

D. O. C. B. R.  
University of Colorado, Boulder

*This article raises some questions about the usefulness of meta-analysis as a means of reviewing quantitative research in the social sciences. When a meta-analytic model for SAT coaching is used to predict results from future studies, the amount of prediction error is quite large. Interpretations of meta-analytic regressions and quantifications of program and study characteristics are shown to be equivocal. The match between the assumptions of the meta-analytic model and the data from SAT coaching studies is not good, making statistical inferences problematic. Researcher subjectivity is no less problematic in the context of a meta-analysis than in a narrative review.*

**Keywords:** meta-analysis; literature review; SAT coaching; statistical inference

Meta-Analysis in Social Research (1981), Statistical Methods for Meta-Analysis (1985), 1980, meta-analysis (1980, 2003), 1,000, Experimental and Quasi-Experimental Design for Generalized Causal Inference,

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20 (R. G. G., C. I.,  
C. I. 2002, 446).

(1986; 1988; B. 2004; B. 2003).

(1990; 1988). A.

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TABLE 1: Observed and Predicted Effects From New Coaching Studies

Re	S d	C ac	Effic	P ed c ed C ac		Effic F		Bec e (1990)	
				M de A	M de B	M de B	M de C	M de C	M de D
H e e (1984)	SAT-V	57		30	11.6	12.9	24.5		
F a e (1987)	SAT-M	37		30	25.5	1.2	35.8		
	SAT-V	16		30	11.6	1.9	0.8		
H a e (1988)	SAT-M	16		30	25.5	13.6	12.1		
	SAT-M	21		30	25.5	14.5	8.1		
W a (1988)	SAT-V	11		30	11.6	2.7	0.5		
	SAT-M	16		30	25.5	14.4	11.8		
S edec (1989)	SAT-V	0		30	11.6	2.7	0.2		







Handwritten musical notation on a page, featuring various notes, rests, and section markers. The notation is dense and appears to be a score for a piece of music. Key elements include:

- Section markers: **L. A.**, **L. B.**, **L. C.**
- Measure numbers: **30**, **60**, **26**, **37**, **60**, **10**, **20**, **46**, **47**
- Section markers: **A.**, **B.**, **C.**

The notation includes various note values (quarter, eighth, sixteenth notes), rests, and bar lines, indicating a complex rhythmic structure. The page is filled with musical symbols and some text, suggesting a detailed musical score.



**TABLE 4: Estimated Coaching Effects in Randomized Studies**

Re a d S d	SAT-M	SAT-V
Ade a a d P e (1980)		
Sc A		22
Sc B		9
Sc C		14
Sc D		14
Sc E		1
Sc F		14
Sc G		18
Sc H		1
E a a d P e (1973)		
G A	12	
G B	25	
G C	11	
La c e e (1985)	8	0
R be a d O e e (1966)		
Sc A		17
Sc B	12	
Z a (1988)	51	14
Med a effec e a e	12	14

**TABLE 5:**

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8 ... 30  
 ( ... ) ... 30  
 ... D ... 30

Handwritten text, possibly a signature or a name, located in the center of the page.







(1980) 17  
B  
55  
17  
B  
A  
2) A  
B  
(1979)  
A  
A  
B  
1965; 1961; C  
1967; C  
1987;  
1984).  
13  
( $g_{hi}$ )  
( $g_{hi}$ )  
13  
70.  
B  
11  
13  
1960 1967  
(L 1965;  
1961; C  
1967):

(1961)  
D.C.







Let  $A = \{1, 2, \dots, h\}$  and  $B = \{1, 2, \dots, t\}$ . Let  $X_{hij}$  and  $Y_{hij}$  be the random variables representing the number of observations in the  $i$ th stratum of the  $j$ th treatment group.

Assume that

the  $X_{hij}$  and  $Y_{hij}$  are independent and normally distributed with means  $\mu_{hi}^C$  and  $\mu_{hi}^U$  and variances  $\sigma_{hi}^2$  and  $\sigma_{hi}^2$  respectively. Let  $X_{hij}^C$  and  $Y_{hij}^C$  be the random variables representing the number of observations in the  $i$ th stratum of the  $j$ th treatment group in the control population. Let  $X_{hij}^U$  and  $Y_{hij}^U$  be the random variables representing the number of observations in the  $i$ th stratum of the  $j$ th treatment group in the experimental population.

$$X_{hij}^C \sim N(\mu_{hi}^C, \sigma_{hi}^2) \text{ and } Y_{hij}^C \sim N(\nu_{hi}^C, \sigma_{hi}^2), \quad (4)$$

and

$$X_{hij}^U \sim N(\mu_{hi}^U, \sigma_{hi}^2) \text{ and } Y_{hij}^U \sim N(\nu_{hi}^U, \sigma_{hi}^2). \quad (5)$$

Let  $\sigma_{hi}^2$  be the variance of the  $i$ th stratum of the  $j$ th treatment group in the control population. Let  $\mu_{hi}^C, \nu_{hi}^C, \mu_{hi}^U, \nu_{hi}^U$  be the means of the  $i$ th stratum of the  $j$ th treatment group in the control population and the experimental population respectively. Let  $\sigma_{hi}^2$  be the variance of the  $i$ th stratum of the  $j$ th treatment group in the experimental population.



1. (A) 1980  
1980  
1961; 1965;  
1973; C B. 1978; 1980;  
1980).

C  
B  
1980

... B ... (2003) ...  
... 50% ...  
... to p ...  
... (all ...  
... ) ...  
... l ...

to  
B  
C  
(1978), (1980), (1981),  
C (1982), B (1989).  
90 -251.93

TABLE 6: Studies by Coaching Mode and Design

Cac	T e	Me d ca De		
		Ra d ed C	Obe a a C	N C
Sc	-ba ed	R be a d O e e (1966) E a a d P e (1973) A de a a d P e (1980) S a (1992)	D e (1953) F e c (1955) Dea (1958) Keefa e (1976) K c (1979) J (Sa Fa c c e) (1984) <sup>a</sup> B e (1986) R e d a d Obe a (1987) H a e (1988) W , C d , a d Ma e (1989) S c ede (1992) W e (1996)	Pa e (1961) Ma (1965) J (A a a, Ne e) (1984) <sup>a</sup> Y



C	e ca-ba ed	F a e (1960)	Ka a (2002)
		W a (1962)	
		Fede a T adg C	
		B Re a Office (1978)	d a d ea a e
		B ea f C e P ec (1979)	
		R c (1980)	
		S d (1980)	
		Se , Be a d, a dK a (1982)	
		F a e (1987)	
		W a (1988)	
		Z a (1988) <sup>a</sup>	
		S edec (1989)	
		S (1989)	
		S (1990)	
		P a dR c (1999)	
		B (2001)	
C	e -ba ed	H ee (1984)	
		La c ee (1985)	

• It is a common mistake to think that the only way to improve your writing is to write more. In fact, the most effective way to improve your writing is to read more. Reading good writing helps you understand how to write well. It also helps you develop a sense of style and voice. When you read, you learn from the best. You see how they use language, how they structure their arguments, and how they create a compelling narrative. This is why it is so important to read widely and deeply. Don't just read for entertainment; read to learn. Choose books that challenge you and expand your horizons. Read the classics, but also read contemporary authors. Read fiction, but also read non-fiction. Read poetry, but also read philosophy. The more you read, the better you will become at writing. Remember, writing is a craft, and like any craft, it requires practice and study. So pick up a book, and start reading. Your writing will thank you.









... .., 1 -2001

Sa e S e<sup>a</sup> (C ac ed/T a)












Grade

Yea ( )

SES fb.9998 -7.9998 1.7004 79484019916 269.





Z a (  -SES a e) (1988)	21/55	21/55	11	M e b c ( ba )	NY	1985-1986	H 
S (1989)	200/438	200/438	12	8 a e ( b ba )	MD, D.C.	1987-1988	H 
S edec (1989)	264/535	264/535	12	10 b c a d a e	PA	1988-1989	H 
S (1990)	631/1,132	631/1,132	12	14 a e ( b ba )	MD, NJ	1989	H 
P e a d R c (1999)	427/2,086	427/2,086	11 , 12	M e b c a d a e	USA	1995-1996	M ed
B  (2001)	503/3,144	503/3,144	11 , 12	M e b c a d a e	USA	1991-1992	M ed
Ra d ed de  Sc -ba ed c ac  R be a d O e e (1966)	154/265	188/310	12	18 b c (a Bac , ba , a d a ) 12 b c ( ba a d b ba )	TN	1965	L
E a a d P e (1973)	NA	288/417	11		NJ, OH, PA	1970-1971	M ed
Ade a a d P e (1980)	239/559	NA	11	8 b c a d a e	7 Neg E  a d a e	1977-1978	M ed
J (Sa Fa c c e) (1984)	23/35	23/35	11	M e b c (a Bac , ba )	CA	1983-1994	L
S a (1992)  C e c a c ac 	61/122	61/122	12	3 b c ( b ba )	CA	1988	M ed
Z a ( -SES a e) (1988)	16/33	16/33	11	M e b c ( ba )	NY	1985-1986	L

(c ed)



S d	G a d Mea	C SAT-M	G	D	VI	MI	AI	IP	TP	TS	OA	HW	CI	WC	AC
H ee	1	1	1	3.5	1	1	1	1	0	1	0	0	1	0	0
Fa e	1	1	1	15	1	1	0	1	1	1	0	0	0	0	0
Ha e	1	1	1	4	0	1	1	1	0	1	0	0	0	0	1
Wa	1	1	1	15	1	1	1	1	1	1	0	0	0	0	0
Selec	1	1	1	15	1	1	1	1	1	1	0	0	0	0	0
W, C, d, a dMa e	1	1	1	15	1	1	1	1	1	1	1	0	0	0	0
S	1	1	1	15	1	1	1	1	1	1	0	0	0	0	0
Sa	1	1	1	4	1	1	0	0	0	1	0	0	0	0	0
Sc ede	1	1	1	16	0	1	2	1	1	1	1	0	0	0	0
He a d Keffe	1	0	1	8	1	0	1	0	0	0	0	0	1	0	0
W e	1	0	1	68	1	0	2	1	1	1	0	0	0	0	0
P e a dR c	1	1	1	15	1	1	1	1	1	1	0	0	0	0	0
B	1	1	1	15	1	1	1	1	1	1	0	0	0	0	0
Ka a Yea 1	1	1	0	30	0	1	2	1	1	1	1	1	0	0	0
Ka a Yea 2	1	1	0	30	0	1	2	1	1	1	1	1	0	0	0

NOTE: D=d a f c ac (b d a e a e bee ed a Bec e' [1990] e e ), VI= e ba c , MI= a c-  
, AI= a a c , IP= e ac ce, TP= e ac ce, TS= e - a e ac e , WC= a - c , AC= a e a-  
e c .

S d	Yea	P b	Ma c	Ra d	ETS	Se	V
H ee	82	0	0	1	0	1	2
Fa e	87	0	0	0	0	2	2
Ha e	88	0	0	0	0	1	2
W a	88	1	0	0	0	2	2
S edec	89	1	0	0	0	2	2
W ., C d , a d Ma e	89	0	0	0	0	2	2
S a	90	1	0	0	0	2	2
S a	92	0	0	1	0	1	2
Sc ede	92	0	0	0	0	2	2
H e a d Keffe	95	1	0	1	0	2	2
W e	96	0	1	0	0	2	2
P a d R c	99	1	0	0	1	1	2
B .	101	1	0	0	0	1	2
Ka a Yea 1	101	1	0	0	0	2	2
Ka a Yea 2	101	1	0	0	0	2	2

1. ... (1976). ... (1987). ...
2. A... 1994. ...
3. ... B... (1988). ... *ghu* *ghu*...
4. ... G... (1999). ... (1989). ... 1990
5. B... (1989). ...
6. D... B... (1989). ...
7. ... D... C...
8. ... (1965).
9. ...
10. ...
10. ... C... (1953), ... (1955), D... (1958), ... (1988). ... A... (1980).
11. ... (1985).
12. ... B... (2004, ... 4).
13. ... (1987). ...

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*Derek C. Briggs is an assistant professor specializing in quantitative methods and policy analy-*