

Moderated Mediation

Test name: Moderated Mediation

Dataset: D:/DATA ANALYSIS/H Regression Tests and Models/Moderated Mediation/dataset.csv

Rows in original dataset: 649

Columns in original dataset: 33

Rows used in moderated mediation model: 649

Outcome Y: G3

Predictor X: G1

Mediator M: G2

Moderator W: studytime

Covariates: failures, absences, age, Medu, Fedu

Mediator model: $M \sim X + \text{covariates}$.

Outcome model: $Y \sim X + M + W + M \times W + \text{covariates}$.

Conditional indirect effect: $a * (b_M + b_{MW} * W_{\text{centered}})$.

Bootstrap samples requested: 1000

Bootstrap samples completed: 1000

Index of moderated mediation: -0.039

Index bootstrap 95% CI: [-0.074, -0.0049]

Index decision: Moderated mediation supported

Outcome model R-squared: 0.8518

Charts generated: 8

Mediator model coefficients

[illegible]

Outcome model coefficients

	model	term	coefficient	standard_error	t_value
Outcome model: Y ~ X + M + W + MxW + covariates	(Intercept)		11.931589227	0.05066459	235.5015271
Outcome model: Y ~ X + M + W + MxW + covariates	X_c		0.147256139	0.03662236	4.0209351
Outcome model: Y ~ X + M + W + MxW + covariates	M_c		0.883970492	0.03428179	25.7854278
Outcome model: Y ~ X + M + W + MxW + covariates	W_c		0.108370143	0.06218232	1.7427805
Outcome model: Y ~ X + M + W + MxW + covariates	MW_interaction		-0.044075917	0.02109163	-2.0897348
Outcome model: Y ~ X + M + W + MxW + covariates	cov_failures		-0.223007330	0.09516870	-2.3432843
Outcome model: Y ~ X + M + W + MxW + covariates	cov_absences		0.021546865	0.01090618	1.9756557
Outcome model: Y ~ X + M + W + MxW + covariates	cov_age		0.031202242	0.04374374	0.7132962
Outcome model: Y ~ X + M + W + MxW + covariates	cov_Medu		-0.041754281	0.05780606	-0.7223166
Outcome model: Y ~ X + M + W + MxW + covariates	cov_Fedu		0.009836647	0.05944694	0.1654694
	p_value	ci95_lower	ci95_upper	decision_alpha_0_05	
	0.000000e+00	11.8321000057	12.03107845	Statistically significant	
	6.489010e-05	0.0753414173	0.21917086	Statistically significant	
	4.817687e-101	0.8166519206	0.95128906	Statistically significant	
	8.185300e-02	-0.0137362528	0.23047654	Not statistically significant	
	3.703645e-02	-0.0854932041	-0.00265863	Statistically significant	
	1.942049e-02	-0.4098885326	-0.03612613	Statistically significant	
	4.862360e-02	0.0001305727	0.04296316	Statistically significant	
	4.759229e-01	-0.0546966054	0.11710109	Not statistically significant	
	4.703641e-01	-0.1552670852	0.07175852	Not statistically significant	
	8.686269e-01	-0.1068983279	0.12657162	Not statistically significant	

Conditional indirect effects

moderator_level	W_centered_value	W_original_value	a_path_X_to_M	conditional_b_path_M_to_Y
Low moderator (-1 SD)	-0.8295096	1.101153	0.8859598	0.9205319
Mean moderator	0.0000000	1.930663	0.8859598	0.8839705
High moderator (+1 SD)	0.8295096	2.760172	0.8859598	0.8474091
direct_effect_c_prime	total_effect_c	conditional_indirect_effect	index_of_moderated_mediation	
0.1472561	0.9339395	0.8155543	-0.03904949	
0.1472561	0.9339395	0.7831624	-0.03904949	
0.1472561	0.9339395	0.7507704	-0.03904949	

Bootstrap summary

	effect	point_estimate	bootstrap_mean	bootstrap_se	ci95_lower_percentile
Low moderator (-1 SD)		0.81555429	0.81537504	0.05060921	0.71498592
Mean moderator		0.78316236	0.78380021	0.04698125	0.69742092
High moderator (+1 SD)		0.75077043	0.75222538	0.04784232	0.66454834
Index of moderated mediation		-0.03904949	-0.03806446	0.01779342	-0.07401932
ci95_upper_percentile					
	0.915295073	Evidence of conditional indirect effect			
	0.871138052	Evidence of conditional indirect effect			
	0.840497016	Evidence of conditional indirect effect			
	-0.004925414	Moderated mediation supported			

Model fit statistics

	model	n	df_model	df_residual	r_squared	adjusted_r_squared	f_statistic	f_p_value	aic
Mediator	model	649		6	0.7572642	0.7549956	333.8084	1.268728e-193	2326.024
Outcome	model	649		9	0.8517901	0.8497026	408.0503	3.655460e-258	2145.904
Total effect	model	649		6	0.6953397	0.6924924	244.2108	5.087383e-162	2607.553
bic	rmse								
2361.827	1.434392								
2195.134	1.242781								
2643.356	1.781820								















