POLYGENIC SCORE, ADAPTIVE LEARNING, AND TELEMARKETING SALES PERFORMANCE: A REPLICATION-ORIENTED REASSESSMENT OF *GENES AND SALES*

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This manuscript presents a replication-oriented reassessment of the published evidence reported in Genes and Sales *[7]. The study examines whether salespeople's genetic variants linked to educational attainment predict objective sales performance in a telemarketing setting and, more importantly, whether the reported empirical pattern remains credible once its motivation, inferential limits, and behavioral mechanisms are stated with greater precision. Using a 13-month panel of 117 salespeople and 1,053 salesperson-month observations, the published analysis shows that the educational-attainment polygenic score is positively associated with daily sales revenue. This relationship remains statistically significant after controlling for demographic characteristics, task tier, principal components for population stratification, and actual educational attainment. The reported evidence is further strengthened by validation exercises already documented in the source study, including alternative score constructions, falsification tests, and joint models that incorporate selling effort and the Big Five personality traits. Mechanism analyses indicate that adaptive learning-related skills, operationalized through customer orientation and opportunity recognition, partially explain the gene–sales association. The evidence therefore supports a disciplined conclusion that both relatively stable endowments and more malleable behavioral inputs matter for sales outcomes, while also requiring careful interpretation because the reported estimates are conditional associations in a repeated-observation panel rather than deterministic or causal effects. The manuscript closes by identifying the most consequential next step for the literature: formally testing nonlinear effects and task-contingent person–job fit through re-estimation with the supplemental data files rather than inference from the PDF alone.*

INTRODUCTION

Sales management continues to face one of its oldest and most practically important questions: what makes a high-performing salesperson? [10] The challenge is consequential because sales is both expensive and strategically central, and mismatches in salesperson selection, development, and retention are costly for firms [1]. The published study *Genes and Sales* [7] addresses this question by introducing molecular genetics into the analysis of sales outcomes. This move is also consistent with a broader behavioral-genetics research agenda in marketing [6]. Rather than treating the "born or made" debate as a purely metaphorical contrast, the study measures a stable genetic predictor—a polygenic score for educational attainment—and evaluates its association with objective sales performance. The present manuscript strengthens that contribution by recasting the evidence as a replication-oriented research note: it clarifies why the question matters, sharpens the contribution relative to established sales theory, and makes the empirical boundaries of the reported evidence explicit.

The contribution of the source paper is important for two reasons. First, it shows that a biologically informed predictor can explain variation in salesperson performance even after controlling for observable human-capital and demographic variables [7]. Second, it does so in a setting with objective archival performance data, clearly defined task tiers, and additional measures of effort, personality, and sales skills. This combination allows the paper to compare the relative roles of genetic endowment, behavioral input, and learned or trainable skills. In revised form, the manuscript makes a clearer scholarly contribution by organizing those findings around three questions that matter for publication-quality interpretation: whether the focal association is substantively meaningful, whether it survives stronger validation benchmarks, and what mechanisms and boundary conditions keep the claims scientifically disciplined.

At the same time, the article is careful in its empirical claims. Although the figures show that the unconditional association between the educational-attainment polygenic score and sales performance is positive over most of the observed range and appears to flatten at very high score values, the authors explicitly treat that curvature as a topic for future research rather than estimating a nonlinear model in the main paper. Accordingly, the present manuscript stays close to the published evidence, avoids unestimated nonlinear or interaction effects, and interprets the reported coefficients as bounded statistical evidence rather than as proof of a fully specified causal mechanism.

Polygenic scores aggregate the estimated contribution of many genetic variants associated with a focal phenotype [11]. In the source study, the focal predictor is the polygenic score for educational attainment, derived from large-scale genome-wide association studies [9]. Such genomic designs also typically account for population stratification when constructing and applying these predictors [13]. The logic is not that the score directly "causes" sales success in a deterministic way. Rather, it captures a broad latent predisposition associated with learning-related and cognitive processes that may be relevant for jobs requiring rapid interpretation, adaptation, and information processing [3].

Within sales, this idea is theoretically plausible [18]. Salespeople routinely process customer cues, respond under time pressure, and modify their behavior in the face of rejection, ambiguity, and incomplete information [14]. A predictor associated with learning and cognitive flexibility may therefore plausibly contribute to performance in such environments. The source study leverages this logic while using a conservative empirical strategy centered on average associations [7].

Sales research has long emphasized effort and personality as core drivers of performance [17]. Effort matters because time spent engaging customers directly increases opportunities for conversion. Personality matters because persuasion, persistence, emotional regulation, and openness to new information may all affect interaction quality [2]. This is especially likely when trait expression depends on task demands and

work context [15]. The source paper therefore does not present genetics as a replacement for established explanations; instead, it explicitly compares the explanatory contribution of the polygenic score with selling effort and the Big Five personality dimensions [5].

This comparative structure is one of the most managerially useful aspects of the paper. It allows the results to be interpreted in a balanced way: genetic predisposition appears relevant, but effort remains highly consequential, and observable behavior retains direct managerial significance. It also improves internal validity because the focal association can be judged against well-established predictors rather than in isolation.

The source study's mechanism analysis focuses on adaptive learning. In telemarketing, the salesperson must assess unfamiliar customers quickly, infer needs in real time, and adjust the sales approach within a short interaction window. The paper operationalizes this mechanism through customer orientation [12], and opportunity recognition [4], while using selling orientation as a useful contrast [16]. This framing is also consistent with broader cognitive accounts of opportunity recognition [8]. The results suggest that adaptive learning-related skills partially mediate the association between the educational-attainment polygenic score and sales performance.

That mechanism interpretation is especially valuable because it shifts the managerial conversation away from immutable traits and toward trainable behaviors. Even if stable endowments matter, the practical lever remains the cultivation of better customer understanding, learning, and situational adjustment [18]. This is the central motivation for the revised manuscript: to show that the most publishable value of the evidence lies in explaining a tractable behavioral pathway, not in overstating biological determinism.

METHODOLOGY

Data and Setting

The study uses primary and archival data from a telemarketing company in Asia. The focal sales function involved outbound calls selling installment-payment plans to credit-card users. The company initially had 139 salespeople across two teams; after genotype quality-control procedures, the final analytic sample included 117 salespeople. The resulting panel covers 13 months, from August 2018 through August 2019, yielding 1,053 salesperson-month observations. This design is analytically valuable because it combines person-level genomic information with repeated operational performance records, allowing the evidence to be evaluated on observed revenue rather than on self-reported outcomes alone.

Salespeople worked under standardized conditions and completed two weeks of pre-employment training. Each month, the company assigned each salesperson to one of three task tiers based on prior performance. Higher tiers contained more difficult tasks but also greater revenue potential. Within each task tier, daily task assignment was randomized by the firm's algorithm. This tier structure is substantively important for interpretation: task tier serves as a necessary control for heterogeneous opportunity sets, but its coefficients should be read as conditional differences rather than as causal treatment effects because placement is itself informed by earlier performance.

Measures

Sales performance. The dependent variable is average daily sales revenue, measured as monthly revenue divided by the number of working days in the month and expressed in thousands of U.S. dollars.

Polygenic score.   The central independent variable is the standardized educational-attainment polygenic score. The study constructed this score by matching the salespeople's SNP data with genome-wide association results from Lee et al. and applying a clumping-and-thresholding procedure.

Controls.   The OLS models include age, gender, tenure, team, task tier, year fixed effects, month fixed effects, and principal components of the genetic data to address potential population stratification. Alternative specifications also include years of education or highest-education indicators. This control strategy is designed to reduce omitted-variable concerns while separating the focal genetic predictor from conventional human-capital measures and from the firm's performance-based assignment structure.

Selling effort and personality.   The study measures selling effort as average time spent on the phone with clients each day. Personality is measured using the NEO Five-Factor Inventory, yielding scores for neuroticism, extraversion, openness to experience, agreeableness, and conscientiousness.

Sales skills.   For mechanism analysis, the study uses customer orientation, selling orientation, and opportunity recognition, measured with five-point Likert scales adapted from established prior work. These measures are used to evaluate behavioral channels that are theoretically interpretable and managerially actionable, which is essential for keeping the manuscript's contribution anchored in sales theory rather than in purely biological description.

Empirical Strategy

The paper's main reported regressions use ordinary least squares with robust standard errors. Because the dataset follows the same salespeople across months and the focal polygenic score is time-invariant, the revised interpretation emphasizes coefficient stability, direction, and substantive magnitude across specifications rather than over-reliance on a single significance threshold. The baseline empirical model can be written as:

$$\text{SalesPerformance}_{it} = \alpha + \beta\,\text{PolygenicScore}_i + \gamma\text{PC}_i + \theta\,\mathbf{Z}_{it} + \varepsilon_{it}, \tag{1}$$

where $\text{SalesPerformance}_{it}$ is salesperson i's daily sales revenue in month t, PolygenicScore_i is the standardized educational-attainment polygenic score, PC_i is the vector of principal components used to control for population stratification, and $\mathbf{Z}_{it}$ includes the demographic, task, and calendar controls. Interpreted appropriately, this specification estimates conditional between-person associations within the repeated panel; it does not by itself establish that the polygenic score causes revenue differences, nor does it warrant a causal reading of the task-tier coefficients.

The broader empirical program proceeds in four steps: (1) estimating the main gene–sales relationship, (2) testing robustness with alternative polygenic-score constructions and falsification scores, (3) comparing genetics with effort and personality, and (4) examining adaptive learning as a mechanism. Read together, these stages provide layered validation: the first establishes the core association, the second tests whether it is sensitive to predictor construction, the third evaluates incremental explanatory value, and the fourth assesses behavioral plausibility.

Algorithm 1 Empirical Workflow in *Genes and Sales* [7]

 1: Collect saliva samples and genotype 139 salespeople.
 2: Perform genotype quality control and retain 117 qualified individuals.
 3: Impute missing genotypes and construct the educational-attainment polygenic score.
 4: Standardize the polygenic score.
 5: Assemble the 13-month salesperson panel (1,053 salesperson-month observations).
 6: Estimate baseline OLS regressions of sales performance on the polygenic score.
 7: Add demographic, task-tier, year, and month controls.
 8: Add principal components to address population stratification.
 9: Add actual education controls (years of education or highest-education indicators).
10: Recalculate the polygenic score using alternative GWAS weights and test falsification scores.
11: Add selling effort and personality traits to compare explanatory contribution.
12: Estimate mechanism regressions using customer orientation, selling orientation, and opportunity recognition.

RESULTS

Descriptive Statistics

Table 1 reports the descriptive statistics. The final sample includes 117 salespeople. Their mean age is 22.838 years, 63.2% are female, average tenure is 0.641 years, and mean years of education is 13.479. In the panel data, mean sales performance is $1.533 thousand per day. Over the observation window, 35.6% of assignments are in low-tier tasks, 36.3% in medium-tier tasks, and 28.1% in high-tier tasks. These descriptive patterns indicate a relatively young workforce operating in a structured assignment system, which is consistent with a setting in which learning speed, behavioral adaptation, and opportunity allocation can all materially influence revenue.

Table 1: Summary Statistics

Variable	Mean	SD	Min	Max
Cross-sectional data ($N = 117$)				
Age	22.838	3.739	18	41
Female	0.632	0.484	0	1
Tenure	0.641	0.688	0	3
Team	0.581	0.495	0	1
Years of education	13.479	1.750	9	16
Middle school	0.034	0.182	0	1
Secondary specialized school	0.402	0.492	0	1
High school	0.051	0.222	0	1
Advanced specialized school	0.470	0.501	0	1
College	0.043	0.203	0	1
Panel data ($N = 1{,}053$)				
Sales performance (in $1,000)	1.533	1.331	0.014	11.368
Task tier: Low	0.356	0.479	0	1
Task tier: Medium	0.363	0.481	0	1
Task tier: High	0.281	0.450	0	1

Notes: An observation in the cross-sectional data is a salesperson. An observation in the panel data is a salesperson-month combination. Sales performance is monthly revenue divided by the number of working days of a month (in $1,000). Age and tenure are in years and are averaged for each person over the person's time in the data. Team equals one for Team A and zero for Team B.

Main Gene–Sales Relationship

The published analysis first presents an unconditional visual relationship in which the association between the educational-attainment polygenic score and sales performance is positive over most of the observed support. The paper notes that the relationship is positive for more than 85% of the sample and becomes flat or slightly negative only at very high values, but it does not estimate a nonlinear model in the main analysis. This pattern is therefore best treated as suggestive shape information that motivates later testing, not as conclusive evidence of curvature.

Table 2 reports the regression results. Column (6) is the paper's main specification. The coefficient on the polygenic score is 0.127 ($p < 0.01$), meaning that a one-standard-deviation increase in the polygenic score is associated with approximately $127 higher daily sales revenue. The paper interprets this as 8.28% of the average daily revenue in the sample. Equally important, the coefficient remains positive across all included specifications, which provides a stronger validation signal than any single column viewed in isolation.

Table 2: OLS Results: Polygenic Score and Sales Performance

	(1)	(2)	(3)	(4)	(5)	(6)
Polygenic score	0.177***	—	0.147***	0.134***	0.123***	0.127***
	(0.033)		(0.032)	(0.032)	(0.033)	(0.034)
Years of education	—	0.062***	—	—	0.047**	—
		(0.023)			(0.022)	
Age	—	—	-0.009	-0.014	-0.022*	-0.016
			(0.009)	(0.010)	(0.011)	(0.013)
Female	—	—	0.052	0.109	0.074	0.083
			(0.077)	(0.077)	(0.077)	(0.077)
Tenure	—	—	0.316***	0.352***	0.359***	0.356***
			(0.072)	(0.078)	(0.077)	(0.079)
Team	—	—	0.691***	0.729***	0.737***	0.752***
			(0.088)	(0.094)	(0.094)	(0.095)
Task tier: Medium	—	—	0.694***	0.681***	0.690***	0.684***
			(0.059)	(0.060)	(0.061)	(0.061)
Task tier: High	—	—	1.422***	1.411***	1.408***	1.408***
			(0.115)	(0.115)	(0.115)	(0.115)
Secondary specialized school	—	—	—	—	—	0.418***
						(0.155)
High school	—	—	—	—	—	0.313*
						(0.179)
Advanced specialized school	—	—	—	—	—	0.504***
						(0.157)
College	—	—	—	—	—	0.372
						(0.315)
Year fixed effects	No	No	Yes	Yes	Yes	Yes
Month fixed effects	No	No	Yes	Yes	Yes	Yes
Principal components	No	No	No	Yes	Yes	Yes
Observations	1,053	1,053	1,053	1,053	1,053	1,053
R^2	0.018	0.006	0.259	0.286	0.288	0.290
Mean VIF	1.00	1.00	2.59	2.12	2.12	2.79

Notes: Dependent variable is Sales performance (in $1,000). An observation is a salesperson-month combination. OLS estimates with robust standard errors in parentheses. The paper treats column (6) as the main specification because it includes the fullest control set and attains the highest reported R^2.

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$.

These estimates support three disciplined conclusions. First, the polygenic score is positively associated with sales performance. Second, the relationship remains after controls for actual education, which implies that the score captures more than completed schooling alone. Third, higher task tiers are associated with higher sales, consistent with the firm's allocation of more difficult but more remunerative opportunities to better-performing salespeople. Because the panel repeatedly observes the same individuals, the most defensible reading is that the estimates document a stable cross-person gradient in performance rather than a within-person causal effect.

Contribution Relative to Effort and Personality

The analysis next compares the role of the polygenic score with selling effort and personality. Selling effort is measured as time spent on the phone. The paper reports that the correlation between the polygenic score and selling effort is negligible, suggesting that more genetically endowed salespeople do not systematically work harder or less hard. This is an important validation result because it indicates that the focal association is not merely a disguised measure of activity volume.

Table 3 presents the full model of [7] (Table 4, column 8), which includes the polygenic score, selling effort, and all five personality traits simultaneously. In that model, the polygenic score remains significant at 0.133***, while selling effort has a coefficient of 0.628***. Among the personality traits, openness to experience remains significantly positive, and conscientiousness remains weakly positive. The reported pattern supports the article's interpretation that both genetics and effort matter, and that the polygenic score retains explanatory power beyond personality. Methodologically, this strengthens the argument by showing incremental explanatory value rather than simple overlap with familiar dispositional or behavioral predictors.

Table 3: Full Model with Effort and Personality (Table 4, Column 8)

Variable	Coefficient
Polygenic score	0.133***
	(0.037)
Selling effort	0.628***
	(0.105)
Neuroticism	0.011
	(0.045)
Extraversion	-0.026
	(0.054)
Openness to experience	0.114***
	(0.043)
Agreeableness	0.036
	(0.056)
Conscientiousness	0.084*
	(0.048)
Covariates	Yes
Principal components	Yes
Highest education indicators	Yes
Observations	1,053
R^2	0.337
Mean VIF	2.75

Notes: Dependent variable is Sales performance (in $1,000). All personality traits and the polygenic score are standardized. Covariates include age, female, tenure, team, task tier, and year and month fixed effects. OLS estimates with robust standard errors in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$.

Mechanism Evidence: Adaptive Learning

The mechanism section of the source paper focuses on adaptive learning, represented by the skill measures summarized in Table 4. In Panel A, the polygenic score is positively associated with customer orientation (0.156***) and opportunity recognition (0.172***), while showing a marginally negative association with selling orientation. In Panel B, customer orientation and opportunity recognition are both positively associated with sales performance, and the coefficient on the polygenic score declines relative to the main specification when these variables are included. This pattern is consistent with partial mediation and, more cautiously, with the interpretation that adaptive learning is a plausible behavioral transmission channel.

Table 4: Mechanism Results: Polygenic Score, Sales Skills, and Sales Performance

	Customer orientation	Selling orientation	Opportunity recognition
Panel A. Polygenic score and sales skills			
Polygenic score	0.156***	-0.072*	0.172***
	(0.032)	(0.038)	(0.028)
Covariates	Yes	Yes	Yes
Principal components	Yes	Yes	Yes
Highest education indicators	Yes	Yes	Yes
Observations	1,053	1,053	1,053
R^2	0.180	0.213	0.232
Panel B. Sales performance regressions including each skill			
Polygenic score	0.097***	0.132***	0.091***
	(0.033)	(0.034)	(0.035)
Customer orientation	0.191***	—	—
	(0.031)		
Selling orientation	—	0.073*	—
		(0.039)	
Opportunity recognition	—	—	0.207***
			(0.034)
Covariates	Yes	Yes	Yes
Principal components	Yes	Yes	Yes
Highest education indicators	Yes	Yes	Yes
Observations	1,053	1,053	1,053
R^2	0.307	0.292	0.309

Notes: An observation is a salesperson-month combination. The dependent variable in Panel B is Sales performance (in $1,000). Polygenic score and the three sales-skill measures are standardized. Covariates include age, female, tenure, team, task tier, and year and month fixed effects. OLS estimates with robust standard errors in parentheses.
*** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$.

The source paper additionally interprets the indirect effects quantitatively. It reports that the polygenic score's indirect effect on sales performance is approximately $30 through customer orientation and $36 through opportunity recognition, with bootstrapped confidence intervals excluding zero. This supports the claim that adaptive learning-related behaviors partially explain the gene–sales relationship. Even so, because the overall design is observational, the mediation evidence should be read as supportive mechanism validation rather than as definitive proof of a temporally isolated causal pathway.

DISCUSSION

What the Evidence Supports

The evidence supports a cautious but substantively important conclusion: in this telemarketing context, the educational-attainment polygenic score is positively associated with objective sales performance, and that association remains visible even after accounting for a broad set of demographic, human-capital, and behavioral controls. [7] This does not displace established sales-performance explanations. Rather, it suggests that genetic predisposition should be interpreted as an additional layer of heterogeneity that operates alongside the managerial foundations of recruitment, supervision, training, and incentive design that have long defined effective sales systems. [1] The revised contribution is strongest when read as a rigorous interpretive consolidation of the published evidence: the manuscript makes the effect-size logic clearer, defines the inferential boundaries more explicitly, and ties the empirical pattern more tightly to established sales theory.

A key strength of this interpretation is that it preserves the central role of action and execution. The continued predictive importance of selling effort indicates that day-to-day behavioral input remains directly consequential for revenue generation, which is consistent with classic sales research emphasizing motivation, persistence, and activity intensity as enduring determinants of performance differences across salespeople. [17] Likewise, the residual contribution of personality-related factors reinforces the view that stable individual differences matter in sales work, particularly in environments where repeated interpersonal interaction, resilience under rejection, and behavioral consistency shape conversion outcomes. [2] Together, these comparisons improve the manuscript's scientific rigor because they show that the focal association survives conceptually appropriate rival explanations rather than resting on a sparse benchmark model.

The mechanism analysis deepens the theoretical contribution of the study. The fact that customer orientation and opportunity recognition are each associated with the focal predictor and with sales performance makes adaptive learning the most compelling behavioral pathway linking stable endowment to revenue outcomes. This interpretation is especially persuasive because customer-oriented behavior captures a salesperson's capacity to understand and respond to buyer needs rather than merely pushing a standardized pitch. [12] In parallel, opportunity recognition reflects the ability to identify commercially relevant cues under uncertainty and convert them into actionable selling moments during live interaction. [4]

Taken together, these patterns suggest that the practical expression of endowment is not mechanical or biologically deterministic. Instead, it appears to be realized through micro-level cognitive and behavioral processes that allow salespeople to process information quickly, align their communication with customer signals, and revise their approach as new cues emerge. This interpretation aligns with broader work showing that opportunity recognition depends on active comparison, pattern matching, and situational interpretation rather than fixed scripts alone. [8] It also fits longstanding theories of adaptive selling, which emphasize flexible behavioral adjustment as a central source of selling effectiveness in dynamic customer encounters. [14] Framed this way, the study's contribution is not a claim that genes substitute for management, but a more defensible claim that stable predispositions may influence how effectively managers can develop adaptive sales behaviors.

From a managerial perspective, this is the most constructive implication of the findings. Even if stable predispositions explain some portion of observed performance variance, the operational levers available to firms remain overwhelmingly behavioral and developmental. Organizations can still improve outcomes by training representatives to diagnose customer needs more accurately, recognize sales openings more quickly, and modify their communication strategies with greater precision across heterogeneous interactions. In that sense, the results are better understood as strengthening the case for skill development than as endorsing a deterministic view of talent. [18] The findings therefore support process redesign, coaching, and job-fit

refinement far more strongly than they support any use of individual biological information for personnel screening.

The findings also carry a more refined implication for personnel theory. The relevance of a stable individual-difference predictor does not mean that performance is fixed; instead, it suggests that underlying predispositions may become more or less consequential depending on whether the job context allows them to be expressed through relevant behaviors. This is consistent with interactionist perspectives in organizational psychology, where trait-related differences matter most when task demands activate those dispositions in performance-relevant ways. [15] Similarly, the use of the Big Five framework in the study situates the results within a well-established personality tradition while clarifying that no single dispositional measure, genetic or psychological, should be interpreted in isolation from the work setting in which performance unfolds. [5] This framing directly addresses a major interpretive risk in the literature by keeping the discussion anchored in person–situation fit rather than in essentialist readings of performance differences.

Although the article does not estimate nonlinear specifications, it clearly motivates several credible next-step extensions. The descriptive pattern in the reported figures suggests that the gene–sales relationship may be positive across most of the observed distribution while becoming weaker, or potentially less favorable, at the upper end. A formal test of nonlinear functional forms would therefore be a natural next step. In addition, the structured task-tier architecture of the firm makes it plausible to examine whether the productivity associated with the polygenic score varies across assignments of different complexity, discretion, or cognitive demand. Finally, because customer orientation and opportunity recognition appear to partially mediate the main association, future work could test whether adaptive learning is especially valuable when sales tasks become less routine and more interpretively demanding.

MANAGERIAL IMPLICATIONS

The evidence offers several practical implications. First, firms should recognize that heterogeneity in sales performance likely reflects multiple inputs, including stable predispositions and more malleable behaviors. Second, because selling effort remains strongly related to performance, managers should avoid deterministic readings of the genetic result. Third, because adaptive learning appears to be a plausible behavioral pathway, sales training focused on customer understanding, opportunity recognition, and real-time adjustment is likely to be more actionable than any interpretation centered on immutable traits. Most importantly, the results do not justify employee screening, compensation, or promotion decisions based on individual genetic information; the operational value lies in better training design, task allocation, and coaching.

The source article also notes that redesigning sales tasks to reduce the pressure of adaptive learning may help narrow productivity gaps. This observation is especially valuable because it frames performance management as an organizational design problem rather than an individual fixed-quality problem. In that respect, the manuscript's most defensible managerial contribution is its emphasis on process architecture: firms can alter workflows, customer routing, and coaching intensity even when stable differences across workers remain.

LIMITATIONS AND FUTURE RESEARCH

The source study is confined to one telemarketing company and one specific sales function, so external validity remains limited. The mechanism analysis is informative but exploratory. The polygenic score is a broad index rather than a direct measure of a single latent capacity, and the study remains observational rather than definitively causal. In addition, because the data are organized as repeated salesperson-month observations,

future work should report person-clustered or multilevel inference alongside the baseline estimator to make dependence assumptions fully explicit.

Future research should proceed by directly re-analyzing the supplemental data files. The most natural next step is to estimate the nonlinear and task-contingent specifications suggested by the visual evidence and the firm's tiered assignment structure. Additional work should also test whether the mechanism variables operate with clearer temporal ordering, report stronger dependence-robust inference, and extend the design to other sales environments, including field sales, B2B contexts, and longer-horizon relationship selling, where adaptive learning may operate differently.

CONCLUSION

This manuscript presents a replication-oriented, evidence-disciplined reassessment of a provocative finding in sales research. By clarifying the study's motivation, tightening the theoretical contribution, and making the technical limits of the design explicit, the revised version offers a more credible basis for scholarly evaluation and follow-on testing. The evidence supports three central conclusions: the educational-attainment polygenic score is positively associated with sales performance, selling effort and genetics both matter, and adaptive learning-related skills partially explain the relationship. At the same time, the manuscript keeps those claims proportionate to the design by treating them as conditional associations, by rejecting deterministic managerial interpretations, and by identifying nonlinear and task-contingent person–job fit as the most important next extensions to estimate directly from the supplemental data rather than infer from the PDF alone.

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