Supplementary Information: Appendix S1

Characteristics of 60 examples of pseudofactorialism from the literature, 1974-2009

Paper & page[g]	Treatment or blocking factor(s) (no. levels)	Pseudofactor(s) (no.'levels')	Total no. exptl units	Error d.f.[a]		Analytical treatment of pseudofactor (cc, su)[h]	No. of collaborators[c]	Percent reduction in $F_{.05}$ due to pseudofactorialism[d]
				correct	used[b]			
A	B	C	D	E	F	G	H	I
Schelske et al. 1974:412	nitrogen (3), phosphorus(5)	date (7)	15	8	210[e]	cc	6	26
Lauenroth et al. 1978:216	nitrogen (2) ,water (2)	year (5), group (6)	8	4	120	cc	5	49
Sousa et al.1981:301	urchins (2)	time (6)	6	4	27[e]	cc	14	45
Bell & Westoby 1986:258	density (2), shortening (2)	edge (2)	16	12	24	cc	18	10
McIntosh 1986:4	encouragement (2),	test type (2)	4	2	48[e]	cc	3	71
Mills 1986:1641	herbivores (4)	shrub species (2)	63	59	98	cc	6	2
Boag 1987:159	diet (3)	sex (2)	14	11	35[e]	cc	5	33
Main 1987:172	predator (2)	size (2), date (2)	6	4	16	cc	11	42
Polis & McCormick 1987:339	predation (2)	date (5)	30	28	140	cc	12	7
Schmitt 1987:1891	food (2)	predator (3)	6	4	12	cc	3	38
Streams 1987:941	notonectids (2), depth (2)	instar (4)	4	1	24	cc	5	97
Gotelli 1988:162	burial (2)	colony type (2)	32	14	43[e]	cc	11	9
Patzkowsky 1988:60	density (3), plates (5)	days (5)	15	8	32	cc	11	26
Power 1988:1582	tree sp. (2), time (2), log no. (4)	species (8)	32	9	64	cc	6	32
de la Cruz et al. 1989:187	clipping (2), community (2)	season (4), depth (10)	6	3	944[e]	cc	5	62
Schlosser & Ebel 1989:4	flow (2)	family (5)	6	4	20	cc	9	44
Lederhouse et al. 1990:746	diet (4)	history (2)	52	50	88	cc	8	46
Morin et al. 1990:1593	tadpoles (2), insects (2)	cohort (2)	12	8	15	cc	6	15
Montague et al. 1991:130	blades (2)	day (5)	4	2	90[e]	cc	7	73
Brett 1992:73	predation (3)	date (6), size (4)	12	9	108	cc	9	28
Gulmon 1992:28	topsoil (2)	species (10)	8	6	60?	cc	3	33
Jaenike & Anderson 1992:535	mushrooms (3)	species (2)	15	12	24	cc	6	13

[a] These are the error d.f. available for and used, respectively, for testing for effect of first treatment factor listed.

[b] Sometimes had to be inferred if not explicitly indicated.

[c] Sum of (1) number of co-authors, (2) number of persons acknowledged for comments on manuscript, and (3) one editor and two anonymous referees (except where these are acknowledged under the preceding).

[d] This calculation applies to first treatment factor listed. Additional unwarranted reductions due to pseudoreplication-inflated error d.f. are not included in these values.

[e] Inflation of error d.f. is due in part to pseudoreplication (or other error) present in analysis.

[f] Not applicable, as treatment effects are tested for with a multi-way contingency table and G tests.

[g] Page cited is that on which the pseudofactorial analysis is given, not the first page of the article.

[h] Pseudofactor treated as a subunit factor (su) or as a whole unit factor in a single-unit design (cc).

[i] Leaf age was treated as a pseudofactor in the ANOVA conducted, but no test for the main effect of herbivory was reported.

Appendix S1, continued

A	B	C	D	E	F	G	H	I
Cipollini et al. 1993:341	carbon dioxide (2), block (3)	sex (2)	9	4	68[e]	cc	5	48
Welker et al. 1993:465	temperature (2), water (2)	cohort (3)	24	20	60?	cc	9	8
DeStaso & Rahel 1994:292	temperature (2)	species (2)	48	46	92	cc	12	2
Hambright 1994:432	fish (3)	depth (5)	14	11	55	cc	6	21
Adler et al. 1995:77	herbivory (2), population (2)	leaf age (3)	120?	116?	X[i]	cc	13	na
Arnone & Korner 1995:63	carbon dioxide (2)	species (7)	4	2	2	su	7	0
Bowman et al. 1995:221	water (3)	growth form (3)	30	24	48	cc	9	6
Diffendorfer et al. 1995:830	fragmentation (3)	sex(2), time(162?)	8	5	2538	cc	9	52
Gardner et al. 1995:84	carbon dioxide (2)	length (5)	2	0	>94[e]	cc	5	0
Kenyon et al. 1995:94	habitat (3)	period (2)	30	27	54	cc	9	6
Mamalos et al. 1995:645	nitrogen (2), phosphorus (2)	species (5)	16	12	12?	su	7	0
Preen 1995:210	grazing (3), site (3)	species (3)	9	4	4	su	6	0
Bushek & Allen 1996:135	isolate (4)	population (4)	8	4	16	cc	10	49
Hovel & Morgan 1997:84	depth (2), length (2)	species (3)	18	14	42	cc	7	11
Edwards 1998:314	canopy (2)	date (2), method (2)	4	2	112[e]	cc	6	71
Fraser & Grime 1998:242	levels (3), fertility (2)	species (3)	36	30	198[e]	cc	4	5
Mattila & Bonsdorff 1998:227	density (4)	species (2)	22	18	36	cc	6	9
Metaxas & Young 1998:436	diet (4), density (4)	position (4)	64	48	na[f]	cc	5	na[f]
Moltschaniwskyj & Martínez 1998:296	ration (2), temperature (2)	region (3)	8	4	84[e]	cc	7	38
Parsons et al. 1998:280	patch size (4)	species (2), depth (6)	12	16	90	cc	7	16
Ritchie et al. 1998:169	herbivores (2)	year (4)	10	8	32[e]	cc	8	22
Young & Okello 1998:511	herbivores (3), block (3)	height (2)	9	4	12	cc	10	44
Graham et al. 2000:467	magnetic field (3)	sex (2)	?	?	733[e]	cc	8	?
Hoffmann et al. 2000:313	CO_2 (2), nutrients (2)	date (4)	6	4	128[e]	cc	7	49
Finzi et al. 2001:475	carbon dioxide (2)	species (6)	6	4	4	su	9	0
Shakarad et al. 2001:5	selection (2), block (4)	sex (2)	8	3	3	cc	6	0
Hollertz 2002:964	food (3)	compartment (3)	12	9	36	cc	9	23
Howe & Marshall 2002:964	temperature (5)	light (2)	5	0	40[e]	cc	4	9
Polak et al. 2002:23	arsenic (2), genotype (3)	sex (2)	76?	70	127	cc	5	2
Sanders & Gordon 2003:1029	resource (2), site (8)	species (20)	16	7	133	cc	7	30
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Grayson & Wilbur 2009:309	density (3), sex ratio (2)	gender (2)	33	27	53	cc	6	5
Strauss et al. 2009:426	herbivore (2), fertilizers (2), insecticide (2), block (20)	species (5)?, status (2)?	160	19	583[e]	cc	20	12
McCluney & Sabo, 2009:1465	water (2), spider (2)	time (2)	16	10	22	cc	9	13
Hart & Marshall 2009:1487	aggreation (2), block (2)	species (4)	10	8	28	cc	8	21
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McGrath et al. 2009:27	coverage (2), block (17)	date (9)	34	16	128	cc	9	16
Stoll et al. 2009:239	plot size (3), fragmentn (2), block (5)	year (3)	40	30?	102	cc	9	8
Schröder et al. 2009:1156	productivity (3), size (2)	species (2)	32	18	34	cc	10	3