The expression of the Maori concept of whakama

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Question 33 outlined a situation which might be expected to elicit the *whakama* reaction from Maori students:

33 You have just won your school speech competition. The Principal talks to you afterwards and tells you what a wonderful speech it was, and how proud (s)he is of you. You feel very uncomfortable about this. You want to tell your friend **how you felt**. What would you say?

The *whakama* reaction is one of extreme outward embarrassment in the face of praise, even if inside the praise is welcome.

The reactions of the schools to this question were interesting. A large number reported, as expected, that the children would not feel embarrassed under these circumstances. This largely accounts for the number of schools which reported no codable answer to this question. Some schools even went so far as to comment that it was a stupid question. In other schools, the children obviously responded to the scenario in the expected way, so we believe that the responses we received do reflect the expression in English of *whakama*. The decile profile of the schools which provided no codable response is interesting, clearly showing a tendency to be high decile:



Two of the responses were quite explicit about the dual nature of the reaction to this situation: *I felt good on the inside, but not on the outside; a bit shamed but OK.* However, these were two of the many one-off responses. Many responses were expressions of abuse of the principal.

Once more, there were a number of thematic groups of responses, with very variable expressions of the theme. The thematic forms were grouped at one level, and then any individual forms within those themes which were reported more than once or twice were also considered in their own right.

Even after thematic grouping, there were not a large number of groups with sufficient forms to make them worth considering further. Those which had the highest levels of reportage were *shame* (47); *embarrassed* (43); *I felt stupid* (16); *I felt stink* (16); *I felt weird* (15).

All forms with the root *shame* were grouped together at this level. *Shame* forms were almost exclusively reported from the North Island, as was the case in Q. 32:

	North	Island	South Island		
	No.	%	No.	%	
Schools	93	62	57	38	
Shame	42	89	5	11	

It appears that it is the lack of reports from the South Island which causes the imbalance in the figures for the Central and Southern Regions on the three-way split:

	Northern Region		Central Region		Southern Region	
	No.	% of total	No.	% of total	No.	% of total
Schools	57	38	78	52	14	9
Shame	24	51	21	45	1	2

There is also significant social differentiation in the reports of this form:



Further statistical analysis would be needed to establish to what extent this is independent of the regional data.

Embarrass (either *I felt embarrassed* or *It was embarassing*) was distributed very strangely, with a number of patches where it was very common, and then large gaps in the reports. There were many reports from Northland and Auckland, two from the Bay of Plenty, one in Hawkes Bay, a number from the Manawatu-Wairarapa-Wellington area, a few in North and mid Canterbury, and then a large number in South Canterbury, Otago and Southland.

The figures for the North Island vs. the South Island and for the three-region division do not show any significant sign of skewing, but fail to capture the patchy distribution:

	North	Island	South Island		
	No.	%	No.	%	
Schools	93	62	57	38	
Embarrass	26	60	17	40	

	Northern Region		Central Region		Southern Region	
	No.	% of total	No.	% of total	No.	% of total
Schools	57	38	78	52	14	9
Embarrass	17	40	21	49	5	12

Embarrass forms were fairly evenly distributed across deciles.

The *I felt stupid* group was made up of forms like *I felt stupid/dumb/like a dick*. They were scattered fairly widely from Northland to south Canterbury, but there were no reports from Southland-Otago.

I felt stink was not a mixed group, but a single item. There were only two reports of this from the South Island (at the extremes of the Island), and it was more common in Northland and Auckland than elsewhere. This is reflected in the following tables:

North Island South Island % No. No. % 62 57 38 Schools 93 Felt stink 14 88 2 13

In relation to the following table, it needs to be pointed out that all the reports for the Northern Region come from Northland and Auckland, so the table does not show the large swathe across central areas of the North Island where this form was not reported:

	Northern Region		Central Region		Southern Region	
	No.	% of total	No.	% of total	No.	% of total
Schools	57	38	78	52	14	9
Felt stink	8	50	7	44	1	6

It shows no sign of social differentiation.

I felt weird (consisting of forms like *I felt weird/queer/funny*) was dotted from Northland to Otago, with no sign of pattern to its distribution. Of the forms grouped, only the *shame* forms were sufficiently common (but in the North Island only) to warrant analysing their distribution further. The forms reported were: *shame* (25); *shamed* (11); *shameful* (8); *shamed out* (4); *shaming* (2); *shames* (2); *a shame* (1); *shameless* (1); *ashamed* (1). One of the interests in these forms is the comparison with the patterns found in Q 32 for these forms. *Shame* is perhaps more common in the Northern Region of the North Island than in those parts of the North Island which fall into the Central Region:

	Northern Region		N. Is. Sector of Central Region		
	No.	%	No.	%	
Schools	57	38	35	23	
Shame	16	64	8	32	

More importantly, perhaps, it shows the same sort of social differentiation as was noted above with the *shame* forms as a group:



Shamed shows almost the reverse tendency, but is much more patchy, with a cluster of reports from Northland and Auckland, and then another cluster in Wanganui – Manawatu – Wairarapa – Wellington.

	Northern Region		N. Is. Sector of Central Region		
	No.	%	No.	%	
Schools	57	38	35	23	
Shamed	5	45	5	45	

The only other form frequent enough to be of any real interest was *shameful*. There was one report each from Auckland, Wellington and Christchurch. The others were in a swathe across the lower central North Island: from Taranaki across to Hawkes Bay and from the southern edge of the volcanic plateau to the Rangitikei district. This does not really conform to any patterns seen with other data, and is probably not significant. It is perhaps worth noting that it was not clear whether it meant that the Principal's behaviour was shameful or whether their own feelings were "shameful".

Shamed out (much more commonly reported for Q. 32) was reported from Taranaki, Hawkes Bay, Wellington and Christchurch. That means that three of the four reports were from the Central Region. In Q. 32, *shamed out* was less common in the Central Region than might have been expected.

Both reports of *shaming* came from Auckland. The two reports of *shames* came from the same two schools in the Rotorua area which reported this form in Q. 32. The only report of *ashamed* came from the South Island, which was also the case for *ashamed* in response to Q. 32.

The comparison with Q. 32 shows that the forms they both elicited are not distributed in the same way in the two questions. In Q. 32, the person concerned is responsible themselves for the behaviour which causes the reaction, whereas in Q. 33, it is someone else who produces the behaviour causing the reaction. The following tables attempt to summarise some of the comparisons. The percentages are the percentage of the total number of reports of that form which the raw number represents:

	Shame-forms	Embarrass forms	Stupid forms	Stink
Q32	94 (66%)	71 (62%)	56 (78%)	32 (66%)
Q33	47 (33%)	43 (38%)	16 (22%)	16 (33%)

	Shame	Shamed	Shamed out	Shameful
Q32	51 (67%)	37 (77%)	20 (83%)	12 (60%)
Q33	25 (33%)	11 (23%)	4 (17%)	8 (40%)

It isn't at all clear what if anything such figures show. They might suggest that you are more likely to say you feel stupid if you are responsible for the behaviour yourself, and perhaps a little more likely to be embarrassed if someone else causes the problem. It would also seem that while you might feel shame, you are less likely to use the more active constructions of *shamed* or *shamed out* if someone else causes the problem than if you cause it yourself. Thus there may be some evidence here of an English correlate of *whakama*, but it is rather tenuous.

Statistical Analysis

The only forms worth considering in the statistical analysis were *shame* (the form, not the composite group), *shamed* and *feel stink*.

Shame was shown to be significantly low decile (p-value 0.0001). In terms of Main region, *shame* was not reported from the Southern Region. This meant that it was not possible to obtain a contrast statement comparing the Northern and Central Regions, so it was necessary to delete the Southern Region to obtain the comparison. This showed that there is significantly more use of *shame* in the Northern Region than in the Central Region (p-value 0.0174).

In terms of Sub-regions, *shame* was shown to be absent from all sub-regions south of N-M, with significant numbers of reports from all North Island sub-regions. In terms of Island, *shame* is significantly more common in the North Island than the South (p-value 0.0042)

The interaction between Decile and Island was considered in relation to *shame*. The investigation showed that *shame* has significantly different Decile patterns in the two Islands. It is significantly low decile in both Islands, but more so in the South Island than the North: the p-value for the North island is 0.0011, while the p-value for the South Island is 0.0000 derived from a non-zero figure. Overall, it appears that Decile has a stronger effect on *shame* than Island: the p-value for Decile when Island is taken into account is 0.0006; the p-value for Island when Decile is taken into account is 0.0123.

The interaction between Decile and Main Region was also considered in relation to *shame*. The p-value for Decile variation when Main Region is taken into account is also 0.0001. The most interesting regional contrast for *shame* is between the Northern and Central Regions. Because of the absence of *shame* from the Southern Region, it was not possible to obtain this through a contrast statement, and so the Southern Region was deleted. This calculation showed that when the Northern and Central Regions are compared, and Decile is taken into account, the contrast between these regions is not significant, but when the variation between the Northern and Central Regions are staken into account, Decile is highly significant (p-value 0.0003). This means that Decile has a stronger effect on *shame* than Main Region variation.

The interaction between Island and Main Region also had to be considered in relation to *shame*. Again, it was necessary to delete the Southern Region. This calculation showed that the contrast between the Northern and Central Regions

is not significant when Island is taken into account, whereas Island remains significant (p-value 0.0206) when Main Region variation is taken into account. This means that Island has a stronger effect than Main Region on the distribution of *shame*.

Thus overall, Decile is the most important factor in accounting for the distribution of *shame*, followed by Island and then Main Region. It seems likely that this is a reflection of the segments of NZ society where the experience of the emotion of *whakama* is strongest.

Shamed did not show significant correlations with any of these variables. *Feel stink* is significantly more common in the North Island (p-value 0.0413). **Summary**

The principal interest in this data lies in the social patterning, and its interaction with the regional factors. The location of the main concentrations of the Maori population probably plays its part in the regional contrasts in this set of data, which suggests that it is quite likely to do so in relation to other sets as well. The relevant map follows.







Key

Note that the insets are not to scale, nor all on the same scale for practical reasons. Each box represents one school in both urban and rural areas.



shame



See urban map insert



feel stink

Q33 Statistics: *Whakama* responses *Whakama* responses by Decile

Analysis Of GEE Parameter Estimates – Empirical Standard Error Estimates Empirical 95% Confidence Limits

parameter		Estimate	Std Err	Lower	Upper	Ζ	Pr> Z
intercept	0.0000	•	•	•	•	•	
item	shame	0.3782	0.4834	-0.5692	1.3256	0.7824	0.4340
item	shamed	-2.1496	0.6626	-3.4482	-0.8509	-3.244	0.0012
item	stink	-1.7058	0.5891	-2.8605	-0.5512	-2.896	0.0038
decile*item	shame	-0.4159	0.1049	-0.6216	-0.2103	-3.964	0.0001
decile*item	shamed	-0.0699	0.1100	-0.2855	0.1457	6351	0.5254
decile*item	stink	-0.0757	0.0992	-0.2701	0.1187	7634	0.4452
scale	1.0039		•	•	•	•	

Whakama responses by Main Region

Analysis Of Initial Parameter Estimates

parameter		DF	Estimate	Std Err	ChiSquare	Pr>Chi
intercept	0	0.00	0.0000	•		
item	shame	1	-25.3650	0.3544	5122.3318	0.0001
item	shamed	1	-2.5649	1.0377	6.1090	0.0134
item	stink	1	-2.5649	1.0377	6.1090	0.0134
item*region1	shame, 1	1	24.4240	0.4610	2807.2966	0.0001
item*region1	shame, 2	0	23.3281	0.0000		•
item*region1	shame, 3	0	0.0000	0.0000		
item*region1	shamed, 1	1	0.2231	1.1385	0.0384	0.8446
item*region1	shamed, 2	1	-0.1161	1.1361	0.0104	0.9186
item*region1	shamed, 3	0	0.0000	0.0000		
item*region1	stink, 1	1	0.7526	1.1056	0.4633	0.4961
item*region1	stink, 2	1	0.2482	1.1108	0.0499	0.8232
item*region1	stink, 3	0	0.0000	0.0000		
scale	0	1.00	0.0000	•		

CONTRAST Statement Results

Contrast	DF	ChiSquare	Pr>Chi	Туре
1 -2 for shamed	1	0.2648	0.6068	LR
1 -2 for stink	1	0.8430	0.3585	LR

Whakama responses by Sub-Region Analysis Of Initial Parameter Estimates

parameter		DF	Estimate	Std Err	ChiSquare	Pr>Chi
intercept	0	0.00	0.0000			
item	shame	1	-27.3649	1.0607	665.6316	0.0001
item	shamed	1	-2.5649	1.0377	6.1090	0.0134
item	stink	1	-2.5649	1.0377	6.1090	0.0134
item*region2	shame, 1	1	28.0580	1.3693	419.8676	0.0001
item*region2	shame, 2	1	25.7554	1.5248	285.3083	0.0001
item*region2	shame, 3	1	25.6909	1.2332	433.9868	0.0001
item*region2	shame, 4	1	26.5539	1.1426	540.0852	0.0001
item*region2	shame, 5	1	27.0284	1.2116	497.6872	0.0001
item*region2	shame, 6	1	25.5190	1.2292	430.9968	0.0001
item*region2	shame, 7	0	25.2854	0.0000		
item*region2	shame, 8	1	-0.0005	357461.063	0.0000	1.0000
item*region2	shame, 9	1	-0.0005	206380.241	0.0000	1.0000
item*region2	shame, 10	1	-0.0005	276888.149	0.0000	1.0000
item*region2	shame, 11	0	0.0000	0.0000		•
item*region2	shamed, 1	1	0.9555	1.5089	0.4010	0.5266
item*region2	shamed, 2	1	1.8718	1.3516	1.9178	0.1661
item*region2	shamed, 3	1	-0.3254	1.4603	0.0497	0.8237
item*region2	shamed, 4	1	-0.6539	1.4550	0.2020	0.6531
item*region2	shamed, 5	1	-24.8004	252763.142	0.0000	0.9999
item*region2	shamed, 6	1	1.3412	1.1557	1.3466	0.2459
item*region2	shamed, 7	1	-24.8004	291865.736	0.0000	0.9999
item*region2	shamed, 8	1	-24.8004	357461.063	0.0000	0.9999
item*region2	shamed, 9	1	-24.8004	206380.241	0.0000	0.9999
item*region2	shamed, 10	1	-24.8004	276888.149	0.0000	0.9999
item*region2	shamed, 11	0	0.0000	0.0000		•
item*region2	stink, 1	1	0.9555	1.5089	0.4010	0.5266
item*region2	stink, 2	1	0.9555	1.5089	0.4010	0.5266
item*region2	stink, 3	1	1.2432	1.1805	1.1090	0.2923
item*region2	stink, 4	1	0.0800	1.2722	0.0040	0.9498
item*region2	stink, 5	1	0.9555	1.2950	0.5445	0.4606
item*region2	stink, 6	1	1.0609	1.1758	0.8141	0.3669
item*region2	stink, 7	1	0.4855	1.4839	0.1071	0.7435
item*region2	stink, 8	1	-24.8004	357461.063	0.0000	0.9999
item*region2	stink, 9	1	-24.8004	206380.241	0.0000	0.9999
item*region2	stink, 10	1	-24.8004	276888.149	0.0000	0.9999
item*region2	stink, 11	0	0.0000	0.0000		•
scale	0	1.00	0.0000			

Whakama responses by Island

Analysis Of GEE Parameter Estimates – Empirical Standard Error Estimates Empirical 95% Confidence Limits

parameter		Estimate	Std Err	Lower	Upper	Ζ	Pr> Z
intercept	0.0000		•	•	•	•	
item	shame	-4.0254	1.0089	-6.0027	-2.0480	-3.990	0.0001
item	shamed	-4.0254	1.0089	-6.0027	-2.0480	-3.990	0.0001
item	stink	-3.3142	0.7198	-4.7251	-1.9033	-4.604	0.0000
item*island	shame, 1	2.9693	1.0363	0.9381	5.0005	2.8652	0.0042
item*island	shame, 2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
item*island	shamed, 1	1.9091	1.0630	-0.1743	3.9925	1.7960	0.0725
item*island	shamed, 2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
item*island	stink, 1	1.5838	0.7761	0.0627	3.1048	2.0408	0.0413
item*island	stink, 2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
scale	1.0000		•		•		

Whakama responses by Catholic

Analysis Of GEE Parameter Estimates – Empirical Standard Error Estimates Empirical 95% Confidence Limits

parameter		Estimate	Std Err	Lower	Upper	Ζ	Pr> Z
intercept	0.0000	•	•	•	•	•	
item	shame	-1.0986	0.5774	-2.2302	0.0330	-1.903	0.0571
item	shamed	-1.9459	0.7559	-3.4275	-0.4643	-2.574	0.0100
item	stink	-1.9459	0.7559	-3.4275	-0.4643	-2.574	0.0100
item*catholic	shame, 1	-0.6152	0.6264	-1.8429	0.6125	9821	0.3260
item*catholic	shame, 2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
item*catholic	shamed, 1	-0.6609	0.8311	-2.2898	0.9681	7952	0.4265
item*catholic	shamed, 2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
item*catholic	stink, 1	-0.2598	0.8104	-1.8483	1.3286	3206	0.7485
item*catholic	stink, 2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
scale	1.0000	•	•	•	•	•	

Whakama responses by Urban/Rural

Analysis Of GEE Parameter Estimates – Empirical Standard Error Estimates Empirical 95% Confidence Limits

parameter		Estimate	Std Err	Lower	Upper	Ζ	Pr> Z
intercept	0.0000	•	•	•	•	•	
item	shame	-2.0053	0.4026	-2.7944	-1.2162	-4.981	0.0000
item	shamed	-2.6210	0.5179	-3.6360	-1.6060	-5.061	0.0000
item	stink	-1.5892	0.3470	-2.2693	-0.9091	-4.580	0.0000
item*urb_rur	shame, 1	0.6762	0.4820	-0.2686	1.6210	1.4028	0.1607
item*urb_rur	shame, 2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
item*urb_rur	shamed, 1	0.0308	0.6688	-1.2801	1.3417	0.0460	0.9633
item*urb_rur	shamed, 2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
item*urb_rur	stink, 1	-1.0010	0.5473	-2.0738	0.0717	-1.829	0.0674
item*urb_rur	stink, 2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
scale	1.0000	•	•	•	•	•	

Whakama responses by Decile and Island

Analysis Of GEE Parameter Estimates – Empirical Standard Error Estimates Empirical 95% Confidence Limits

1							
parameter		Estimate	Std Err	Lower	Upper	Ζ	Pr> Z
intercept	0.0000						
item	shame	-0.7003	1.3214	-3.2902	1.8896	5300	0.5961
item	shamed	-4.6228	1.0792	-6.7379	-2.5076	-4.284	0.0000
item	stink	0.9169	1.5422	-2.1058	3.9396	0.5945	0.5522
item*island	shame, 1	1.2357	1.4140	-1.5357	4.0071	0.8739	0.3822
item*island	shame, 2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
item*island	shamed, 1	2.6498	1.2699	0.1609	5.1388	2.0867	0.0369
item*island	shamed, 2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
item*island	stink, 1	-2.9108	1.6658	-6.1757	0.3541	-1.747	0.0806
item*island	stink, 2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
decile*item	shame	-0.7172	0.1589	-1.0286	-0.4059	-4.515	0.0000
decile*item	shamed	0.0921	0.0588	-0.0233	0.2074	1.5643	0.1177
decile*item	stink	-1.0008	0.3408	-1.6688	-0.3329	-2.937	0.0033
dec*itm*is	shame, 1	0.3743	0.1903	0.0013	0.7473	1.9668	0.0492
dec*itm*is	shame, 2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
dec*itm*is	shamed, 1	-0.1194	0.1275	-0.3694	0.1305	9366	0.3490
dec*itm*is	shamed, 2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
dec*itm*is	stink, 1	1.0493	0.3552	0.3532	1.7454	2.9546	0.0031
dec*itm*is	stink, 2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
scale	0.9004					•	

Whakama responses by Decile and Main Region

Analysis Of Initial Parameter Estimates

parameter		DF	Estimate	Std Err	ChiSquare	Pr>Chi
intercept	0	0.00	0.0000			
item	shame	1	-25.3654	0.8020	1000.2006	0.0001
item	shamed	1	-3.7322	3.0756	1.4726	0.2249
item	stink	1	0.3562	2.1817	0.0267	0.8703
item*region1	shame, 1	1	26.1526	1.0197	657.7481	0.0001
item*region1	shame, 2	0	25.6198	0.0000		
item*region1	shame, 3	0	0.0000	0.0000		
item*region1	shamed, 1	1	2.0447	3.2033	0.4074	0.5233
item*region1	shamed, 2	1	1.2800	3.2932	0.1511	0.6975
item*region1	shamed, 3	0	0.0000	0.0000		
item*region1	stink, 1	1	-2.5438	2.3374	1.1844	0.2765
item*region1	stink, 2	1	-1.8598	2.3725	0.6145	0.4331
item*region1	stink, 3	0	0.0000	0.0000		
decile*item	shame	1	0.0000	0.1601	0.0000	0.9999
decile*item	shamed	1	0.1831	0.4180	0.1920	0.6613
decile*item	stink	1	-0.8238	0.8490	0.9416	0.3319
decile*item*region1	shame, 1	1	-0.4026	0.2158	3.4783	0.0622
decile*item*region1	shame, 2	0	-0.4282	0.0000		
decile*item*region1	shame, 3	0	0.0000	0.0000		•
decile*item*region1	shamed, 1	1	-0.3289	0.4578	0.5163	0.4724
decile*item*region1	shamed, 2	1	-0.2193	0.4528	0.2346	0.6282
decile*item*region1	shamed, 3	0	0.0000	0.0000		•
decile*item*region1	stink 1	1	0.8973	0.8606	1.0872	0.2971
decile*item*region1	stink, 2	1	0.6895	0.8619	0.6398	0.4238
decile*item*region1	stink, 3	0	0.0000	0.0000	•	•
scale	0	1.00	0.0000		•	

Whakama responses in Northern and Central Regions only

Analysis Of GEE Parameter Estimates – Empirical Standard Error Estimates Empirical 95% Confidence Limits

parameter		Est.	Std Err	Lower	Upper	Ζ	Pr> Z
intercept	0.0000	•	•	•	•	•	
item	shame	-2.0369	0.3544	-2.7315	-1.3423	-5.747	0.0000
item	shamed	-2.6810	0.4623	-3.5871	-1.7750	-5.800	0.0000
item	stink	-2.3168	0.3962	-3.0932	-1.5403	-5.848	0.0000
item*region1	shame, 1	1.0959	0.4610	0.1924	1.9994	2.3774	0.0174
item*region1	shame, 2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
item*region1	shamed, 1	0.3392	0.6580	-0.9504	1.6288	0.5155	0.6062
item*region1	shamed, 2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
item*region1	stink, 1	0.5044	0.5499	-0.5733	1.5821	0.9173	0.3590
item*region1	stink, 2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
scale	1.0000			•		•	

Whakama responses by Decile and Island, Model 2

Analysis Of GEE Parameter Estimates – Empirical Standard Error Estimates Empirical 95% Confidence Limits

parameter		Est.	Std Err	Lower	Upper	Ζ	Pr> Z
intercept	0.0000	•	•		•	•	
item	shame	-2.1062	1.2071	-4.4721	0.2597	-1.745	0.0810
item	shamed	-3.8746	1.1615	-6.1511	-1.5981	-3.336	0.0009
item	stink	-3.1102	1.1748	-5.4127	-0.8077	-2.647	0.0081
decile*item	shame	-0.3600	0.1044	-0.5646	-0.1554	-3.449	0.0006
decile*item	shamed	-0.0205	0.1050	-0.2263	0.1853	1954	0.8451
decile*item	stink	-0.0298	0.1042	-0.2341	0.1744	2863	0.7747
item*island	shame, 1	2.7130	1.0839	0.5886	4.8375	2.5030	0.0123
item*island	shame, 2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
item*island	shamed, 1	1.8656	1.0470	-0.1865	3.9177	1.7819	0.0748
item*island	shamed, 2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
item*island	stink, 1	1.5355	0.8408	-0.1124	3.1834	1.8263	0.0678
item*island	stink, 2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
scale	0.9598			•			

			<u> </u>				
parameter		Est.	Std Err	Lower	Upper	Ζ	Pr>Z
intercept	0.0000						
item	shame	0.5351	0.5030	-0.4507	1.5209	1.0640	0.2873
item	shamed	-1.9734	0.6699	-3.2862	-0.6605	-2.946	0.0032
item	stink	-1.9940	0.6296	-3.2279	-0.7600	-3.167	0.0015
decile*item	shame	-0.3429	0.1047	-0.5480	-0.1377	-3.275	0.0011
decile*item	shamed	-0.0273	0.1132	-0.2493	0.1946	2415	0.8091
decile*item	stink	0.0485	0.1000	-0.1475	0.2445	0.4849	0.6278
scale	0.9993		•				

Whakama responses by Decile in North Island only

Analysis Of GEE Parameter Estimates – Empirical 95% Confidence Limits

Whakama responses by Decile in South Island only

Analysis Of GEE Parameter Estimates – Empirical 95% Confidence Limits

parameter		Est.	Std Err	Lower	Upper	Ζ	Pr> Z
intercept	0.0000	•			•		
item	shame	-0.6370	1.2810	-3.1477	1.8736	4973	0.6190
item	shamed	-4.6109	1.0877	-6.7428	-2.4790	-4.239	0.0000
item	stink	0.9728	1.5506	-2.0664	4.0119	0.6273	0.5304
decile*item	shame	-0.7282	0.1627	-1.0470	-0.4093	-4.476	0.0000
decile*item	shamed	0.0946	0.0613	-0.0256	0.2147	1.5424	0.1230
decile*item	stink	-1.0151	0.3467	-1.6947	-0.3355	-2.927	0.0034
scale	0.7010	•	•		•	•	

Whakama responses by Decile and Main Region, Model 2

Analysis Of Initial Parameter Estimates

parameter		DF	Estimate	Std Err	ChiSquare	Pr>Chi
intercept	0	0.00	0.0000			
item	shame	1	-23.4431	0.6108	1473.1593	0.0001
item	shamed	1	-2.2184	1.2146	3.3358	0.0678
item	stink	1	-2.2269	1.1684	3.6326	0.0567
decile*item	shame	1	-0.4142	0.1075	14.8502	0.0001
decile*item	shamed	1	-0.0622	0.1174	0.2804	0.5964
decile*item	stink	1	-0.0606	0.0996	0.3702	0.5429
item*region1	shame, 1	1	24.2739	0.5049	2311.3902	0.0001
item*region1	shame, 2	0	23.6357	0.0000	•	•
item*region1	shame, 3	0	0.0000	0.0000		•
item*region1	shamed, 1	1	0.1705	1.1437	0.0222	0.8815
item*region1	shamed, 2	1	-0.0742	1.1401	0.0042	0.9481
item*region1	shamed, 3	0	0.0000	0.0000		•
item*region1	stink, 1	1	0.7026	1.1094	0.4011	0.5265
item*region1	stink, 2	1	0.2896	1.1142	0.0676	0.7949
item*region1	stink, 3	0	0.0000	0.0000		
scale	0	1.00	0.0000			

parameter		DF	Estimate	Std Err	ChiSquare	Pr>Chi
intercept	0	0.00	0.0000	•		
item	shame	1	-26.3656	1.0118	678.9774	0.0001
item	shamed	1	-2.5649	1.0377	6.1090	0.0134
item	stink	1	-2.5649	1.0377	6.1090	0.0134
item*region1	shame, 1	1	22.9033	0.4989	2107.2899	0.0001
item*region1	shame, 2	0	22.6279	0.0000		
item*region1	shame, 3	0	0.0000	0.0000		
item*region1	shamed, 1	1	-24.3504	1.1385	457.4634	0.0001
item*region1	shamed, 2	1	-23.8004	1.1447	432.3259	0.0001
item*region1	shamed, 3	0	0.0000	0.0000		
item*region1	stink, 1	1	-1.4096	1.5644	0.8119	0.3676
item*region1	stink, 2	1	-1.1727	1.4494	0.6547	0.4185
item*region1	stink, 3	0	0.0000	0.0000		
item*island	shame, 1	1	2.5213	1.0890	5.3606	0.0206
item*island	shame, 2	0	0.0000	0.0000		
item*island	shamed, 1	0	24.5736	0.0000		
item*island	shamed, 2	0	0.0000	0.0000		•
item*island	stink, 1	1	2.1621	1.1068	3.8163	0.0508
item*island	stink, 2	0	0.0000	0.0000	•	
scale	0	1.00	0.0000	•		

Whakama responses by Island and Main Region, Model 2 (no sig. figs. Model 1) Analysis Of Initial Parameter Estimates

Whakama responses by Island and Main Region, N and C Regions only Analysis Of Initial Parameter Estimates

parameter		DF	Estimate	Std Err	ChiSquare	Pr>Chi
intercept	0	0.00	0.0000	•		
item	shame	1	-3.7377	1.0118	13.6453	0.0002
item	shamed	1	-26.3654	0.4830	2979.1558	0.0001
item	stink	1	-3.7377	1.0118	13.6453	0.0002
item*region1	shame, 1	1	0.2754	0.4989	0.3047	0.5809
item*region1	shame, 2	0	0.0000	0.0000		
item*region1	shamed, 1	1	-0.5500	0.6727	0.6685	0.4136
item*region1	shamed, 2	0	0.0000	0.0000		
item*region1	stink, 1	1	-0.2368	0.5887	0.1619	0.6874
item*region1	stink, 2	0	0.0000	0.0000		•
item*island	shame, 1	1	2.5213	1.0890	5.3606	0.0206
item*island	shame, 2	0	0.0000	0.0000		•
item*island	shamed, 1	0	24.5737	0.0000		
item*island	shamed, 2	0	0.0000	0.0000		
item*island	stink, 1	1	2.1621	1.1068	3.8163	0.0508
item*island	stink, 2	0	0.0000	0.0000		
scale	0	1.00	0.0000			

That jois of ODE Furthered Estimates							
parameter		Est.	Std Err	Lower	Upper	Ζ	Pr> Z
intercept	0.0000	•	•	•	•	•	
item	shame	0.1807	0.6361	-1.0660	1.4274	0.2841	0.7763
item	shamed	-2.1389	0.8095	-3.7254	-0.5523	-2.642	0.0082
item	stink	-2.1545	0.8585	-3.8371	-0.4719	-2.510	0.0121
item*region1	shame, 1	0.6426	0.5044	-0.3459	1.6312	1.2742	0.2026
item*region1	shame, 2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
item*region1	shamed, 1	0.2092	0.6584	-1.0812	1.4997	0.3178	0.7506
item*region1	shamed, 2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
item*region1	stink, 1	0.4671	0.6051	-0.7188	1.6530	0.7720	0.4401
item*region1	stink, 2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
decile*item	shame	-0.4123	0.1131	-0.6340	-0.1905	-3.644	0.0003
decile*item	shamed	-0.0882	0.1207	-0.3248	0.1484	7307	0.4650
decile*item	stink	-0.0256	0.1123	-0.2458	0.1945	2283	0.8194
scale	1.0052						

Whakama responses by Main Region and Decile in N and C Regions only Analysis Of GEE Parameter Estimates – Empirical 95% Confidence Limits

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