	505	103.0(15.7)	Ref.	
		Iron/Folic acid	464	102.6(14.7)	-0.24(-1.90 to 1.43)	Ref.
		MMS	478	105.7(16.6)	2.44(0.47 to 4.41)	2.67(0.80 to 4.55)
	WMI					
		Folic acid	505	94.6(10.5)	Ref.	
		Iron/Folic acid	464	94.9(11.0)	0.05(-1.12 to 1.23)	Ref.
		MMS	478	96.1(11.4)	1.01(-0.23 to 2.25)	0.95(-0.48 to 2.39)
	PRI					
		Folic acid	505	96.8(12.2)	Ref.	
		Iron/Folic acid	464	96.3(11.4)	-0.36(-2.13 to 1.41)	Ref.
		MMS	478	96.9(12.2)	-0.24(-1.92 to 1.45)	0.12(-1.20 to 1.45)

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Household wealth		WISC-IV	Supplementation groups	N	Mean (SD)	Comparing MMNs or Fe/Folic acid versus Folic Acid alone	Comparing MMNs versus Fe/Folic acid
						Adjusted Difference (95%CI) a	Adjusted Difference (95%CI) a
		PSI					
			Folic acid	505	100.6(14.2)	Ref.	
			Iron/Folic acid	464	99.9(12.9)	-0.93(-3.00 to 1.14)	Ref.
			MMS	478	101.0(14.1)	-0.28(-1.62 to 1.07)	0.66(-1.12 to 2.44)
Household wealth currently	poor currently	FSIQ					
			Folic acid	253	93.4(11.4)	Ref.	
			Iron/Folic acid	235	93.0(10.8)	-0.40(-1.94 to 1.14)	Ref.
			MMS	233	94.9(11.7)	1.38(-0.18 to 2.94)	1.78(-0.26 to 3.83)
		VCI					
			Folic acid	253	98.3(14.9)	Ref.	
			Iron/Folic acid	235	98.1(14.1)	-0.22(-1.97 to 1.52)	Ref.
			MMS	233	100.2(15.3)	1.74(-0.89 to 4.38)	1.97(-0.68 to 4.61)
		WMI					
			Folic acid	253	91.2(10.3)	Ref.	
			Iron/Folic acid	235	90.4(10.7)	-0.79(-3.01 to 1.42)	Ref.
			MMS	233	92.1(11.1)	0.81(-1.33 to 2.94)	1.60(0.02 to 3.18)
		PRI					
			Folic acid	253	92.2(11.6)	Ref.	
			Iron/Folic acid	235	93.2(10.7)	1.36(-0.37 to 3.10)	Ref.
			MMS	233	94.1(10.9)	1.81(-0.06 to 3.67)	0.44(-1.71 to 2.59)

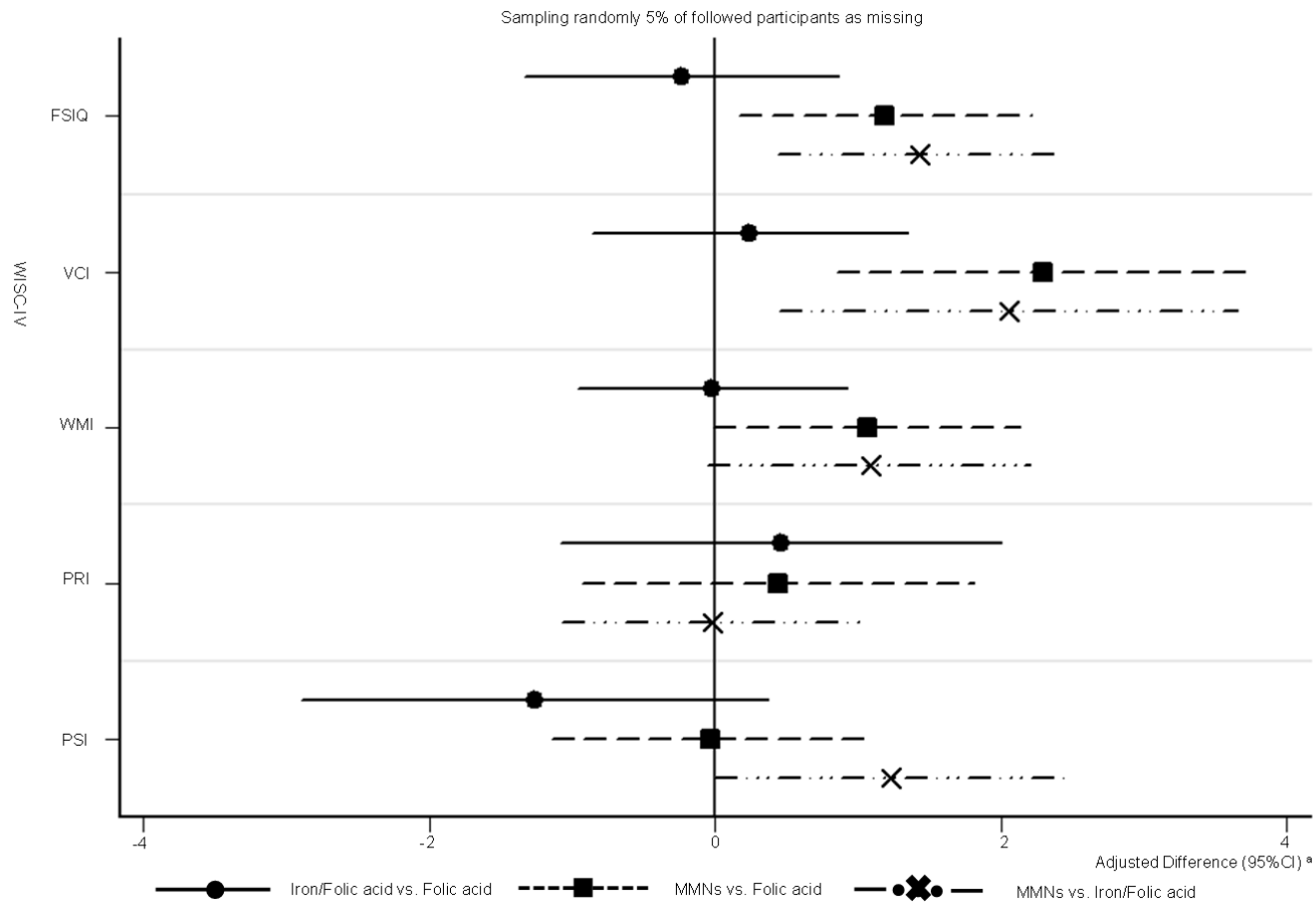
Household wealth		WISC-IV	Supplementation groups	N	Mean (SD)	Comparing MMNs or Fe/Folic acid versus Folic Acid alone	Comparing MMNs versus Fe/Folic acid
						Adjusted Difference (95%CI) a	Adjusted Difference (95%CI) a
		PSI					
			Folic acid	253	96.8(14.5)	Ref.	
			Iron/Folic acid	235	95.3(11.9)	-1.55(-3.11 to 0.01)	Ref.
			MMS	233	96.7(13.1)	0.14(-1.77 to 2.06)	1.69(-0.26 to 3.64)
	Not poor currently	FSIQ					
			Folic acid	480	99.2(12.4)	Ref.	
			Iron/Folic acid	442	99.0(11.5)	-0.30(-1.44 to 0.84)	Ref.
			MMS	475	100.2(12.8)	0.87(-0.79 to 2.52)	1.16(-0.18 to 2.50)
		VCI					
			Folic acid	480	103.2(15.7)	Ref.	
			Iron/Folic acid	442	103.6(15.3)	0.40(-0.85 to 1.66)	Ref.
			MMS	475	105.2(16.3)	2.07(0.29 to 3.85)	1.67(-0.34 to 3.68)
		WMI					
			Folic acid	480	95.1(10.5)	Ref.	
			Iron/Folic acid	442	95.7(10.6)	0.12(-1.20 to 1.45)	Ref.
			MMS	475	96.4(11.4)	0.79(-0.47 to 2.05)	0.68(-0.83 to 2.16)
		PRI					
			Folic acid	480	97.3(12.6)	Ref.	
			Iron/Folic acid	442	97.2(11.7)	-0.21(-1.77 to 1.35)	Ref.
			MMS	475	97.3(12.5)	0.07(-1.86 to 2.00)	0.28(-0.95 to 1.50)

Household wealth	WISC-IV	Supplementation groups	N	Mean (SD)	Comparing MMNs or Fe/Folic acid versus Folic Acid alone	Comparing MMNs versus Fe/Folic acid
					Adjusted Difference (95%CI) a	Adjusted Difference (95%CI) a
	PSI					
		Folic acid	480	100.9(13.3)	Ref.	
		Iron/Folic acid	442	100.0(12.8)	-1.01(-3.23 to 1.21)	Ref.
		MMS	475	101.1(14.1)	-0.35(-1.82 to 1.11)	0.65(-0.95 to 2.26)

Abbreviations: SD, standard deviation; CI, confidence interval; MMNs, multiple micronutrients; WISC-IV, Wechsler intelligence scale for children, fourth edition; FSIQ, full-scale intelligence quotient; VCI, verbal comprehension index; WMI, working memory index; PRI, perceptual reasoning index; PSI, processing speed index.

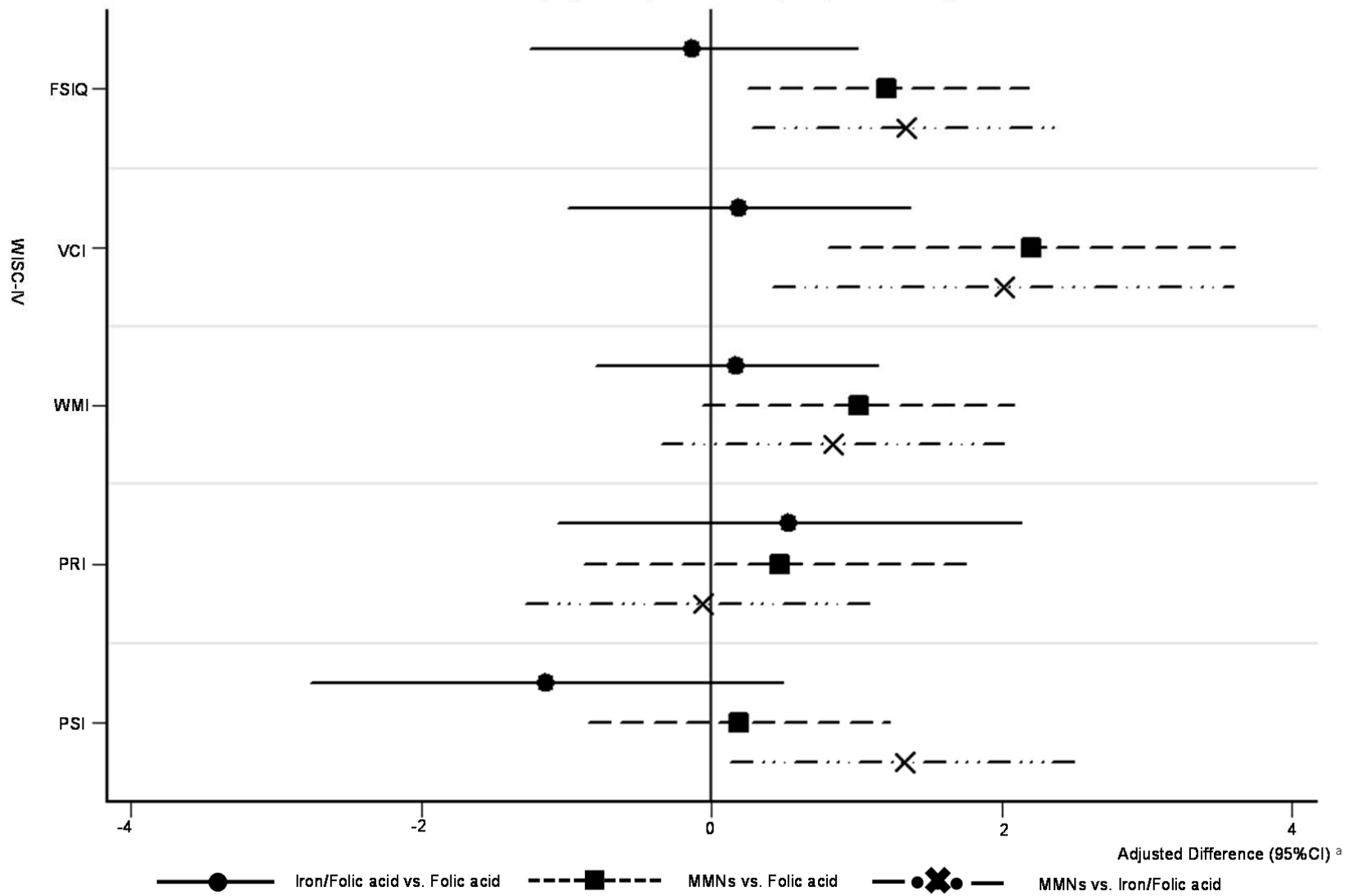
^a Adjusted for assessors and covariates (including parental age, job and education, maternal MUAC at enrollment, parity, birth outcome (SGA), adolescent's sex, school type, and categorical BMI for age z score, and current household wealth) in general estimating equation linear models. The stratified analysis by current household wealth also adjusted for household wealth in pregnancy but not including current household wealth.

eFigure. Comparisons of Mean and 95% CI of WISC-IV Test Scores Among Adolescents Sampled Randomly from Followed Participants Whose Mother Enrolled in the Micronutrient Supplementation Trial in Shaanxi Province, China 2002-2016

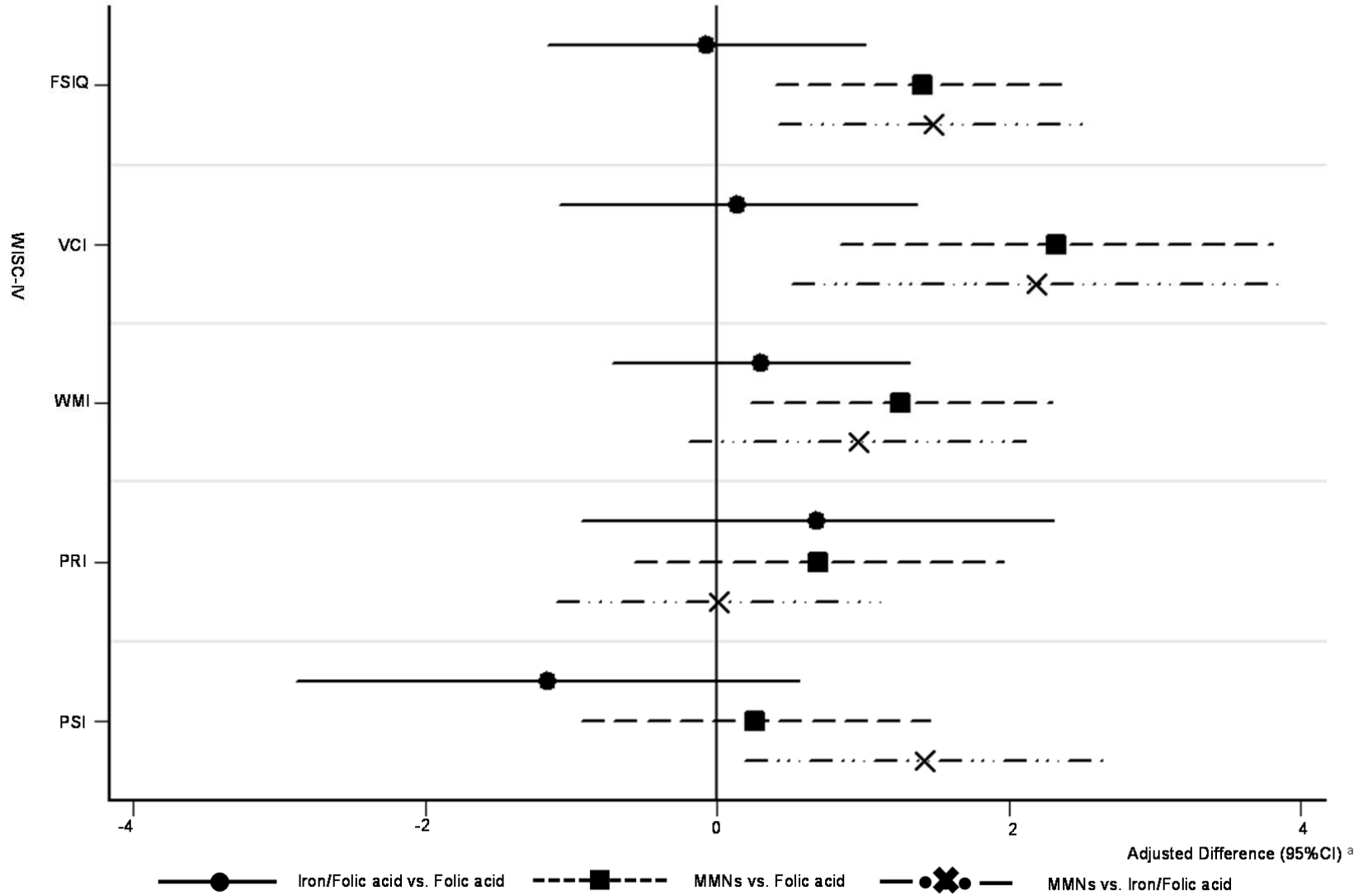


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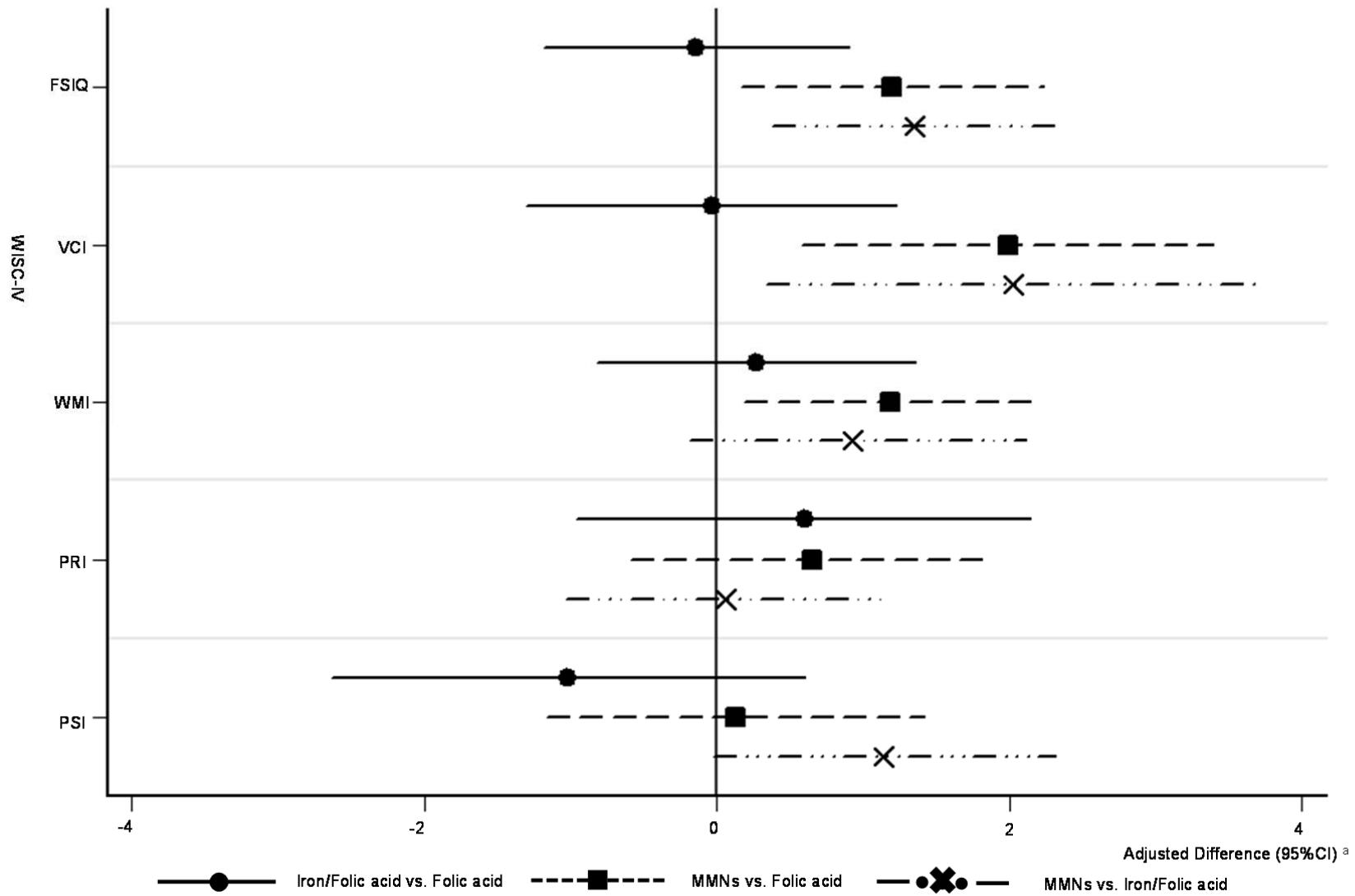
Sampling randomly 10% of followed participants as missing



Sampling randomly 15% of followed participants as missing



Sampling randomly 20% of followed participants as missing



Abbreviations: CI, confidence interval; MMNs, multiple micronutrients; WISC-IV, Wechsler intelligence scale for children, fourth edition; FSIQ, full-scale intelligence quotient; VCI, verbal comprehension index; WMI, working memory index; PRI, perceptual reasoning index; PSI, processing speed index.

^a Adjusted for assessors and covariates (including parental age, job and education, maternal MUAC at enrollment, parity, birth outcome (SGA), adolescent's sex, school type, and categorical BMI for age z score, and current household wealth) in general estimating equation linear models.