## Choosing Who's In/It

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Question 4 asked about procedures for choosing the person who's In/It or the leader in games like those in questions 1-3:
4 In games like those we've been talking about, how do you choose the player who starts the game on the opposite side to everyone else? If you use rhymes or chants to choose them, please tell me them.
We added a note for the teacher requesting not just the names of rhymes and procedures, but all the words and/or a full description of the processes. Unfortunately, we frequently did not get all the necessary information. In some cases where we did, it turned out that the same process was known by different names in different schools, and that there were many variations in the words used in some rhymes. This means that there are considerable problems in interpreting the data in cases where we were not given all the details we requested. This must be borne in mind throughout the discussion which follows. 141 different rhymes/processes were reported in answer to this question. The full list is given below, followed by such details as we have for each item. (If there are no details, all we know is the name.) They have been grouped as far as possible depending on the kind of procedure they involve.

## A Contests

## 1 Last one to $X$ is in/it...

This is a race to some specified place in the playground.
2 Paper, scissors, rock
The words in the name of this procedure can occur in several different orders. In this game, two children put their hands behind their backs, and on a signal (e.g. 1-2-3 show), they hold out their hand in a particular shape: a flat hand signals 'paper'; a clenched fist signals 'rock', a hand with fingers divided signals 'scissors'. Scissors beats paper; paper beats rock; rock beats scissors. No school specified precisely how this game is used to choose one from a group to be In/It. Rock off is another name for this process. 1-2-show may be a further name for it. During school visits, one school specified that it is used when the elimination process is down to two children.
3 Gang gang gamore
We were told this is a version of Paper, scissors, rock, but no details were given. Gang gang da ball and Gang gang a bong have been treated as alternative versions of the name, although the details which would make this certain were not provided. Gang gang gilmore was also suggested at one school during the visits.

## 4 Pud-plum

Two children walk towards each other heel to toe, saying alternately pud, plum. The last one to get a whole foot in is the winner. There is variation on how this is used to choose one person. Sometimes, the loser is In/It. Sometimes the winner then gets to choose who is In/It. These two possibilities are probably not exhaustive. The procedure is also known as Plid plod. Plum out and Plum pudding are probably other names for this,
but no details were given, so it is unclear. The following unnamed description appears to identify the same procedure: Walk towards each other, lap over foot gets to choose the person to be in. During school visits, tick tock was also given as a name for this. This raises the possibility that tic tac toe and tac tac toe are further names for it.

## 5 Bags/pegs not

This is a competition to say a particular formula, e.g. Bags not in. The slowest to say it is In/It. Sometimes actions as well as words are required, e.g. putting the thumb on the forehead pointing downwards with the nail facing out. The following phrases (in italics) and actions (in roman), with optional actions in brackets, were reported:
1-2-3 bags not
Bags not, put thumb on forehead
Bags not in
Bags not me
Bags not, thumbs up, put thumb on forehead
No bags
Pegs not chaser
Pegs not in
Shotgun, (put thumb on forehead)
Shotgun not, (put thumb on forehead)
Shotgun not in, (put thumb on forehead)
Taxi, put hand to forehead
Turn around, touch the ground, bags/pegs not me/it, actions to suit first two phrases.
6 Spin the bat
Children stand in a circle. A cricket/baseball bat (sometimes a bottle) is spun. Whoever it points to when it comes to rest is In/It.
7 Kick a ball
Children stand in a circle, someone kicks a (tennis) ball, and the last one it touches before it leaves the circle is In/It.
8 Selection with ball (e.g. for Stingball, ball tag)
All children form a circle. The ball is placed in the middle, and then pushed around using the foot. If the ball goes between the legs of a player, they are In/It.
9 Windows
This is very like the previous procedure: players stand in a circle, with their feet nearly together, someone drops a ball, and if the ball goes through between your feet, you're In/It. A second description, unnamed, but clearly the same procedure, is "Players stand with their legs apart in a circle, someone drops a ball, you're In/It if it goes between your legs."
10 Selection for Bullrush
All the players run from one line to the other and back. The last back is In/It.
11 Guess a number
It is not clear who chooses the number to be guessed, but the closest person to the number is In/It.
12 Choose straws
The one with the shortest is In/It.

## 13 Foot drop

All players put a leg into a circle, someone drops a (tennis) ball, and the first person hit is In/It. We presume the description Drop ball onto feet is another report of this same procedure. Put your foot in is probably a further name for this same process. Toe drop was also given as the name during school visits.
14 Arm circle
Everyone puts their arms into a circle, and on a signal pulls them out. The person who pulls their arm out last is In/It.
15 Pick names from hat This sounds more like a procedure for organised games than a playground procedure.
16 Bop me
This rather uncommon procedure is as follows: everyone has their hands on their noses and their thumbs on their foreheads, then everyone tries to push the hands off the noses; the last to be 'bopped' is In.
17 What hand is the grass in?
It is not clear how this procedure is used to choose the player who is In/It.
18 Count 1-10
In this fist-knock-out or person knock-out procedure, someone counts round to 10, that person/fist is eliminated, and the process begins again.
19 Flip a coin
20 Pick a number
The leader of the group gives each player a number, then picks a number without looking, and that person is $\operatorname{In} / \mathrm{It}$. It is not clear how the leader is chosen, nor whether the numbers are allocated without looking, although this seems likely.
21 Truth, dare, promise
No details were given of how this is used to choose the player to be In/It. The only version known to the authors is where a player has to pick one of these categories. They are then presented with a challenge by the other players, and are expected to respond according to the category they chose. Maybe the penalty for defaulting is being It/In.
22 Sticky glue
The last person to jump out of a circle is In/It.

## B Principles

23 Ownership
For games involving balls, the owner of the ball may be In/It.
24 The boss
The boss of any game is In/It. No details were given of how children know who the boss is.
25 The last to join the game is In/It.
26 The person who starts the game is In/It.
This may be a variant wording of the "boss" principle.
27 First tagged in the last game is In/It.
28 I dare you
Someone is dared to be In/It.

## 29 Last tagger in last game is first tagger in next. <br> 30 The person who starts the game decides who is In/It.

## C Fist Elimination rhymes

Fist elimination is the name we have given to the usual elimination procedure with counting-out rhymes: children stand in a circle and hold either one fist or two out. The person administering the procedure chants the rhyme and hits each outstretched fist (including their own) in turn in time to the words/syllables of the chant. Each time the chant ends, the last fist hit is withdrawn from the contest, and the rhyme is repeated. Sometimes the first person with no fists left is chosen; sometimes the last person with a fist left is chosen. Sometimes, to speed up the procedure, people are eliminated, rather than fists, and sometimes the procedure is by pointing at people, rather than hitting fists. (Many counting out rhymes have an arbitrary element (choose a colour/age/name...) to ensure that it is harder to rig the outcome. These are dealt with in Section D.)

## 31 Eeny, meeny, miny mo

The traditional rhyme is Eeny, meeny, miny mo/Catch a nigger by the toe/If he squeals let him go/Eeny meeny miny mo. As a result of changes in attitudes towards racial terms, nigger has often been replaced by something else: tigger, tiger, moa, nickel and tula were all reported from various schools, as well as the original nigger. The rhyme sometimes has the addition Pig snout you are out. Spellings of the words in the first line of the rhyme vary considerably. More radical variants are also reported: Eeny, meeny miny mangi/Catch a mangi by the tangi/If he squeals, steal his wheels/Eeny meeny miny mangi
Eeny meeny miny mit/Catch your girlfriend by the tit/If she slips, kiss her lips/Eeny meeny miny mit
Eeny, meeny, macka racka/Ree a ria, Donna nakker/Chicka pocka lolly poppa/Rang tang boosh
And from school visits: Eeny, meey, racka dacka, D Y domma higga, honk honk bush.
32 Inky, pinky, ponkey
The traditional rhyme is Inky, pinky, ponkey/Daddy bought a donkey/Donkey died/Daddy cried/Inky, pinky, ponkey. There was some variation in the words. For bought: had, brought and caught were reported in some cases. Inky binky bonky was also reported as first and last line. The rhyme sometimes has the addition Pig (or even pink) snout you are out. During the school visits, an alternative version was provided by one school: Inky pinky panky, Daddy bought a hanky, Hanky tore, Daddy swore, Inky pinky panky.

## 33 Dog shit

There are enormous numbers of variants on this popular rhyme: we had reports of all of the following:
Dick dick dog shit, You are not it
Digger digger dog shit, You are out
Dip dip bird shit what colour is it? (from school visits)
Dip dip dog shit, You are it
Dip it bird shit, What colour is it? (from school visits)

Ick bit dog shit You are not it (from school visits)
Ick pick dog shit, You are not it
Ick dick dog shit, You are not it
Ick pick dog shit, You stood in it
If dog shit, You're not it
I'll pick dog shit, You are not it
Ink pink dog shit, You are not it
Ip bit dog shit, You are (not) it
Ip dip dog dip, You are not it
Ip dip dog shit, You are not it
Ip shit dog dip, You are not it
It big dog shit, You are it (from school visits)
It bit dog shit, You're (not) it
It bit dog shit, You stood in it
It bit dog spit, You are not it
It dit dog shit, You are it
It dit dog shit, You must look at it
It dit dog shit, You sat in it
It dit dog shit, You stood in it
It dit dog shit, You are not it
It dick dog shit, You are out
It dick dog shit, You sat in it
It dick dog shit, You are it
It dip dog shit, You are not it
It pit dog shit, You are not it
This rhyme was also called Dog shit. One older child we spoke to commented "I was never really sure what the first words were." This no doubt accounts for the wide variation reported. The variable rhyme versions with colour came from school visits.

## 34 Ickle, ockle black bottle

The traditional rhyme is Ickle, ockle, black bottle/Ickle, ockle out./ If you come (in)to my house/I will kick you right out. The variant I will kick your lights out was also reported. It was also reported in the form Nickle nockle black bottle, nickle nockle out. From school visits comes the form: Ickle ockle black bottle/Ickle ockle out./Ickle ockle black bottle/You are out.
35 Mickey Mouse was in his house
There were two full versions of this reported: Mickey Mouse was in his house/Pulling down his britches/Quick, mum, smack his bum/And that's the end of Chapter 1.
Mickey Mouse in his house/Pulling down his underwear/Quick Momma, smack his bum/That's the end of that one/O-U-T spells out.
Undies was also used instead of britches in the first version.
There was also a version of this which was a variable rhyme, see below.

## 36 Donald Duck had a fuck

There was considerable variation reported in the words of this rhyme: Donald Duck had a fuck/Underneath the garbage truck./Mrs Green saw the scene/And put it in a magazine. For fuck: chuck; for the: a; for garbage: army, fire, milkman's; for Mrs: Mr; for Green: Keen, Bean (with Mr). (Sometimes the rhyme does not go beyond truck, and How many girls did he fuck? may
be added. With the magazine ending, this can become a variable rhyme by adding What page did she put it on? (from school visits).
371 potato
The rhyme is: 1 potato, 2 potatoes, 3 potatoes, 4/5 potatoes, 6 potatoes, 7 potatoes, more.
38 Coconut crack
Coconut, coconut, coconut crack/crunch (sometimes repeated). This is either a standard fist-elimination chant or all children hold hands and on the first hit, they break hands, on the second hit, the hand is out; the last hand in is In/It. Coconut, coconut, break your coconut is presumably a slightly different version of the same chant, and it seems likely that Nutcracker, nutcracker, crack, crack, crack is yet another version.
39 Blackfoot
The chant is: Blackfoot, blackfoot, change your blackfoot. The usual procedure involves counting out feet put into centre of circle; the first time your foot is eliminated, you put in the other one; the chant is repeated until only one foot is left. Blackfoot, blackfoot, changer your blackfoot was also reported; it was confirmed during school visits. Black shoe, black shoe, change your black shoe is another variant.
40 Ink pink you stink
The rhyme as reported is Ink pink you stink, I think it came from y-o-u (shampoo, conditioner, soap). It is unclear how the material in brackets is used.
41 My mum said to pick this one
In its basic form, this consists solely of the line in the title: My mum said to pick this one. This appears to be a very basic counting out chant. There were a number of variants: for mum: mother; for said: told me, says; for pick: choose; for this: that; for this one: this one over here. There were also extended versions: My mother said to pick this one/because she stole my bubblegum; ...because she had a scabby bum; ...because she had an itchy bum; because she had an itchy bum, shampoo on TV2; ...at half past eight/one/three this afternoon, pig snout/snot you're out; ...pig snot, pig snot you are out.
42 Pig snout, you're out
Another very basic elimination rhyme. Snot is a common variant, and sometimes and is inserted before you're out.
43 Pig's chin you are in
Only one version of this parallel rhyme was reported in the original data.
However, Pig skin you are in was reported during the school visits.
44 1-2-3 Mother caught a flea
The rhyme is: 1-2-3 Mother caught a flea, The flea died, Mother cried, 1-2-3.
45 Dip, dip, dip o-u-t is out
This is the full chant.
46 O-u-t spells out
This is often added at the end of other rhymes, but also apparently used on its own.
47 There's a dunny on a hill The rhyme is: There's a dunny on a hill/ If you would like to come/ Bring your own toilet paper/ You big fat bum.
48 There's a party on the hill

The rhyme reported is: There's a party on the hill, would you like to come with a sausage up your bum? This probably derives from the previous item, partially recalled by children who do not know the word dunny.
Jingle bells, Batman smells
This parody runs: Jingle bells/ Batman smells/ Robin ran away/ The batmobile/ Lost it's wheel/ On the motorway. Only one school reported this, and they noted that there were lots of variations on the theme within that school. This is undoubtedly one of the politer ones.
50 Blood in the Bible
The rhyme is: Blood in the Bible/Blood in the book/If you don't believe me/Take a bloody look.
51 There's a German in the grass
The rhyme is: There's a German in the grass/With a dagger up his arse/Push it in, pull it out/Like a good boy scout. Soldier is also used instead of German, and bullet instead of dagger. This can also be used as a variable rhyme by stopping after arse, and adding What colour was the blood? (from school visits).
52 Train, train number 9
The rhyme is: Train, train number 9/Going down the rail line/If you stop do you want your money back? No further details were given, but it seems possible that this question introduces some kind of variable.
53 Ching, chong Chinaman
The rhyme is: Ching, chong Chinaman tried to milk a cow/Ching chong Chinaman didn't know how./Ching, chong Chinaman pulled the wrong tit/Ching, chong Chinaman covered in shit. During the visits, the less obvious version Ching chong Chinaman pulled on a tit was given by one school.
54 No 4 riding down a mountain
The rhyme is: No 4 riding down a mountain/Pissing like a fountain/Chain on my bicycle broke/So I'm sitting in the grass/With a pedal up my arse/And my balls playing music with the spokes.
55 My mother, your mother
The "rhyme" is: My mother your mother lives down the 1819 Marble Street/And every night they have a fight/And this is what they told me./Girls are sexy/Made out of Pepsi/Boys are rotten/Made out of cotton./Itsy bitsy lollypop, itsy bitsy boo/Itsy bitsy lollypop, The boys love you/That's true shampoo. This has the appearance of being put together with scraps of many other rhymes. Note that the same title is also a variable rhyme, listed in the next group. This is a clear indication of the problems of equating titles.
56 Cheese, cheese on the wall
The chant is: Cheese, cheese on the wall, which one do you pick? The person landed on is In/It.
57 My mother said
This traditional hand-clapping rhyme is typical of the transfer of rhymes from one domain to another: My mother said I never should, Play with the gipsies in the wood, If I did she would say, Naughty naughty girl to disobey. The repetition of naughty is as reported.

## 58 My mum told me not to swear

This is typical of the taboo-breaking element of many of these counting out rhymes: My mum told me not to swear, Fuck, fuck bullshit I don't care.
59 Bubble gum, bubble gum
The chant is: Bubble gum, bubble gum, which one am I going to pop? It is a basic counting-out chant.
60 Jack be nimble
The traditional nursery rhyme is another example of transfer from one domain to another: Jack be nimble, Jack be quick, Jack jumped over a candlestick.
61 Ink pink you stick
This was reported as: Ink pink you stick, I owe you shampoo. Stick is probably a scribal error for stink. It is another rhyme which appears to have been cobbled together from elements of other rhymes.

## 62 I saw you in the ocean

The rhyme is: I saw you in the ocean/I saw you in the sea/I saw you in the bathtub/Woops, pardon me.

## D Knock-out Rhymes with variables

In these rhymes, the basic rhyme ends with an invitation to the person landed on to choose some variable (e.g. a number, a colour). The fist-hitting continues as the chosen number is counted round or the chosen word is spelled out. The elimination process is the same as in the basic procedure. It is normal for 10 to be the upper limit of allowed numbers.

6321
This is not a rhyme, but a procedure: children hold up an arbitrary number of fingers, someone counts round until they reach 21 , the person with the $21^{\text {st }}$ finger is chosen.
64 Dog shit
It bit dog shit/You stood in it/What colour was it? (This can presumably begin with any other initial version of the Dog Shit rhyme listed above).
65 The sky is blue The sky is blue/How old are you? (or Sky blue, sky blue...)
66 Mickey Mouse bought a house
There are several variants on the chant. Mickey Mouse bought a house./ Which colour was it? For Mickey: Minnie (+ pronoun change); for bought: built, had; for which: what; for was it: did (s)he paint it. A version based on the Mickey Mouse fist knock-out rhyme was also reported during school visits: Mickey Mouse was in his house/Pulling down his britches./ What colour were they?
67 Mickey Mouse had a house
The chant is: Mickey Mouse had a house, How many windows did it have?
68 Father Christmas
Father Christmas lost his whiskers./How many whiskers did he lose/have?
During school visits, a second version of this emerged: Santa Claus, how many whiskers do you have? This version was reported from the Northern Region.
69 My mother said to count to 10

The basic chant is My mother said to count to 10: 1-2-3-4-5-6-7-8-9-10. However, there is sometimes an additional line My mother said count back again: 10-9-8-7-6-5-4-3-2-1; the number is not always 10, which is where the variability enters; sometimes you are out is added at the end.

## 70 Racing car number 9

This is a rather variable rhyme. The basic version seems to be: Racing car number 9/losing petrol all the time/how many gallons did he/you/it lose? Variations include: 1.1 + using petrol all the time/how many gallons/tankfuls did he/you use?; ll. 1, $2+$ which petrol station do you use?; ll. 1, $2+$ which petrol station shall/should I stop at?; 1.1 + going fast every time/how many wheels did he lose?; ll. 1, 2 + how many cars do you pick?; ll. 1, $2+$ what number do you choose/pick? The tense of the final verb also varies between past and present. In one case the variable number was said to depend on the number of children playing. For versions involving choice of a petrol station, the letters in the chosen type of station are spelled round, e.g. Caltex, Challenge, Shell.

## 71 Racing car number 1

This appears to be a simplified version of the preceding item: Racing car number 1, How many do you pick? or, from school visits, Racing car No. 1, how much petrol do you need?

## 72 There's a party going on

The "rhyme" is: There's a party going on/Would you like to come?/ Bring your own cup and saucer/And your own cream bun./Who is your best friend? /T-r-a-$c-e-y$ will be there with a sausage up her bum/And you are (not) it. Sometimes worst is used instead of best. The variable element is the name of the friend.
73 My mother, your mother
My mother, your mother, hanging out the washing/My mother punched your mother in the nose/What colour was the blood?
74 Bubble gum, bubble gum
The rhyme is: Bubble gum, bubble gum in a dish, how many pieces do you wish? Compare this with the somewhat similar non-variable chant in 59.

## E Uncertain (through lack of details)

75 Horse trough piss off
Probably a basic fist elimination rhyme.
76 Spuds
This may be 1 potato, but no details were given. Spuds is also a term used to refer to closed fists used in the usual counting out procedure, and this may be a summary of counting-out rhymes.
77 Tic tac (toe)
Also reported as Tac tac toe. This is the North American name for Noughts and Crosses. It is not clear how this is used to select a person to be In/It. However, there is a possibility that this is another name for Pud Plum, see 4 above.
78 Jingles
It is possible that this is a teacher's summary of various counting-out rhymes, rather than a name supplied by the children.

## 79 Jenkins

80 Piss
81 Pick a number
We were not told who picks the initial number, and not told how the elimination process works: this could be the same as guess a number, or it could be a variable elimination procedure.
82 Peaknuckle, peaknuckle
The details were obtained during school visits, and make it clear that this is a contest. (See further S7-misc. non ball games.)
This involves two children locking hands with fingers crooked but the thumbs free. They then chant this rhyme (or some version of it): 1, 2, 3, 4 I declare a peaknuckle war (kiss, bow, attack). On each syllable of the chant, the thumb is moved from one side of the joint fists to the other. If kiss is included, the two players' thumbs meet pad to pad, on bow, they bend, and on attack, they begin to fight. The object is to capture the opponent's thumb and hold it down while you say Peaknuckle, peaknuckle, peaknuckle, $1,2,3$. If you succeed, you win.
83 Bomb, whale, wave
It seems likely that this is a version of paper, scissors, rock, but no details were given which would confirm this.
84 Duck, duck, goose
85 You're in, you're in, you're in the rubbish bin
We were told that this can be said when you touch someone in the game of Tig/Tag/Tiggy. However, it also appeared in the list of ways of choosing the person to be In/It. In this context, it is not clear how it functions.
86 Poisonous plum
It is possible that this is another name for Pud-plum, but this is merely conjecture.
87 Steps
It is possible that this is yet another name for Pud-plum, but once more, this is merely conjecture.
88 Green bottle, blue bottle
89 Zim, zam, zoom
From school visits, it appeared that this is a foot elimination game, but it is still unclear quite how it works.
90 The sky is blue, the sea is blue
91 Olum bay
The details were obtained during school visits, making it clear that this is a contest.
This involves three people. Each describes an infinity symbol with their hand, ending with palm up or down. The odd one out is chosen.

The groupings established above were used in the analysis of the data. Where there were large numbers of variants, as with Dog shit, at one level these were all treated as the same rhyme, and then they were treated on their own, to see whether there was any pattern to the distribution of the variants.

## Contests

There were seven contests with sufficient popularity to be worth considering.
These were (with number of reports in brackets): a race (83); paper, scissors, rock (50); bags/pegs not (etc.) (40); gang gang gamore (15); pud-plum (13); what hand is the grass in? (4); tic tac toe (3). (The procedure 21 was in error included in this group, and mapped with the contests.)
The schools which reported deciding the chaser by a race were spread very evenly round the country, and it was not worthwhile mapping them. The other six contests were mapped. One of the striking features of the map is the large uncoloured area covering most of Southland-Otago (and including the Central Otago lake resort towns). Only the coastal fringes of the region reported any of the contests mapped.
Paper-scissors-rock is scattered fairly evenly round the country from Northland to Southland. However, it was not reported from the West Coast, and was absent from inland Otago-Southland (although some coastal places in both Southland and Otago reported it).
Bags/pegs not was also spread from Northland to Southland. However, there is only one report from Hawkes Bay, and none from the Wellington-Wairarapa region, which makes a significant hole in its distribution at that point. Like Paper-scissors-rock, it is reported only from coastal Otago and Southland. On the other hand, it was the only contest other than a race reported from the West Coast. Gang gang gamore is the most clearly regionalised contest, with 11 of the 15 reports from the Northern Region. The other four are from the Wellington subregion. However, it is interesting that they are not from the schools in Wellington which typically report mixed forms. It is not reported at all from the South Island, so it probably supports a North Island - South Island split, rather than a three-region split.
Pud-plum is largely reported from the Central Region: there are three isolated reports north of this area, and none in Southland-Otago. 6 of the 13 reports are from the Hawkes Bay - Wairarapa - Wellington area.
Which hand is the grass in? was reported from Taranaki, Hawkes Bay and the far south of Southland.
Tic tac toe was reported twice in the lower central North Island and once in Christchurch.

## Principles

None of the principles was reported often enough to make mapping worthwhile. The person who starts the game was reported four times, but that was the most frequent, and these four reports were not from one area.

## Knock-out rhymes

There were 11 of these frequent enough to be worth mapping. They are (with number of reports in brackets): Inky, pinky, ponkey (76); Eeny, meeny miney mo (63); Dog shit (all versions in one category) (46); Ickle, ockle, black bottle (20); Donald Duck had a fuck (18); 21 (16); 1 potato (11), Ink, pink, you stink (10); Blackfoot (9); Coconut crack (6); Pig snout you are out (6). (As noted above, 21 was mapped with the contests, in error.)
Inky pinky ponkey is reported from Northland to Southland, but there is a noticeable tailing off in its frequency in South Canterbury. 54 of the 93 North Island schools reported it ( $58 \%$ ); 22 of the 57 South Island schools reported it (38\%).

Eeny meeny miney mo (and variants) is also reported from Northland to
Southland, but again, it is more popular in the North Island than the South: 44 of 93 North Island schools reported it (47\%) but only 19 of 57 South Island schools ( $33 \%$ ). Again, it is particularly thin in South Canterbury.
Dog shit is reported from Northland to Southland, with no obvious patterns. Ickle ockle black bottle is almost entirely restricted to Northland and Auckland. There are only four reports south of the Hauraki Plains. $47 \%$ of schools in this northern area reported it; 4 of 115 elsewhere ( $3 \%$ ). (These four were dotted round the central district: one north of Wellington, two in Nelson, one in the Otago lake district.)
Donald Duck is reported from Northland to Otago, but again, it is more popular in the north, with only two reports south of Nelson-Marlborough where there are four reports.
21 is attested only twice in the South Island: once from Marlborough and once from Christchurch. It is most common in Northland and Auckland, with 7 of the 16 reports from that area. However, there were also 4 reports from Hawkes Bay, two from Wellington, and one from the Bay of Plenty, so it is not restricted to the Northern Region.
1 potato is principally a South Island form. There are only two North Island reports, one from Northland and one from Wellington.
Ink pink you stink is not reported at all from the South Island, and there are only two reports outside the Northern region, one in Hawkes Bay and one in Wellington.
Blackfoot is largely a Wellington-region form. There are two reports in Auckland, and one from southern Hawkes Bay, but the remainder are from Wellington city. Coconut crack is curious: there are three reports from Auckland, and one in the Hauraki Plains. Then there are two in Wellington, but not from the schools which most often show Auckland influence.
Pig snout is reported only once in the North Island (from Wellington); the other reports are dotted from Nelson to Southland.
The commonest variants of the Dog shit rhyme were also plotted separately. The most salient feature appeared to be the initial two words, and so variants were grouped on that principle. Only five variants were sufficiently common to be worth considering: It dit (9); It bit (12); Ick dick (17); Ip dip (6), It dick (4). Ick dick is essentially the Northern Region form, although there was one report from Hawkes Bay, one from the Manawatu, one from Nelson and one from North Canterbury. It bit appears to be the Central Region form, although there was also one stray report of this from Northland. It dit is found in the Bay of Plenty, Hawkes Bay, Nelson, North Canterbury and Otago and Southland. There is thus only one occurrence in the Northern Region. Ip dip has a patch of popularity in Christchurch, but there are also occurrences in Taranaki, Nelson and central Otago. It dick has four isolated occurrences.

## Variable rhymes

Six variable rhymes were frequent enough to be worth plotting. They were (with number of reports in brackets): The sky is blue (26); Racing car no. 9 (13); My mum, your mum (11); Father Xmas lost his whiskers (7); Count 10 (7); Minnie Mouse had a house (4).

The sky is blue has a strongly regionalised distribution. All but two occurrences were in the Northern area, the other two being in northern Hawkes Bay, which is often somewhat mixed linguistically.
Racing Car no. 9 has very strange distribution. There is a small cluster of reports in Auckland, and then only two further North Island reports, both in the Wellington area. There is one report from Nelson, in a school which often shows a variety of forms, then another small cluster in Christchurch, and another cluster in Southland.
My mит, your mum is dotted throughout from Northland to Southland.
Father Xmas lost his whiskers is found only in the Central Region, and then not south of Nelson.
Count 10 is dotted from Auckland to Southland, although it appears to have a small cluster of reports in Southland.
Minnie Mouse has four isolated reports.

## Comments from school visits

The school visits essentially confirmed the regional patterns that emerged from the original data. Several more schools in the Northern Region, for instance, reported Ickle ockle and The Sky is Blue, and none of the schools in the north of the Central Region did. Two schools in the Northern Region had half-remembered versions of the Father Christmas rhyme, but used Santa Claus, and only asked how many whiskers he had. These versions did not scan, and were produced by one child only. They thus confirm that this rhyme is not in use in the Northern Region. 1 potato was not reported by any North Island schools, but was by several South Island schools.
The other point perhaps worth making is that the visits made it clear that the children felt free to produce their own variants of rhymes, and in particular to add a variable element to any rhyme they liked, to avoid the counter being able to rig the result. (In one school the children commented that "People like us know how to make it work".)

## Summary

In this set of data, two different patterns emerge with different items. Some items are found only in the Northern area of the three-part division (Ickle ockle; Ink pink you stink; Ick dick dog shit; The sky is blue). To a lesser extent, there are items which are found in the Central region, (Pud-plum; It bit dog shit; Father Xmas) but there is not much evidence in this data to distinguish the Southland-Otago region (perhaps Count 10). On the other hand, there are some items which are North Island items, (Gang gang gamore; 21) and some which are South Island items (1 potato; Pig snout). There is also one item reported from the Central region and Otago-Southland, but not from the Northern region (It dit dog shit).

## Statistical Analysis

There were too many forms which showed signs of patterning in this set of data to allow the statistical package to work well. The following were included in the analysis: Ickle ockle, Blackfoot, Coconut Crack, Father Christmas, Gang gang gamore, Ink pink, 1 potato, The sky is blue, 21. The Dog Shit rhyme was omitted on the basis that even the commonest variants were not particularly frequent.
In terms of Main Region, there were problems with the fact that the basis for comparison was the Southern Region, where very few rhymes/procedures were reported. As a result, almost all the rhymes were reported by the program as significantly more common in the Northern Region than the Southern.

## Blackfoot

The only significant factor in the regional distribution is that Blackfoot is not reported from the Southern Region. In terms of Sub-Regions, Blackfoot is almost exclusively from Wellington, where the program reported a massive sampling error. Blackfoot is reported only from the North Island. It is just significantly more common in Catholic Schools than non-Catholic schools (0.0401). It is also more common in urban schools ( $p$-value 0.0245 ). There are thus several interactions to investigate for this procedure.
It is clear that the absence from the Southern Region is entirely accounted for by the restriction to the North Island, and that the Main Region distribution is unimportant. It is also clear that the Sub-region distribution largely accounts for the Island distribution. Because of the difficulty for the program in handling the sub-region contrasts, all sub-regions not reporting Blackfoot were deleted, leaving the Auckland, Hawkes Bay-Wairarapa and Wellington regions only. The program did not report significant differences between these regions in the use of Blackfoot, indicating that the low number of reports does not support as significant the sub-regionalisation to Wellington. When just these three subregions are considered, Blackfoot was still just significantly more common in Catholic than in non-Catholic schools, but was not significantly urban. Thus it is probably the case that Catholic and Island are the only significant factors for this form.

## Ickle ockle

Ickle ockle is significantly more common in the Northern Region than either the Central Region (p-value 0.0008), or the Southern Region (p-value 0.0001). Ickle Ockle (0.0324) is also just significantly more common in the North Island than the South. When only the Sub-regions reporting it are included, the program shows that there is just significantly more Ickle ockle in the Auckland sub-region than in Timaru - Central Lakes. Since it was not reported at all from the Southern Region, this region was deleted to get a picture of the interaction between Region and Island. This showed that Main Region is more important than Island in accounting for this form. The contrast between the Northern and Central Regions is still significant when Island is taken into account (albeit only just, at 0.0144), but the Island factor is not significant when the Main Region distribution is taken into account.
This means that this form is primarily a Northern Region form, and is little affected by other factors.

## Coconut crack

Coconut crack is recorded in the North Island only. No other factors were significant.

## Father Christmas

Father Christmas is found only in the Central Region, and only in the northern areas of that region: sub-regions Hawkes Bay - Wairarapa, Wellington and Nelson - Marlborough. It was also reported exclusively from non-Catholic schools, but given its low frequency, this is in all probability just a sampling accident. Even when only those sub-regions reporting this rhyme are included in the analysis, there are no other significant correlations with the factors investigated.

## Gang gang gamore

Gang gang gamore is significantly more common in the Northern Region than the Central Region (p-value 0.0153), and was not reported at all from the Southern Region. It is low decile (p-value 0.0043 ), and was reported only from the North Island. Because it was not reported from the Southern Region, to investigate the interaction between these factors, the Southern Region was eliminated. When the interaction between Main Region and Decile is considered, gang gang gamore remains significantly low decile when Main Region is taken into account (p-value 0.0236), but Main Region is not significant when Decile is taken into account. This tells us that Decile is more important than Main Region in accounting for the distribution of this form. When the relationship between Island and Main Region is investigated, the statistics show that Main Region is not significant when Island is taken into account, but the correlation with Island is absolute, and thus presumably highly significant. When the interaction between Island and Decile is investigated, the statistics show that Decile is still significant when Island is taken into account (p-value 0.0298), so that Decile is important alongside Island in accounting for this form, while these two factors between them largely account for the regional distribution.

## Ink pink

Ink pink is just significantly more common in the Northern Region than the Central Region (p-value 0.0245), and it is not reported from the Southern Region. Ink pink is also highly significantly low decile (0.0006), and reported only from the North Island. Because it was not reported from the Southern Region, to investigate the interaction between these factors, the Southern Region was eliminated. The picture for Ink pink is exactly parallel to that for Gang gang gamore. When the interaction between Main Region and Decile is considered, Ink pink remains significantly low decile when Main Region is taken into account (pvalue 0.0020 ), but Main Region is not significant when Decile is taken into account. This tells us that Decile is more important than Main Region in accounting for the distribution of this form. When the relationship between Island and Main Region is investigated, the statistics show that Main Region is not significant when Island is taken into account, but the correlation with Island is absolute, and thus presumably highly significant. When the interaction between Island and Decile is investigated, the statistics show that Decile is still significant when Island is taken into account ( $p$-value 0.0048 ), so that Decile is important alongside Island in accounting for this form, while these two factors between them largely account for the regional distribution.

## 1 potato

1 potato was less common in the Northern Region than the Southern Region (pvalue 0.0232), but the difference between the Central and Southern Regions for this rhyme was not significant. 1 potato is also significantly more common in the South Island than the North (p-value 0.0075). When the interaction between these two factors is considered, neither factor is significant when the other is taken into account. What this means is that these two correlations are strongly linked: it is more common in the South Island because it is more common in the Southern and Central regions, and it is more common in the Southern and Central Regions because it is more common in the South Island. The Island factor appears to be slightly stronger, but not too much can be read into this.

## The Sky is Blue

This rhyme is significantly more common in the Northern Region than the Central Region (p-value 0.0001), and it is not reported from the Southern Region. The Sky is Blue is also just significantly low decile (p-value 0.0363), and found only in the North Island. Because it was not reported from the Southern Region, to investigate the interaction between these factors, the Southern Region was eliminated. When the interaction between Main Region and Decile is considered, The Sky is Blue is not significantly low decile when Main Region is taken into account, but Main Region is highly significant when Decile is taken into account. This tells us that Main Region is much more important than Decile in accounting for the distribution of this form. When the relationship between Island and Main Region is investigated, the statistics show that Main Region remains significant when Island is taken into account, but the correlation with Island is absolute. However, common sense tells us that the fact that this is almost exclusively Northern accounts to a very large extent for the Island distribution. When the interaction between Island and Decile is investigated, the statistics show that Decile is not significant when Island is taken into account. Thus the most important factor in the distribution of The Sky is Blue is the preponderance in the Northern Region, which has as a consequence a strong North Island tendency, and largely explains the correlation with low decile.
21
This was not reported at all from the Southern Region. It is just significantly more common in the North Island than the South (p-value 0.0413 ). 21 was also more common in urban schools (0.0212). When the interaction between these factors was investigated, Island is not quite significant when the Urban/Rural factor is taken into account ( p -value 0.0594 ), while 21 is still significantly urban when Island is taken into account ( p -value 0.0300 ). This tells us that the most important factor influencing the distribution of this procedure is the tendency for it to be used in urban schools. This largely accounts for the tendency for it to be more common in the North Island.

## Summary

Many counting-out rhymes are found only in restricted regions of the country. Some are also affected by social factors, and there is also evidence in two forms of Catholic and Urban/Rural differences. Once more they suggest a complex dialect situation in New Zealand.
Maps of the most strongly regionalised counting-out rhymes follow.

Map 1: Counting out rhymes: 1 potato, 21, Gang gang gamore



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.

| $\square$ | 1 potato | $\square$ | See urban map insert |
| :--- | :--- | :--- | :--- |
| $\square$ | 21 | $\square$ | Gang gang gamore |

Map 2: Counting out rhymes : Ickle ockle; Blackfoot



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.

Ickle ockle black bottleSee urban map insert
Blackfoot

Map 3: Counting-out rhymes: The sky is blue, Ink pink you stink, Father Xmas



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.

| $\square$ | Father Xmas lost his whiskers | $\square$ |
| :--- | :--- | :--- |
| The sky is blue, how old are you? | See urban map insert |  |
| $\square$ | $\square$ | Ink pink, you stink |

Q4: Counting-out rhymes statistics
Counting-out rhymes by Decile
Analysis Of GEE Parameter Estimates - Empirical Standard Error Estimates
Empirical 95\% Confidence Limits

| parameter |  | Est. | Std Err | Lower | Upper | Z | $\operatorname{Pr}>\mid \mathrm{Z}$ |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| Intercept | 0.0000 | . | . | . | . | . |  |
| item | Ickle_oc | -2.1492 | 0.5454 | -3.2182 | -1.0802 | -3.940 | 0.0001 |
| item | blackf | -3.8510 | 1.0264 | -5.8627 | -1.8394 | -3.752 | 0.0002 |
| item | coconut | -4.8191 | 1.4660 | -7.6923 | -1.9458 | -3.287 | 0.0010 |
| item | father_X | -2.1642 | 0.6705 | -3.4784 | -0.8500 | -3.228 | 0.0012 |
| item | gang_gan | -0.6933 | 0.5150 | -1.7026 | 0.3160 | -1.346 | 0.1782 |
| item | ink_pink | 0.0714 | 0.6367 | -1.1765 | 1.3192 | 0.1121 | 0.9107 |
| item | potato | -3.3678 | 0.7857 | -4.9077 | -1.8279 | -4.286 | 0.0000 |
| item | pud_plum | -2.3827 | 0.6604 | -3.6772 | -1.0883 | -3.608 | 0.0003 |
| item | the_sky | -0.6823 | 0.4493 | -1.5630 | 0.1983 | -1.519 | 0.1289 |
| item | twenty_o | -2.8973 | 0.7129 | -4.2945 | -1.5002 | -4.064 | 0.0000 |
| decile*item | Ickle_oc | 0.0474 | 0.0811 | -0.1115 | 0.2063 | 0.5844 | 0.5589 |
| decile*item | blackf | 0.1745 | 0.1393 | -0.0986 | 0.4476 | 1.2522 | 0.2105 |
| decile*item | coconut | 0.2503 | 0.1897 | -0.1214 | 0.6221 | 1.3197 | 0.1869 |
| decile*item | father_X | -0.1641 | 0.1174 | -0.3942 | 0.0660 | -1.397 | 0.1623 |
| decile*item | gang_gan | -0.3106 | 0.1088 | -0.5238 | -0.0973 | -2.854 | $\mathbf{0 . 0 0 4 3}$ |
| decile*item | ink_pink | -0.7065 | 0.2061 | -1.1105 | -0.3026 | -3.428 | $\mathbf{0 . 0 0 0 6}$ |
| decile*item | potato | 0.1348 | 0.1082 | -0.0773 | 0.3469 | 1.2459 | 0.2128 |
| decile*item | pud_plum | 0.0051 | 0.1025 | -0.1957 | 0.2060 | 0.0502 | 0.9600 |
| decile*item | the_sky | -0.1642 | 0.0784 | -0.3180 | -0.0105 | -2.093 | $\mathbf{0 . 0 3 6 3}$ |
| decile*item | twenty_o | 0.1263 | 0.1009 | -0.0715 | 0.3241 | 1.2512 | 0.2109 |
| scale | 0.9867 | . | . | . | . | . |  |

Counting-out rhymes by Main Region
Analysis Of Initial Parameter Estimates

| parameter |  | DF | Estimate | Std Err | ChiSquare | Pr>Chi |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| intercept | 0 | 0.0 | 0.0000 | . | . |  |
| item | Ickle_oc | 1 | -26.3650 | 0.5133 | 2637.8740 | 0.0001 |
| item | blackf | 1 | -26.3652 | 0.3962 | 4429.1759 | 0.0001 |
| item | coconut | 1 | -26.3654 | 0.7164 | 1354.6159 | 0.0001 |
| item | father_X | 1 | -26.3653 | 0.3962 | 4429.2362 | 0.0001 |
| item | gang_gan | 1 | -26.3654 | 0.5133 | 2637.9501 | 0.0001 |
| item | ink_pink | 1 | -26.3650 | 0.7164 | 1354.5823 | 0.0001 |
| item | potato | 1 | -1.2993 | 0.6513 | 3.9792 | 0.0461 |
| item | pud_plum | 1 | -26.3652 | 0.3387 | 6060.0613 | 0.0001 |
| item | the_sky | 1 | -26.3646 | 0.7164 | 1354.5371 | 0.0001 |
| item | twenty_o | 1 | -26.3647 | 0.3732 | 4990.4255 | 0.0001 |
| item*region1 | Ickle_oc, 1 | 1 | 25.4241 | 0.5919 | 1844.6799 | $\mathbf{0 . 0 0 0 1}$ |
| item*region1 | Ickle_oc, 2 | 0 | 23.4473 | 0.0000 | . | . |
| item*region1 | Ickle_oc, 3 | 0 | 0.0000 | 0.0000 | . | . |


| item*region1 | blackf, 1 | 1 | 23.0510 | 0.8217 | 787.0380 | $\mathbf{0 . 0 0 0 1}$ |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| item*region1 | blackf, 2 | 0 | 24.0484 | 0.0000 | . | . |
| item*region1 | blackf, 3 | 0 | 0.0000 | 0.0000 | . | . |
| item*region1 | coconut, 1 | 1 | 23.7814 | 0.8843 | 723.1895 | $\mathbf{0 . 0 0 0 1}$ |
| item*region1 | coconut, 2 | 0 | 22.7278 | 0.0000 | . | . |
| item*region1 | coconut, 3 | 0 | 0.0000 | 0.0000 | . | . |
| item*region1 | father_X, 1 | 1 | 0.0000 | 70342.8077 | 0.0000 | 1.0000 |
| item*region1 | father_X, 2 | 0 | 24.0486 | 0.0000 | . | . |
| item*region1 | father_X, 3 | 0 | 0.0000 | 0.0000 | . | . |
| item*region1 | gang_gan, 1 | 1 | 24.9347 | 0.6133 | 1652.8478 | $\mathbf{0 . 0 0 0 1}$ |
| item*region1 | gang_gan, 2 | 0 | 23.4477 | 0.0000 | . | . |
| item*region1 | gang_gan, 3 | 0 | 0.0000 | 0.0000 | . | . |
| item*region1 | ink_pink, 1 | 1 | 24.5526 | 0.8115 | 915.3714 | $\mathbf{0 . 0 0 0 1}$ |
| item*region1 | ink_pink, 2 | 0 | 22.7274 | 0.0000 | . | . |
| item*region1 | ink_pink, 3 | 0 | 0.0000 | 0.0000 | . | . |
| item*region1 | potato, 1 | 1 | -2.7261 | 1.2009 | 5.1532 | $\mathbf{0 . 0 2 3 2}$ |
| item*region1 | potato,2 | 1 | -1.0175 | 0.7624 | 1.7813 | 0.1820 |
| item*region1 | potato, 3 | 0 | 0.0000 | 0.0000 | . | . |
| item*region1 | pud_plum, 1 | 1 | 23.4748 | 0.6831 | 1181.1365 | $\mathbf{0 . 0 0 0 1}$ |
| item*region1 | pud_plum, 2 | 0 | 24.4483 | 0.0000 | . | . |
| item*region1 | pud_plum, 3 | 0 | 0.0000 | 0.0000 | . | . |
| item*region1 | the_sky, 1 | 1 | 26.0461 | 0.7649 | 1159.4070 | $\mathbf{0 . 0 0 0 1}$ |
| item*region1 | the_sky, 2 | 0 | 22.7270 | 0.0000 | . | . |
| item*region1 | the_sky, 3 | 0 | 0.0000 | 0.0000 | . | . |
| item*region1 | twenty_o, 1 | 1 | 24.5523 | 0.5336 | 2117.4120 | $\mathbf{0 . 0 0 0 1}$ |
| item*region1 | twenty_o, 2 | 0 | 24.1956 | 0.0000 | . | . |
| item*region1 | twenty_o, 3 | 0 | 0.0000 | 0.0000 | . | . |

Counting-out rhymes by Sub-Region
Analysis Of Initial Parameter Estimates

| parameter |  | DF | Est. | Std Err | ChiSq. | Pr>Chi |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| intercept | 0 | 0.0 | 0.0000 | . | . |  |
| item | Ickle_oc | 1 | -27.3648 | 1.0541 | 673.9504 | 0.0001 |
| item | blackf | 1 | -27.3652 | 0.4787 | 3267.7199 | 0.0001 |
| item | coconut | 1 | -27.3653 | 0.7416 | 1361.5632 | 0.0001 |
| item | father_X | 1 | -27.3654 | 1.0607 | 665.6559 | 0.0001 |
| item | gang_gan | 1 | -27.3657 | 0.5528 | 2450.8906 | 0.0001 |
| item | ink_pink | 1 | -27.3653 | 1.0235 | 714.8198 | 0.0001 |
| item | potato | 1 | -1.2993 | 0.6513 | 3.9792 | 0.0461 |
| item | pud_plum | 1 | -27.3648 | 0.7906 | 1198.1336 | 0.0001 |
| item | the_sky | 1 | -27.3645 | 0.7746 | 1248.0278 | 0.0001 |
| item | twenty_o | 1 | -27.3658 | 1.0290 | 707.2835 | 0.0001 |
| item*region2 | Ickle_oc, 1 | 1 | 27.3648 | 1.3333 | 421.2190 | $\mathbf{0 . 0 0 0 1}$ |
| item*region2 | Ickle_oc, 2 | 1 | 26.6717 | 1.3642 | 382.2332 | $\mathbf{0 . 0 0 0 1}$ |
| item*region2 | Ickle_oc, 3 | 1 | 27.4702 | 1.1499 | 570.7144 | $\mathbf{0 . 0 0 0 1}$ |


| item*region2 | Ickle_oc, 4 | 1 | 24.1460 | 1.4667 | 271.0353 | 0.0001 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| item*region2 | Ickle_oc, 5 | 1 | -0.0005 | 252763.142 | 0.0000 | 1.0000 |
| item*region2 | Ickle_oc, 6 | 1 | 24.3203 | 1.4693 | 273.9931 | 0.0001 |
| item*region2 | Ickle_oc, 7 | 1 | 26.1121 | 1.3244 | 388.7413 | 0.0001 |
| item*region2 | Ickle_oc, 8 | 1 | -0.0005 | 357461.063 | 0.0000 | 1.0000 |
| item*region2 | Ickle_oc, 9 | 1 | -0.0005 | 206380.241 | 0.0000 | 1.0000 |
| item*region2 | Ickle_oc, 10 | 0 | 25.1676 | 0.0000 |  |  |
| item*region2 | Ickle_oc, 11 | 0 | 0.0000 | 0.0000 |  |  |
| item*region2 | blackf, 1 | 1 | -0.0002 | 357461.063 | 0.0000 | 1.0000 |
| item*region2 | blackf, 2 | 1 | -0.0002 | 357461.063 | 0.0000 | 1.0000 |
| item*region2 | blackf, 3 | 1 | 25.2251 | 0.8877 | 807.5047 | 0.0001 |
| item*region2 | blackf, 4 | 1 | -0.0002 | 171718.740 | 0.0000 | 1.0000 |
| item*region2 | blackf, 5 | 1 | -0.0002 | 252763.142 | 0.0000 | 1.0000 |
| item*region2 | blackf, 6 | 0 | 26.3843 | 0.0000 |  |  |
| item*region2 | blackf, 7 | 1 | -0.0002 | 291865.736 | 0.0000 | 1.0000 |
| item*region2 | blackf, 8 | 1 | -0.0002 | 357461.063 | 0.0000 | 1.0000 |
| item*region2 | blackf, 9 | 1 | -0.0002 | 206380.241 | 0.0000 | 1.0000 |
| item*region2 | blackf, 10 | 1 | -0.0002 | 276888.149 | 0.0000 | 1.0000 |
| item*region2 | blackf, 11 | 0 | 0.0000 | 0.0000 |  |  |
| item*region2 | coconut, 1 | 1 | -0.0000 | 357461.063 | 0.0000 | 1.0000 |
| item*region2 | coconut, 2 | 1 | -0.0000 | 357461.063 | 0.0000 | 1.0000 |
| item*region2 | coconut, 3 | 1 | 25.6913 | 0.9725 | 697.8441 | 0.0001 |
| item*region2 | coconut, 4 | 1 | 24.1464 | 1.2610 | 366.6981 | 0.0001 |
| item*region2 | coconut, 5 | 1 | -0.0000 | 252763.142 | 0.0000 | 1.0000 |
| item*region2 | coconut, 6 | 0 | 25.0627 | 0.0000 |  |  |
| item*region2 | coconut, 7 | 1 | -0.0000 | 291865.736 | 0.0000 | 1.0000 |
| item*region2 | coconut, 8 | 1 | -0.0000 | 357461.063 | 0.0000 | 1.0000 |
| item*region2 | coconut, 9 | 1 | -0.0000 | 206380.241 | 0.0000 | 1.0000 |
| item*region2 | coconut, 10 | 1 | -0.0000 | 276888.149 | 0.0000 | 1.0000 |
| item*region2 | coconut, 11 | 0 | 0.0000 | 0.0000 |  |  |
| item*region2 | father_X, 1 | 1 | 0.0000 | 357461.063 | 0.0000 | 1.0000 |
| item*region2 | father_X, 2 | 1 | 0.0000 | 357461.063 | 0.0000 | 1.0000 |
| item*region2 | father_X, 3 | 1 | 0.0000 | 200875.776 | 0.0000 | 1.0000 |
| item*region2 | father_X, 4 | 1 | 0.0000 | 171718.740 | 0.0000 | 1.0000 |
| item*region2 | father_X, 5 | 1 | 24.9675 | 1.4886 | 281.3176 | 0.0001 |
| item*region2 | father_X, 6 | 1 | 25.8613 | 1.1961 | 467.5148 | 0.0001 |
| item*region2 | father_X, 7 | 0 | 25.2859 | 0.0000 |  |  |
| item*region2 | father_X, 8 | 1 | 0.0000 | 357461.063 | 0.0000 | 1.0000 |
| item*region2 | father_X, 9 | 1 | 0.0000 | 206380.241 | 0.0000 | 1.0000 |
| item*region2 | father_X, 10 | 1 | 0.0000 | 276888.149 | 0.0000 | 1.0000 |
| item*region2 | father_X, 11 | 0 | 0.0000 | 0.0000 |  |  |
| item*region2 | gang_gan, 1 | 1 | 26.6726 | 1.0274 | 673.9832 | 0.0001 |
| item*region2 | gang_gan, 2 | 1 | 25.7563 | 1.2270 | 440.6258 | 0.0001 |
| item*region2 | gang_gan, 3 | 1 | 26.3361 | 0.7596 | 1202.0968 | 0.0001 |
| item*region2 | gang_gan, 4 | 1 | 25.3288 | 0.8261 | 940.1839 | 0.0001 |


| item*region2 | gang_gan, 5 | 1 | 0.0004 | 252763.142 | 0.0000 | 1.0000 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| item*region2 | gang_gan, 6 | 0 | 25.8617 | 0.0000 | . | . |
| item*region2 | gang_gan, 7 | 1 | 0.0004 | 291865.736 | 0.0000 | 1.0000 |
| item*region2 | gang_gan, 8 | 1 | 0.0004 | 357461.063 | 0.0000 | 1.0000 |
| item*region2 | gang_gan, 9 | 1 | 0.0004 | 206380.241 | 0.0000 | 1.0000 |
| item*region2 | gang_gan, 10 | 1 | 0.0004 | 276888.149 | 0.0000 | 1.0000 |
| item*region2 | gang_gan, 11 | 0 | 0.0000 | 0.0000 | . | . |
| item*region2 | ink_pink, 1 | 1 | 27.3653 | 1.3093 | 436.8343 | 0.0001 |
| item*region2 | ink_pink, 2 | 1 | -0.0000 | 357461.063 | 0.0000 | 1.0000 |
| item*region2 | ink_pink, 3 | 1 | 24.4749 | 1.4502 | 284.8177 | 0.0001 |
| item*region2 | ink_pink, 4 | 1 | 25.6605 | 1.1589 | 490.2659 | 0.0001 |
| item*region2 | ink_pink, 5 | 1 | 24.9674 | 1.4624 | 291.4951 | 0.0001 |
| item*region2 | ink_pink, 6 | 0 | 24.3208 | 0.0000 |  | . |
| item*region2 | ink_pink, 7 | 1 | -0.0000 | 291865.736 | 0.0000 | 1.0000 |
| item*region2 | ink_pink, 8 | 1 | -0.0000 | 357461.063 | 0.0000 | 1.0000 |
| item*region2 | ink_pink, 9 | 1 | -0.0000 | 206380.241 | 0.0000 | 1.0000 |
| item*region2 | ink_pink, 10 | 1 | -0.0000 | 276888.149 | 0.0000 | 1.0000 |
| item*region2 | ink_pink, 11 | 0 | 0.0000 | 0.0000 |  |  |
| item*region2 | potato, 1 | 1 | -0.3102 | 1.2745 | 0.0592 | 0.8077 |
| item*region2 | potato, 2 | 1 | -26.0660 | 357461.063 | 0.0000 | 0.9999 |
| item*region2 | potato, 3 | 1 | -26.0660 | 200875.776 | 0.0000 | 0.9999 |
| item*region2 | potato, 4 | 1 | -26.0660 | 171718.740 | 0.0000 | 0.9999 |
| item*region2 | potato, 5 | 1 | -26.0660 | 252763.142 | 0.0000 | 0.9999 |
| item*region2 | potato, 6 | 1 | -1.7452 | 1.2132 | 2.0694 | 0.1503 |
| item*region2 | potato, 7 | 1 | -0.7802 | 1.2447 | 0.3929 | 0.5308 |
| item*region2 | potato, 8 | 1 | -26.0660 | 357461.063 | 0.0000 | 0.9999 |
| item*region2 | potato, 9 | 1 | 0.3438 | 0.8374 | 0.1685 | 0.6814 |
| item*region2 | potato, 10 | 1 | -26.0660 | 276888.149 | 0.0000 | 0.9999 |
| item*region2 | potato, 11 | 0 | 0.0000 | 0.0000 |  |  |
| item*region2 | pud_plum, 1 | 1 | 25.7554 | 1.3509 | 363.4739 | 0.0001 |
| item*region2 | pud_plum, 2 | 1 | -0.0005 | 357461.063 | 0.0000 | 1.0000 |
| item*region2 | pud_plum, 3 | 1 | 24.4745 | 1.2964 | 356.4290 | 0.0001 |
| item*region2 | pud_plum, 4 | 1 | 24.1459 | 1.2903 | 350.1662 | 0.0001 |
| item*region2 | pud_plum, 5 | 1 | 25.7554 | 1.1068 | 541.5019 | 0.0001 |
| item*region2 | pud_plum, 6 | 1 | 25.8607 | 0.9647 | 718.6869 | 0.0001 |
| item*region2 | pud_plum, 7 | 1 | 25.2854 | 1.3229 | 365.3431 | 0.0001 |
| item*region2 | pud_plum, 8 | 1 | -0.0005 | 357461.063 | 0.0000 | 1.0000 |
| item*region2 | pud_plum, 9 | 1 | 24.5316 | 1.2976 | 357.4008 | 0.0001 |
| item*region2 | pud_plm, 10 | 0 | 25.9785 | 0.0000 |  | . |
| item*region2 | pud_plm, 11 | 0 | 0.0000 | 0.0000 |  |  |
| item*region2 | the_sky, 1 | 1 | 28.9740 | 1.3416 | 466.3833 | 0.0001 |
| item*region2 | the_sky, 2 | 1 | 27.3645 | 1.1255 | 591.1711 | 0.0001 |
| item*region2 | the_sky, 3 | 1 | 27.4699 | 0.9006 | 930.3215 | 0.0001 |
| item*region2 | the_sky, 4 | 1 | 26.1605 | 0.9037 | 838.0090 | 0.0001 |
| item*region2 | the_sky, 5 | 0 | 25.7551 | 0.0000 |  | . |


| item*region2 | the_sky, 6 | 1 | -0.0008 | 186677.952 | 0.0000 | 1.0000 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| item*region2 | the_sky, 7 | 1 | -0.0008 | 291865.736 | 0.0000 | 1.0000 |
| item*region2 | the_sky, 8 | 1 | -0.0008 | 357461.063 | 0.0000 | 1.0000 |
| item*region2 | the_sky, 9 | 1 | -0.0008 | 206380.241 | 0.0000 | 1.0000 |
| item*region2 | the_sky, 10 | 1 | -0.0008 | 276888.149 | 0.0000 | 1.0000 |
| item*region2 | the_sky, 11 | 0 | 0.0000 | 0.0000 | . | . |
| item*region2 | twenty_o, 1 | 1 | 0.0005 | 357461.063 | 0.0000 | 1.0000 |
| item*region2 | twenty_o, 2 | 1 | 26.6727 | 1.3449 | 393.3119 | $\mathbf{0 . 0 0 0 1}$ |
| item*region2 | twenty_o, 3 | 1 | 26.3362 | 1.1534 | 521.4017 | $\mathbf{0 . 0 0 0 1}$ |
| item*region2 | twenty_o ,4 | 1 | 24.1469 | 1.4487 | 277.8105 | $\mathbf{0 . 0 0 0 1}$ |
| item*region2 | twenty_o ,5 | 1 | 26.2672 | 1.2261 | 458.9777 | $\mathbf{0 . 0 0 0 1}$ |
| item*region2 | twenty_o ,6 | 1 | 25.0632 | 1.2684 | 390.4505 | $\mathbf{0 . 0 0 0 1}$ |
| item*region2 | twenty_o, 7 | 1 | 25.2864 | 1.4778 | 292.7898 | $\mathbf{0 . 0 0 0 1}$ |
| item*region2 | twenty_o, 8 | 1 | 0.0005 | 357461.063 | 0.0000 | 1.0000 |
| item*region2 | twenty_o, 9 | 0 | 24.5326 | 0.0000 | . | . |
| item*region2 | twentyo, 10 | 1 | 0.0005 | 276888.149 | 0.0000 | 1.0000 |
| item*region2 | twentyo, 11 | 0 | 0.0000 | 0.0000 | . | . |
| scale | 0 | 1.0 | 0.0000 | . | . |  |

Counting-out rhymes by Island
Analysis Of Initial Parameter Estimates

| parameter |  | DF | Estimate | Std Err | ChiSquare | Pr>Chi |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| intercept | 0 | 0.0 | 0.0000 | . | . |  |
| item | Ickle_oc | 1 | -2.8904 | 0.5932 | 23.7437 | 0.0001 |
| item | blackf | 1 | -27.3653 | 0.3507 | 6087.5093 | 0.0001 |
| item | coconut | 1 | -27.3653 | 0.4221 | 4203.2802 | 0.0001 |
| item | father_X | 1 | -4.0254 | 1.0089 | 15.9192 | 0.0001 |
| item | gang_gan | 1 | -27.3653 | 0.2819 | 9421.1453 | 0.0001 |
| item | ink_pink | 1 | -27.3653 | 0.3347 | 6683.3766 | 0.0001 |
| item | potato | 1 | -1.6740 | 0.3632 | 21.2377 | 0.0001 |
| item | pud_plum | 1 | -2.5840 | 0.5185 | 24.8339 | 0.0001 |
| item | the_sky | 1 | -27.3653 | 0.2311 | 14027.0205 | 0.0001 |
| item | twenty_o | 1 | -3.3142 | 0.7198 | 21.1969 | 0.0001 |
| item*island | Ickle_oc, 1 | 1 | 1.3929 | 0.6510 | 4.5774 | $\mathbf{0 . 0 3 2 4}$ |
| item*island | Ickle_oc, 2 | 0 | 0.0000 | 0.0000 | . | . |
| item*island | blackf, 1 | 0 | 25.1317 | 0.0000 | . | . |
| item*island | blackf, 2 | 0 | 0.0000 | 0.0000 | . | . |
| item*island | coconut, 1 | 0 | 24.6912 | 0.0000 | . | . |
| item*island | coconut, 2 | 0 | 0.0000 | 0.0000 | . | . |
| item*island | father_X, 1 | 1 | 1.3512 | 1.0936 | 1.5265 | 0.2166 |
| item*island | father_X, 2 | 0 | 0.0000 | 0.0000 | . | . |
| item*island | gang_gan, 1 | 0 | 25.7167 | 0.0000 | . | . |
| item*island | gang_gan, 2 | 0 | 0.0000 | 0.0000 | . | . |
| item*island | ink_pink, 1 | 0 | 25.2491 | 0.0000 | . | . |
| item*island | ink_pink, 2 | 0 | 0.0000 | 0.0000 | . | . |
| item*island | potato, 1 | 1 | -2.1437 | 0.8018 | 7.1479 | $\mathbf{0 . 0 0 7 5}$ |
| item*island | potato, 2 | 0 | 0.0000 | 0.0000 | . | . |
| item*island | pud_plum, 1 | 1 | 0.3504 | 0.6260 | 0.3133 | 0.5757 |
| item*island | pud_plum, 2 | 0 | 0.0000 | 0.0000 | . | . |
| item*island | the_sky, 1 | 0 | 26.4187 | 0.0000 | . | . |
| item*island | the_sky, 2 | 0 | 0.0000 | 0.0000 | . | . |
| item*island | twenty_o, 1 | 1 | 1.5838 | 0.7761 | 4.1649 | $\mathbf{0 . 0 4 1 3}$ |
| item*island | twenty_o, 2 | 0 | 0.0000 | 0.0000 | . | . |
| scale | 0 | 1.0 | 0.0000 | . | . |  |

Counting-out rhymes by Catholic
Analysis Of Initial Parameter Estimates

| parameter |  | DF | Estimate | Std Err | ChiSquare | Pr>Chi |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| intercept | 0 | 0.0 | 0.0000 | . | . |  |
| item | Ickle_oc | 1 | -2.7081 | 1.0328 | 6.8752 | 0.0087 |
| item | blackf | 1 | -1.4663 | 0.6405 | 5.2410 | 0.0221 |
| item | coconut | 1 | -2.7081 | 1.0328 | 6.8752 | 0.0087 |
| item | father_X | 1 | -24.3653 | 0.3885 | 3933.6243 | 0.0001 |
| item | gang_gan | 1 | -2.7081 | 1.0328 | 6.8752 | 0.0087 |
| item | ink_pink | 1 | -2.7081 | 1.0328 | 6.8752 | 0.0087 |
| item | potato | 1 | -2.7081 | 1.0328 | 6.8752 | 0.0087 |
| item | pud_plum | 1 | -1.9459 | 0.7559 | 6.6265 | 0.0100 |
| item | the_sky | 1 | -2.7081 | 1.0328 | 6.8752 | 0.0087 |
| item | twenty_o | 1 | -2.7081 | 1.0328 | 6.8752 | 0.0087 |
| item*catholic | Ickle_oc, 1 | 1 | 0.9340 | 1.0622 | 0.7732 | 0.3792 |
| item*catholic | Ickle_oc, 2 | 0 | 0.0000 | 0.0000 | . | . |
| item*catholic | blackf, 1 | 1 | -1.5702 | 0.7648 | 4.2152 | $\mathbf{0 . 0 4 0 1}$ |
| item*catholic | blackf, 2 | 0 | 0.0000 | 0.0000 | . | . |
| item*catholic | coconut, 1 | 1 | -0.5188 | 1.1290 | 0.2112 | 0.6459 |
| item*catholic | coconut, 2 | 0 | 0.0000 | 0.0000 | . | . |
| item*catholic | father_X,1 1 | 0 | 21.4910 | 0.0000 | . | . |
| item*catholic | father_X, 2 | 0 | 0.0000 | 0.0000 | . | . |
| item*catholic | gang_gan, 1 | 1 | 0.5849 | 1.0708 | 0.2984 | 0.5849 |
| item*catholic | gang_gan, 2 | 0 | 0.0000 | 0.0000 | . | . |
| item*catholic | ink_pink, 1 | 1 | 0.1013 | 1.0890 | 0.0086 | 0.9259 |
| item*catholic | ink_pink, 2 | 0 | 0.0000 | 0.0000 | . | . |
| item*catholic | potato, 1 | 1 | 0.1013 | 1.0890 | 0.0086 | 0.9259 |
| item*catholic | potato | 2 | 0 | 0.0000 | 0.0000 | . |
| item*catholic | pud_plum, 1 | 1 | -0.4437 | 0.8189 | 0.2935 | 0.5880 |
| item*catholic | pud_plum, 2 | 0 | 0.0000 | 0.0000 | . | . |
| item*catholic | the_sky, 1 | 1 | 1.2635 | 1.0565 | 1.4303 | 0.2317 |
| item*catholic | the_sky, 2 | 0 | 0.0000 | 0.0000 | . | . |
| item*catholic | twenty_o, 1 | 1 | 0.6625 | 1.0686 | 0.3844 | 0.5353 |
| item*catholic | twenty_o, 2 | 0 | 0.0000 | 0.0000 | . | . |
| scale | 0 | 1.0 | 0.0000 | . | . |  |
|  |  |  |  |  |  |  |

## Counting-out rhymes by Urban/Rural

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

| parameter |  | Est. | Std Err | Lower | Upper | Z | Pr> $>$ Z |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| intercept | 0.0000 |  |  |  |  |  |  |
| item | Ickle_oc | -1.7148 | 0.3621 | -2.4245 | -1.0051 | -4.736 | 0.0000 |
| item | blackf | -2.0053 | 0.4026 | -2.7944 | -1.2162 | -4.981 | 0.0000 |
| item | coconut | -2.3795 | 0.4675 | -3.2958 | -1.4633 | -5.090 | 0.0000 |
| item | father_X | -3.3499 | 0.7194 | -4.7599 | -1.9399 | -4.656 | 0.0000 |
| item | gang_gan | -1.8524 | 0.3803 | -2.5977 | -1.1071 | -4.871 | 0.0000 |
| item | ink_pink | -3.3499 | 0.7194 | -4.7599 | -1.9399 | -4.656 | 0.0000 |
| item | potato | -2.3795 | 0.4675 | -3.2958 | -1.4633 | -5.090 | 0.0000 |
| item | pud_plum | -2.3795 | 0.4675 | -3.2958 | -1.4633 | -5.090 | 0.0000 |
| item | the_sky | -1.8524 | 0.3803 | -2.5977 | -1.1071 | -4.871 | 0.0000 |
| item | twenty_o | -1.4733 | 0.3343 | -2.1285 | -0.8181 | -4.407 | 0.0000 |
| item*urb-rur | Ickle_oc, 1 | -0.3133 | 0.4942 | -1.2820 | 0.6553 | -. 6340 | 0.5261 |
| item*urb-rur | Ickle_oc, 2 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.000 | 0.0000 |
| item*urb-rur | blackf, 1 | -2.4373 | 1.0834 | -4.5608 | -0.3138 | -2.250 | 0.0245 |
| item*urb-rur | blackf, 2 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.000 | 0.0000 |
| item*urb-rur | coconut, 1 | -2.0631 | 1.1092 | -4.2371 | 0.1109 | -1.860 | 0.0629 |
| item*urb-rur | coconut, 2 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.000 | 0.0000 |
| item*urb-rur | father_X, 1 | 0.3295 | 0.8830 | -1.4012 | 2.0602 | 0.3731 | 0.7091 |
| item*urb-rur | father_X, 2 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.000 | 0.0000 |
| item*urb-rur | gang_gan, 1 | -0.5712 | 0.5478 | -1.6449 | 0.5026 | -1.043 | 0.2971 |
| item*urb-rur | gang_gan, 2 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| item*urb-rur | ink_pink, 1 | 1.0726 | 0.8095 | -0.5140 | 2.6593 | 1.3250 | 0.1852 |
| item*urb-rur | ink_pink, 2 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| item*urb-rur | potato, 1 | -0.4055 | 0.6564 | -1.6920 | 0.8811 | -. 6177 | 0.5368 |
| item*urb-rur | potato, 2 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| item*urb-rur | pud_plum 1 | 0.1023 | 0.5969 | -1.0677 | 1.2723 | 0.1713 | 0.8640 |
| item*urb-rur | pud_plum 2 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| item*urb-rur | the_sky, 1 | 0.5232 | 0.4635 | -0.3853 | 1.4318 | 1.1288 | 0.2590 |
| item*urb-rur | the_sky, 2 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| item*urb-rur | twenty_o, 1 | -1.3117 | 0.5693 | -2.4275 | -0.1959 | -2.304 | 0.0212 |
| item*urb-rur | twenty_o, 2 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| scale | 1.0000 |  |  |  |  |  |  |

Counting Out Rhymes by Main Region and Decile, Model 1

| parameter |  | DF | Estimate | Std Err | ChiSquare | Pr $>$ Chi |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| intercept | 0 | 0.00 | 0.0000 |  |  |  |
| item | Ickle_oc | 1 | -26.3660 | 1.4426 | 334.0447 | 0.0001 |
| item | blackf | 1 | -26.3653 | 1.0479 | 633.0057 | 0.0001 |
| item | coconut | 1 | -26.3652 | 1.7627 | 223.7238 | 0.0001 |
| item | father_X | 1 | -26.3655 | 0.8664 | 926.1139 | 0.0001 |
| item | gang_gan | 1 | -26.3653 | 1.0419 | 640.3954 | 0.0001 |
| item | ink_pink | 1 | -26.3659 | 1.4944 | 311.2663 | 0.0001 |
| item | potato | 1 | -2.6556 | 1.8962 | 1.9613 | 0.1614 |
| item | pud_plum | 1 | -26.3651 | 0.7954 | 1098.7916 | 0.0001 |
| item | the_sky | 1 | -26.3643 | 1.5457 | 290.9325 | 0.0001 |
| item | twenty_o | 1 | -26.3657 | 0.8986 | 860.8207 | 0.0001 |
| item*reg1 | Ickle_oc, 1 | 1 | 24.4489 | 1.6004 | 233.3923 | 0.0001 |
| item*reg1 | Ickle_oc, 2 | 0 | 23.1246 | 0.0000 |  |  |
| item*reg1 | Ickle_oc, 3 | 0 | 0.0000 | 0.0000 |  |  |
| item*reg1 | blackf, 1 | 1 | 17.9531 | 4.1901 | 18.3579 | 0.0001 |
| item*reg1 | blackf, 2 | 0 | 24.0561 | 0.0000 |  |  |
| item*reg1 | blackf, 3 | 0 | 0.0000 | 0.0000 |  |  |
| item*reg1 | coconut, 1 | 1 | 19.9487 | 2.9427 | 45.9543 | 0.0001 |
| item*reg1 | coconut, 2 | 0 | 23.1234 | 0.0000 |  |  |
| item*reg1 | coconut, 3 | 0 | 0.0000 | 0.0000 |  |  |
| item*reg1 | father_X, 1 | 1 | 0.0001 | 146167.824 | 0.0000 | 1.0000 |
| item*reg1 | father_X, 2 | 0 | 25.7148 | 0.0000 |  |  |
| item*reg1 | father_X, 3 | 0 | 0.0000 | 0.0000 |  |  |
| item*reg1 | gang_gan, 1 | 1 | 25.7600 | 1.2314 | 437.5901 | 0.0001 |
| item*reg1 | gang_gan, 2 | 0 | 25.8655 | 0.0000 |  |  |
| item*reg1 | gang_gan, 3 | 0 | 0.0000 | 0.0000 |  |  |
| item*reg1 | ink_pink, 1 | 1 | 26.6280 | 1.6888 | 248.6098 | 0.0001 |
| item*reg1 | ink_pink, 2 | 0 | 26.4963 | 0.0000 |  |  |
| item*reg1 | ink_pink, 3 | 0 | 0.0000 | 0.0000 |  |  |
| item*reg1 | potato, 1 | 1 | -0.0884 | 2.6194 | 0.0011 | 0.9731 |
| item*reg1 | potato, 2 | 1 | -0.2901 | 2.2281 | 0.0169 | 0.8964 |
| item*reg1 | potato, 3 | 0 | 0.0000 | 0.0000 |  |  |
| item*reg1 | pud_plum, 1 | 1 | 21.5565 | 1.9951 | 116.7436 | 0.0001 |
| item*reg1 | pud_plum, 2 | 0 | 25.4635 | 0.0000 |  |  |
| item*reg1 | pud_plum, 3 | 0 | 0.0000 | 0.0000 |  |  |
| item*reg1 | the_sky, 1 | 1 | 26.2834 | 1.6424 | 256.1082 | 0.0001 |
| item*reg1 | the_sky, 2 | 0 | 23.9152 | 0.0000 |  |  |
| item*reg1 | the_sky, 3 | 0 | 0.0000 | 0.0000 |  |  |
| item*reg1 | twenty_0, 1 | 1 | 21.7669 | 1.6396 | 176.2447 | 0.0001 |
| item*reg1 | twenty_o, 2 | 0 | 24.8620 | 0.0000 |  |  |
| item*reg1 | twenty_o, 3 | 0 | 0.0000 | 0.0000 |  |  |
| decile*item | Ickle_oc | 1 | 0.0001 | 0.2002 | 0.0000 | 0.9996 |


| decile ${ }^{\text {\% }}$ item | blackf | 1 | -0.0000 | 0.1509 | 0.0000 | 1.0000 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| decile*item | coconut | 1 | -0.0000 | 0.2679 | 0.0000 | 0.9999 |
| decile*item | father_X | 1 | 0.0000 | 0.1594 | 0.0000 | 0.9999 |
| decile*item | gang_gan | 1 | 0.0000 | 0.2404 | 0.0000 | 1.0000 |
| decile*item | ink_pink | 1 | 0.0001 | 0.5933 | 0.0000 | 0.9999 |
| decile*item | potato | 1 | 0.2166 | 0.2643 | 0.6718 | 0.4124 |
| decile*item | pud_plum | 1 | -0.0000 | 0.1288 | 0.0000 | 0.9998 |
| decile*item | the_sky | 1 | -0.0002 | 0.2712 | 0.0000 | 0.9995 |
| decile*item | twenty_o | 1 | 0.0000 | 0.1400 | 0.0000 | 0.9998 |
| dec*itm*rg1 | Ickle_oc, 1 | 1 | 0.1875 | 0.2303 | 0.6633 | 0.4154 |
| dec*itm*rg1 | Ickle_oc, 2 | 0 | 0.0490 | 0.0000 |  |  |
| dec* $\mathrm{itm}^{*} \mathrm{rg} 1$ | Ickle_oc, 3 | 0 | 0.0000 | 0.0000 |  |  |
| dec* $\mathrm{itm}^{*} \mathrm{rg} 1$ | blackf, 1 | 1 | 0.7309 | 0.5006 | 2.1322 | 0.1442 |
| dec*itm*rg1 | blackf, 2 | 0 | -0.0012 | 0.0000 |  |  |
| dec*itm*rg1 | blackf, 3 | 0 | 0.0000 | 0.0000 |  |  |
| dec* ${ }^{\text {itm* }}$ * rg 1 | coconut, 1 | 1 | 0.5864 | 0.3989 | 2.1612 | 0.1415 |
| dec*itm*rg1 | coconut, 2 | 0 | -0.0636 | 0.0000 |  |  |
| dec*itm*rg1 | coconut, 3 | 0 | 0.0000 | 0.0000 |  |  |
| dec*itm*rg1 | father_X, 1 | 1 | -0.0000 | 26083.3094 | 0.0000 | 1.0000 |
| dec*itm*rg1 | father_X, 2 | 0 | -0.2978 | 0.0000 |  |  |
| dec* ${ }^{\text {itm* }}$ * rg 1 | father_X, 3 | 0 | 0.0000 | 0.0000 |  |  |
| dec*itm*rg1 | gang_gan, 1 | 1 | -0.1830 | 0.2761 | 0.4390 | 0.5076 |
| dec*itm*rg1 | gang_gan, 2 | 0 | -0.4863 | 0.0000 |  |  |
| dec*itm*rg1 | gang_gan, 3 | 0 | 0.0000 | 0.0000 |  |  |
| dec*itm*rg1 | ink_pink, 1 | 1 | -0.5646 | 0.6407 | 0.7767 | 0.3781 |
| dec*itm*rg1 | ink_pink, 2 | 0 | -1.0056 | 0.0000 |  |  |
| dec*itm*rg1 | ink_pink, 3 | 0 | 0.0000 | 0.0000 |  |  |
| dec*itm*rg1 | potato, 1 | 1 | -0.5465 | 0.5606 | 0.9506 | 0.3296 |
| dec*itm*rg1 | potato, 2 | 1 | -0.1227 | 0.3081 | 0.1585 | 0.6905 |
| dec* $\mathrm{itm}^{*} \mathrm{rg} 1$ | potato, 3 | 0 | 0.0000 | 0.0000 |  |  |
| dec*itm*rg1 | pud_plum, 1 | 1 | 0.3230 | 0.2822 | 1.3104 | 0.2523 |
| dec*itm*rg1 | pud_plum, 2 | 0 | -0.1692 | 0.0000 |  |  |
| dec*itm*rg1 | pud_plum, 3 | 0 | 0.0000 | 0.0000 |  |  |
| dec*itm*rg1 | the_sky, 1 | 1 | -0.0485 | 0.2891 | 0.0281 | 0.8668 |
| dec* ${ }^{\text {itm* }}$ * rg 1 | the_sky, 2 | 0 | -0.2069 | 0.0000 |  |  |
| dec*itm*rg1 | the_sky, 3 | 0 | 0.0000 | 0.0000 |  |  |
| dec*itm*rg1 | twenty_o, 1 | 1 | 0.4621 | 0.2343 | 3.8896 | 0.0486 |
| dec*itm*rg1 | twenty_o, 2 | 0 | -0.1085 | 0.0000 |  |  |
| dec*itm*rg1 | twenty_o, 3 | 0 | 0.0000 | 0.0000 |  |  |
| scale | 0 | 1.00 | 0.0000 |  |  |  |

Counting Out Rhymes by Decile and Main Region, Model 2

| parameter |  | DF | Est. | Std Err | ChiSquare | Pr>Chi |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| intercept | 0 | 0.0 | 0.0000 |  |  |  |
| item | Ickle_oc | 1 | -27.3321 | 0.8924 | 937.9597 | 0.0001 |
| item | blackf | 1 | -27.1566 | 1.0665 | 648.3682 | 0.0001 |
| item | coconut | 1 | -28.4648 | 1.6737 | 289.2324 | 0.0001 |
| item | father_X | 1 | -24.9074 | 0.8664 | 826.5121 | 0.0001 |
| item | gang_gan | 1 | -25.0044 | 0.7676 | 1061.2412 | 0.0001 |
| item | ink_pink | 1 | -23.7465 | 0.9906 | 574.6080 | 0.0001 |
| item | potato | 1 | -1.8012 | 1.0057 | 3.2079 | 0.0733 |
| item | pud_plum | 1 | -26.0807 | 0.7638 | 1166.0418 | 0.0001 |
| item | the_sky | 1 | -25.9838 | 0.9113 | 813.0284 | 0.0001 |
| item | twenty_o | 1 | -27.2811 | 0.8462 | 1039.3010 | 0.0001 |
| item*region1 | Ickle_oc, 1 | 1 | 25.5872 | 0.6265 | 1667.7785 | 0.0001 |
| item*region1 | Ickle_oc, 2 | 0 | 23.3390 | 0.0000 |  |  |
| item*region1 | Ickle_oc, 3 | 0 | 0.0000 | 0.0000 |  |  |
| item*region1 | blackf, 1 | 1 | 23.1535 | 0.8445 | 751.7009 | 0.0001 |
| item*region1 | blackf, 2 | 0 | 23.9659 | 0.0000 |  |  |
| item*region1 | blackf, 3 | 0 | 0.0000 | 0.0000 |  |  |
| item*region1 | coconut, 1 | 1 | 24.0192 | 0.9298 | 667.2719 | 0.0001 |
| item*region1 | coconut, 2 | 0 | 22.5007 | 0.0000 |  |  |
| item*region1 | coconut, 3 | 0 | 0.0000 | 0.0000 |  |  |
| item*region1 | father_X, 1 | 1 | -0.2178 | 68027.4413 | 0.0000 | 1.0000 |
| item*region1 | father_X, 2 | 0 | 24.2567 | 0.0000 |  |  |
| item*region1 | father_X, 3 | 0 | 0.0000 | 0.0000 |  |  |
| item*region1 | gang_gan, 1 | 1 | 24.7536 | 0.6365 | 1512.5763 | 0.0001 |
| item*region1 | gang_gan, 2 | 0 | 23.6078 | 0.0000 |  |  |
| item*region1 | gang_gan, 3 | 0 | 0.0000 | 0.0000 |  |  |
| item*region1 | ink_pink, 1 | 1 | 24.2677 | 0.8621 | 792.3624 | 0.0001 |
| item*region1 | ink_pink, 2 | 0 | 23.0298 | 0.0000 |  |  |
| item*region1 | ink_pink, 3 | 0 | 0.0000 | 0.0000 |  |  |
| item*region1 | potato, 1 | 1 | -2.6618 | 1.2056 | 4.8750 | 0.0272 |
| item*region1 | potato, 2 | 1 | -1.0758 | 0.7706 | 1.9489 | 0.1627 |
| item*region1 | potato, 3 | 0 | 0.0000 | 0.0000 |  |  |
| item*region1 | pud_plum, 1 | 1 | 23.4300 | 0.7057 | 1102.2235 | 0.0001 |
| item*region1 | pud_plum, 2 | 0 | 24.4819 | 0.0000 |  |  |
| item*region1 | pud_plum, 3 | 0 | 0.0000 | 0.0000 |  |  |
| item*region1 | the_sky, 1 | 1 | 25.9973 | 0.7732 | 1130.4241 | 0.0001 |
| item*region1 | the_sky, 2 | 0 | 22.7693 | 0.0000 |  |  |
| item*region1 | the_sky, 3 | 0 | 0.0000 | 0.0000 |  |  |
| item*region1 | twenty_o, 1 | 1 | 24.6833 | 0.5612 | 1934.4837 | 0.0001 |
| item*region1 | twenty_o, 2 | 0 | 24.1001 | 0.0000 |  |  |
| item*region1 | twenty_o, 3 | 0 | 0.0000 | 0.0000 |  |  |
| decile*item | Ickle_oc | 1 | 0.1560 | 0.0995 | 2.4587 | 0.1169 |


| decile*item | blackf | 1 | 0.1287 | 0.1389 | 0.8595 | 0.3539 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| decile*item | coconut | 1 | 0.3167 | 0.1862 | 2.8929 | 0.0890 |
| decile*item | father_X | 1 | -0.2978 | 0.1594 | 3.4915 | 0.0617 |
| decile*item | gang_gan | 1 | -0.2726 | 0.1188 | 5.2662 | $\mathbf{0 . 0 2 1 7}$ |
| decile*item | ink_pink | 1 | -0.6615 | 0.2264 | 8.5337 | $\mathbf{0 . 0 0 3 5}$ |
| decile*item | potato | 1 | 0.0840 | 0.1240 | 0.4594 | 0.4979 |
| decile*item | pud_plum | 1 | -0.0504 | 0.1108 | 0.2072 | 0.6490 |
| decile*item | the_sky | 1 | -0.0681 | 0.0941 | 0.5242 | 0.4690 |
| decile*item | twenty_o | 1 | 0.1482 | 0.1053 | 1.9801 | 0.1594 |
| scale | 0 | 1.0 | 0.0000 | . | . |  |

Counting Out Rhymes by Main Region, Excluding Southern Region

| parameter |  | DF | Est | Std Err | ChiSq | Pr>Chi |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| intercept | 0 | 0.00 | 0.0000 |  |  |  |
| item | Ickle_oc | 1 | -2.9178 | 0.5133 | 32.3072 | 0.0001 |
| item | blackf | 1 | -2.3168 | 0.3962 | 34.2001 | 0.0001 |
| item | coconut | 1 | -3.6376 | 0.7164 | 25.7855 | 0.0001 |
| item | father_X | 1 | -2.3168 | 0.3962 | 34.2001 | 0.0001 |
| item | gang_gan | 1 | -2.9178 | 0.5133 | 32.3072 | 0.0001 |
| item | ink_pink | 1 | -3.6376 | 0.7164 | 25.7855 | 0.0001 |
| item | potato | 1 | -2.3168 | 0.3962 | 34.2001 | 0.0001 |
| item | pud_plum | 1 | -1.9169 | 0.3387 | 32.0349 | 0.0001 |
| item | the_sky | 1 | -3.6376 | 0.7164 | 25.7855 | 0.0001 |
| item | twenty_o | 1 | -2.1691 | 0.3732 | 33.7780 | 0.0001 |
| item*region1 | Ickle_oc, 1 | 1 | 1.9768 | 0.5919 | 11.1520 | 0.0008 |
| item*region1 | Ickle_oc, 2 | 0 | 0.0000 | 0.0000 |  |  |
| item*region1 | blackf, 1 | 1 | -0.9974 | 0.8217 | 1.4736 | 0.2248 |
| item*region1 | blackf, 2 | 0 | 0.0000 | 0.0000 |  |  |
| item*region1 | coconut, 1 | 1 | 1.0536 | 0.8843 | 1.4195 | 0.2335 |
| item*region1 | coconut, 2 | 0 | 0.0000 | 0.0000 |  |  |
| item*region1 | father_X, 1 | 1 | -23.0486 | 42665.0695 | 0.0000 | 0.9996 |
| item*region1 | father_X, 2 | 0 | 0.0000 | 0.0000 |  |  |
| item*region1 | gang_gan, 1 | 1 | 1.4870 | 0.6133 | 5.8784 | 0.0153 |
| item*region1 | gang_gan, 2 | 0 | 0.0000 | 0.0000 |  |  |
| item*region1 | ink_pink, 1 | 1 | 1.8252 | 0.8115 | 5.0585 | 0.0245 |
| item*region1 | ink_pink, 2 | 0 | 0.0000 | 0.0000 |  |  |
| item*region1 | potato, 1 | 1 | -1.7086 | 1.0839 | 2.4849 | 0.1149 |
| item*region1 | potato, 2 | 0 | 0.0000 | 0.0000 |  |  |
| item*region1 | pud_plum, 1 | 1 | -0.9734 | 0.6831 | 2.0311 | 0.1541 |
| item*region1 | pud_plum, 2 | 0 | 0.0000 | 0.0000 |  |  |
| item*region1 | the_sky, 1 | 1 | 3.3191 | 0.7649 | 18.8278 | 0.0001 |
| item*region1 | the_sky, 2 | 0 | 0.0000 | 0.0000 |  |  |
| item*region1 | twenty_o, 1 | 1 | 0.3567 | 0.5336 | 0.4469 | 0.5038 |
| item*region1 | twenty_o, 2 | 0 | 0.0000 | 0.0000 |  |  |
| scale | 0 | 1.00 | 0.0000 |  | . |  |

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

| parameter |  | DF | Estimate | Std Err | ChiSquare | Pr>Chi |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| item | Ickle_oc | 1 | -27.3650 | 0.5986 | 2089.7934 | 0.0001 |
| item | blackf | 1 | -27.3653 | 0.4226 | 4193.6209 | 0.0001 |
| item | coconut | 1 | -27.3653 | 0.7282 | 1412.1356 | 0.0001 |
| item | father_X | 1 | -27.3653 | 1.0118 | 731.4431 | 0.0001 |
| item | gang_gan | 1 | -27.3653 | 0.5313 | 2653.1073 | 0.0001 |
| item | ink_pink | 1 | -27.3653 | 0.7282 | 1412.1347 | 0.0001 |
| item | potato | 1 | -1.2993 | 0.6513 | 3.9792 | 0.0461 |
| item | pud_plum | 1 | -27.3653 | 0.5250 | 2716.7949 | 0.0001 |
| item | the_sky | 1 | -27.3653 | 0.7282 | 1412.1347 | 0.0001 |
| item | twenty_o | 1 | -27.3657 | 0.7241 | 1428.1044 | 0.0001 |
| item*island | Ickle_oc, 1 | 1 | -0.9361 | 1.1780 | 0.6314 | 0.4268 |
| item*island | Ickle_oc, 2 | 0 | 0.0000 | 0.0000 | . | . |
| item*island | blackf, 1 | 0 | 25.9790 | 0.0000 | . |  |
| item*island | blackf, 2 | 0 | 0.0000 | 0.0000 | . |  |
| item*island | coconut, 1 | 0 | 24.5619 | 0.0000 | . | . |
| item*island | coconut, 2 | 0 | 0.0000 | 0.0000 |  |  |
| item*island | father_X, 1 | 1 | 2.1621 | 1.1068 | 3.8163 | 0.0508 |
| item*island | father_X, 2 | 0 | 0.0000 | 0.0000 | . | . |
| item*island | gang_gan, 1 | 0 | 25.3176 | 0.0000 |  |  |
| item*island | gang_gan, 2 | 0 | 0.0000 | 0.0000 | . | . |
| item*island | ink_pink, 1 | 0 | 24.5620 | 0.0000 | . | . |
| item*island | ink_pink, 2 | 0 | 0.0000 | 0.0000 |  |  |
| item*island | potato, 1 | 1 | -1.7072 | 1.1059 | 2.3829 | 0.1227 |
| item*island | potato, 2 | 0 | 0.0000 | 0.0000 | . | . |
| item*island | pud_plum, 1 | 1 | 0.7017 | 0.6905 | 1.0328 | 0.3095 |
| item*island | pud_plum, 2 | 0 | 0.0000 | 0.0000 | . | . |
| item*island | the_sky, 1 | 0 | 24.5619 | 0.0000 | . | . |
| item*island | the_sky, 2 | 0 | 0.0000 | 0.0000 | . |  |
| item*island | twenty_o, 1 | 1 | 1.4449 | 0.8518 | 2.8774 | 0.0898 |
| item*island | twenty_o, 2 | 0 | 0.0000 | 0.0000 |  |  |
| item*region1 | Ickle_oc, 1 | 1 | 27.3601 | 1.0566 | 670.5847 | 0.0001 |
| item*region1 | Ickle_oc, 2 | 0 | 24.7747 | 0.0000 | . | . |
| item*region1 | Ickle_oc, 3 | 0 | 0.0000 | 0.0000 | . | . |
| item*region1 | blackf, 1 | 1 | -1.9279 | 0.8347 | 5.3344 | 0.0209 |
| item*region 1 | blackf, 2 | 0 | 0.0000 | 0.0000 | . | . |
| item*region1 | blackf, 3 | 0 | 0.0000 | 0.0000 | . | . |
| item*region 1 | coconut, 1 | 1 | 0.2194 | 0.8940 | 0.0602 | 0.8062 |
| item*region1 | coconut, 2 | 0 | -0.0000 | 0.0000 | . | . |
| item*region1 | coconut, 3 | 0 | 0.0000 | 0.0000 | . |  |
| item*region1 | father_X, 1 | 1 | -2.1622 | 115975.683 | 0.0000 | 1.0000 |
| item*region1 | father_X, 2 | 0 | 23.6276 | 0.0000 | . | . |


| item*region1 | father_X, 3 | 0 | 0.0000 | 0.0000 |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| item*region1 | gang_gan, 1 | 1 | 0.6170 | 0.6284 | 0.9639 | 0.3262 |
| item*region1 | gang_gan, 2 | 0 | 0.0000 | 0.0000 |  |  |
| item*region1 | gang_gan, 3 | 0 | 0.0000 | 0.0000 |  |  |
| item*region1 | ink_pink, 1 | 1 | 0.9910 | 0.8220 | 1.4533 | 0.2280 |
| item*region1 | ink_pink, 2 | 0 | -0.0000 | 0.0000 |  |  |
| item*region1 | ink_pink, 3 | 0 | 0.0000 | 0.0000 |  |  |
| item*region1 | potato, 1 | 1 | -1.0189 | 1.6325 | 0.3895 | 0.5326 |
| item*region1 | potato, 2 | 1 | -0.5199 | 0.7861 | 0.4374 | 0.5084 |
| item*region1 | potato, 3 | 0 | 0.0000 | 0.0000 |  |  |
| item*region1 | pud_plum, 1 | 1 | 23.7732 | 0.7436 | 1021.9964 | 0.0001 |
| item*region1 | pud_plum, 2 | 0 | 25.0880 | 0.0000 |  |  |
| item*region1 | pud_plum, 3 | 0 | 0.0000 | 0.0000 |  |  |
| item*region1 | the_sky, 1 | 1 | 2.4849 | 0.7761 | 10.2523 | 0.0014 |
| item*region1 | the_sky, 2 | 0 | -0.0000 | 0.0000 |  |  |
| item*region1 | the_sky, 3 | 0 | 0.0000 | 0.0000 |  |  |
| item*region1 | twenty_o, 1 | 1 | 24.1085 | 0.5887 | 1677.1202 | 0.0001 |
| item*region1 | twenty_o, 2 | 0 | 24.3453 | 0.0000 |  |  |
| item*region1 | twenty_o, 3 | 0 | 0.0000 | 0.0000 |  |  |
| scale | 0 | 1.0 | 0.0000 |  | . |  |

Counting-out Rhymes by Catholic and Urban/Rural Model 2 (no sig. figs. Model 1)
Analysis Of Initial Parameter Estimates

| parameter |  | DF | Est | Std Err | ChiSq | Pr>Chi |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| intercept | 0 | 0.0 | 0.0000 | . | . |  |
| item | Ickle_oc | 1 | -2.5769 | 1.0404 | 6.1341 | 0.0133 |
| item | blackf | 1 | -1.0601 | 0.6691 | 2.5103 | 0.1131 |
| item | coconut | 1 | -2.3650 | 1.0457 | 5.1153 | 0.0237 |
| item | father_X | 1 | -24.4008 | 0.7234 | 1137.8783 | 0.0001 |
| item | gang_gan | 1 | -2.5267 | 1.0409 | 5.8927 | 0.0152 |
| item | ink_pink | 1 | -3.1456 | 1.1299 | 7.7497 | 0.0054 |
| item | potato | 1 | -2.6403 | 1.0507 | 6.3143 | 0.0120 |
| item | pud_plum | 1 | -1.9827 | 0.7832 | 6.4092 | 0.0114 |
| item | the_sky | 1 | -2.8282 | 1.0492 | 7.2667 | 0.0070 |
| item | twenty_o | 1 | -2.4150 | 1.0420 | 5.3713 | 0.0205 |
| item*catholic | Ickle_oc, 1 | 1 | 1.0789 | 1.0784 | 1.0010 | 0.3171 |
| item*catholic | Ickle_oc, 2 | 0 | 0.0000 | 0.0000 | . | . |
| item*catholic | blackf, 1 | 1 | -1.2215 | 0.8198 | 2.2202 | 0.1362 |
| item*catholic | blackf, 2 | 0 | 0.0000 | 0.0000 | . | . |
| item*catholic $^{\text {coconut, } 1}$ | 1 | 0.0529 | 1.1536 | 0.0021 | 0.9635 |  |
| item*catholic | coconut, 2 | 0 | 0.0000 | 0.0000 | . | . |
| item*catholic | father_X, 1 | 0 | 21.3328 | 0.0000 | . | . |
| item* $^{*}$ catholic | father_X, 2 | 0 | 0.0000 | 0.0000 | . | . |
| item*catholic | gang_gan, 1 | 1 | 0.8662 | 1.0884 | 0.6334 | 0.4261 |


| item*catholic | gang_gan, 2 | 0 | 0.0000 | 0.0000 | . | . |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| item*catholic | ink_pink, 1 | 1 | -0.1904 | 1.1245 | 0.0287 | 0.8656 |
| item*catholic | ink_pink, 2 | 0 | 0.0000 | 0.0000 | . | . |
| item*catholic | potato, 1 | 1 | 0.0931 | 1.1198 | 0.0069 | 0.9337 |
| item*catholic | potato, 2 | 0 | 0.0000 | 0.0000 | . | . |
| item*catholic | pud_plum, 1 | 1 | -0.4391 | 0.8447 | 0.2702 | 0.6032 |
| item*catholic | pud_plum, 2 | 0 | 0.0000 | 0.0000 | . | . |
| item*catholic | the_sky, 1 | 1 | 1.2004 | 1.0677 | 1.2641 | 0.2609 |
| item*catholic | the_sky, 2 | 0 | 0.0000 | 0.0000 | . | . |
| item*catholic | twenty_o, 1 | 1 | 1.1747 | 1.0892 | 1.1631 | 0.2808 |
| item*catholic | twenty_o, 2 | 0 | 0.0000 | 0.0000 | . | . |
| item*urb_rur | Ickle_oc, 1 | 1 | -0.4878 | 0.5040 | 0.9368 | 0.3331 |
| item*urb_rur | Ickle_oc, 2 | 0 | 0.0000 | 0.0000 | . | . |
| item*urb_rur | blackf, 1 | 1 | -2.2885 | 1.0995 | 4.3325 | $\mathbf{0 . 0 3 7 4}$ |
| item*urb_rur | blackf, 2 | 0 | 0.0000 | 0.0000 | . | . |
| item*urb_rur | coconut, 1 | 1 | -2.1275 | 1.1204 | 3.6054 | 0.0576 |
| item*urb_rur | coconut, 2 | 0 | 0.0000 | 0.0000 | . | . |
| item*urb_rur | father_X, 1 | 1 | 0.1105 | 0.8867 | 0.0155 | 0.9008 |
| item*urb_rur | father_X, 2 | 0 | 0.0000 | 0.0000 | . | . |
| item*urb_rur | gang_gan, 1 | 1 | -0.7270 | 0.5578 | 1.6987 | 0.1925 |
| item*urb_rur | gang_gan, 2 | 0 | 0.0000 | 0.0000 | . | . |
| item*urb_rur | ink_pink, 1 | 1 | 1.0468 | 0.8296 | 1.5920 | 0.2070 |
| item*urb_rur | ink_pink, 2 | 0 | 0.0000 | 0.0000 | . | . |
| item*urb_rur | potato, 1 | 1 | -0.2326 | 0.7092 | 0.1075 | 0.7430 |
| item*urb_rur | potato, 2 | 0 | 0.0000 | 0.0000 | . | . |
| item*urb_rur | pud_plum, 1 | 1 | 0.1144 | 0.6171 | 0.0343 | 0.8530 |
| item*urb_rur | pud_plum, 2 | 0 | 0.0000 | 0.0000 | . | . |
| item*urb_rur | the_sky, 1 | 1 | 0.3472 | 0.4722 | 0.5407 | 0.4621 |
| item*urb_rur | the_sky, 2 | 0 | 0.0000 | 0.0000 | . | . |
| item*urb_rur | twenty_o, 1 | 1 | -1.5020 | 0.5787 | 6.7365 | $\mathbf{0 . 0 0 9 4}$ |
| item*urb_rur | twenty_o, 2 | 0 | 0.0000 | 0.0000 | . | . |
| scale $^{\text {item }}$ | 0 | 1.0 | 0.0000 | . | . |  |

Blackfoot by Catholic in Auckland and Wellington sub-regions only
Analysis Of GEE Parameter Estimates
Empirical Standard Error Estimates - Empirical 95\% Confidence Limits

| parameter |  | Est | Std Err | Lower | Upper | Z | $\operatorname{Pr}>\|\mathrm{Z}\|$ |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| intercept | 0.0000 | . | . | . | . | . |  |
| item | blackf | 0.5935 | 1.0367 | -1.4384 | 2.6255 | 0.5725 | 0.5670 |
| item* catholic | blackf, 1 | -1.9713 | 1.1527 | -4.2306 | 0.2880 | -1.710 | 0.0872 |
| item* catholic | blackf, 2 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| item*region2 | blackf, 3 | -0.9028 | 0.8978 | -2.6624 | 0.8568 | -1.006 | 0.3146 |
| item*region2 | blackf, 6 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| scale | 0.9694 | . | . | . | . | . |  |

Blackfoot by Urban/Rural in Auckland and Wellington sub-regions only
Analysis Of Initial Parameter Estimates

| parameter |  | DF | Estimate | Std Err | ChiSquare | Pr>Chi |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| intercept | 0 | 0.00 | 0.0000 | . | . |  |
| item | blackf | 1 | -0.7885 | 0.5394 | 2.1370 | 0.1438 |
| item*urb_rur | blackf, 1 | 1 | -25.2346 | 183586.180 | 0.0000 | 0.9999 |
| item*urb_rur | blackf, 2 | 0 | 0.0000 | 0.0000 | . | . |
| item*region2 | blackf, 3 | 1 | -1.1575 | 0.9286 | 1.5536 | 0.2126 |
| item*region2 | blackf, 6 | 0 | 0.0000 | 0.0000 | . | . |
| scale | 0 | 1.00 | 0.00 | . | . |  |

21 by Urban/Rural and Island
Analysis Of GEE Parameter Estimates
Empirical Standard Error Estimates - Empirical 95\% Confidence Limits

| parameter |  | Est | Std Err | Lower | Upper | Z | $\operatorname{Pr}>\|\mathrm{Z}\|$ |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| intercept | 0.0000 | . | . | . | . | . |  |
| item | 21 | -2.6219 | 0.7383 | -4.0690 | -1.1749 | -3.551 | 0.0004 |
| item*island | 21,1 | 1.4847 | 0.7876 | -0.0590 | 3.0283 | 1.8851 | 0.0594 |
| item*island | 21,2 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| item*urb_rur | 21,1 | -1.2512 | 0.5765 | -2.3811 | -0.1212 | -2.170 | $\mathbf{0 . 0 3 0 0}$ |
| item*urb_rur | 21,2 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| scale | 1.0258 | . | . | . | . | . |  |

Blackfoot in Sub-regions 3,5, 6 only
Analysis Of Initial Parameter Estimates

| parameter |  | DF | Estimate | Std Err | ChiSquare | Pr>Chi |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| intercept | 0 | 0.00 | 0.0000 | . | . |  |
| item | blackf | 1 | -0.9808 | 0.4787 | 4.1979 | 0.0405 |
| item*region2 | blackf, 3 | 1 | -1.1592 | 0.8877 | 1.7054 | 0.1916 |
| item*region2 | blackf, 5 | 1 | -25.3845 | 153308.595 | 0.0000 | 0.9999 |
| item*region2 | blackf, 6 | 0 | 0.0000 | 0.0000 | . | . |
| scale | 0 | 1.00 | 0.0000 | . | . |  |

Blackfoot by Catholic in Sub-regions 3, 5, 6 only
Analysis Of GEE Parameter Estimates
Empirical Standard Error Estimates - Empirical 95\% Confidence Limits

| parameter |  | Est. | Std Err | Lower | Upper | Z | $\operatorname{Pr}>\|\mathrm{Z}\|$ |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| intercept | 0.0000 | . | . | . | . | . |  |
| item | blackf | -0.0000 | 0.8165 | -1.6003 | 1.6003 | -.0000 | 1.0000 |
| item*cath | blackf, 1 | -2.0794 | 0.9443 | -3.9302 | -0.2287 | -2.202 | $\mathbf{0 . 0 2 7 7}$ |
| item*cath | blackf, 2 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| scale | 1.0000 | . | . | . | . | . |  |

Blackfoot by Urban/Rural in Sub-regions 3, 5, 6 only
Analysis Of Initial Parameter Estimates

| parameter |  | DF | Estimate | Std Err | ChiSquare | Pr>Chi |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| intercept | 0 | 0.00 | 0.0000 | . | . |  |
| item | blackf | 1 | -1.3863 | 0.4226 | 10.7621 | 0.0010 |
| item*urb_rur | blackf, 1 | 1 | -25.9790 | 212363.516 | 0.0000 | 0.9999 |
| item*urb_rur | blackf, 2 | 0 | 0.0000 | 0.0000 | . | . |
| scale | 0 | 1.00 | 0.0000 | . | . |  |

## Ickle ockle in Relevant Sub-Regions only

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

| parameter |  | Est. | Std Err | Lower | Upper | Z | $\operatorname{Pr}>\|\mathrm{Z}\|$ |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| intercept | 0.0000 | . | . | . | . | . |  |
| item | Ickle_oc | -2.1972 | 1.0541 | -4.2632 | -0.1312 | -2.084 | 0.0371 |
| item*reg2 | Ickle_oc, 1 | 2.1972 | 1.3333 | -0.4161 | 4.8105 | 1.6479 | 0.0994 |
| item*reg2 | Ickle_oc, 2 | 1.5041 | 1.3642 | -1.1698 | 4.1779 | 1.1025 | 0.2702 |
| item*reg2 | Ickle_oc, 3 | 2.3026 | 1.1499 | 0.0489 | 4.5563 | 2.0025 | $\mathbf{0 . 0 4 5 2}$ |
| item*reg2 | Ickle_oc, 4 | -1.0217 | 1.4667 | -3.8963 | 1.8530 | -.6966 | 0.4861 |
| item*reg2 | Ickle_oc, 6 | -0.8473 | 1.4693 | -3.7270 | 2.0324 | -.5767 | 0.5642 |
| item*reg2 | Ickle_oc, 7 | 0.9445 | 1.3244 | -1.6513 | 3.5402 | 0.7131 | 0.4758 |
| item*reg2 | Ickle_oc, 10 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| scale | 1.0000 | . | . | . | . | . |  |

Ickle ockle in by Island and Main Region in $\mathbf{N}$ and $\mathbf{C}$ only
Analysis Of GEE Parameter Estimates - Empirical 95\% Confidence Limits

| parameter |  | Est | Std Err | Lower | Upper | Z | $\operatorname{Pr}>\|\mathrm{Z}\|$ |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| intercept | 0.0000 | . | . | . | . | . |  |
| item | Ickle_oc | -2.5903 | 0.5986 | -3.7635 | -1.4170 | -4.327 | 0.0000 |
| item*reg1 | Ickle_oc, 1 | 2.5854 | 1.0566 | 0.5146 | 4.6562 | 2.4470 | $\mathbf{0 . 0 1 4 4}$ |
| item*reg1 | Ickle_oc, 2 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| item*is | Ickle_oc, 1 | -0.9361 | 1.1780 | -3.2450 | 1.3728 | -.7946 | 0.4268 |
| item*is | Ickle_oc, 2 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| scale | 1.0000 | . | . | . | . | . |  |

Ickle ockle in by Island and Main Region, all Regions
Analysis Of Initial Parameter Estimates

| parameter |  | DF | Estimate | Std Err | ChiSquare | Pr>Chi |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| intercept | 0 | 0.00 | 0.0000 | . | . |  |
| item | Ickle_oc | 1 | -26.3653 | 0.5986 | 1939.8902 | 0.0001 |
| item*region1 | Ickle_oc, 1 | 1 | 26.3604 | 1.0566 | 622.4745 | $\mathbf{0 . 0 0 0 1}$ |
| item*region1 | Ickle_oc, 2 | 0 | 23.7750 | 0.0000 | . | . |
| item*region1 | Ickle_oc, 3 | 0 | 0.0000 | 0.0000 | . | . |
| item*island | Ickle_oc, 1 | 1 | -0.9361 | 1.1780 | 0.6314 | 0.4268 |
| item*island | Ickle_oc, 2 | 0 | 0.0000 | 0.0000 | . | . |
| scale | 0 | 1.00 | 0.0000 | . | . |  |

CONTRAST Statement Results

| Contrast | DF | ChiSquare | Pr>Chi | Type |
| :--- | :--- | :--- | :--- | :--- |
| $1-2$ for ickle_oc | 0 | . | . | LR |

GGG by Decile and Main Region in $\mathbf{N}$ and $\mathbf{C}$ only
Analysis Of GEE Parameter Estimates - Empirical Standard Error Estimates

| parameter |  | Est | Std Err | Lower | Upper | Z | $\operatorname{Pr}>\|\mathrm{Z}\|$ |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| intercept | 0.0000 | . | . | . | . | . |  |
| item | gang_gan | -1.3967 | 0.8500 | -3.0626 | 0.2692 | -1.643 | 0.1003 |
| decile*item | gang_gan | -0.2726 | 0.1205 | -0.5088 | -0.0365 | -2.263 | $\mathbf{0 . 0 2 3 6}$ |
| item*region1 | gang_gan, 1 | 1.1459 | 0.6612 | -0.1500 | 2.4418 | 1.7331 | 0.0831 |
| item*region1 | gang_gan, 2 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| scale | 0.9264 | . | . | . | . | . |  |

GGG by Island and Main Region in $\mathbf{N}$ and $\mathbf{C}$ only
Analysis Of Initial Parameter Estimates

| parameter |  | DF | Est. | Std Err | ChiSquare | Pr>Chi |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| intercept | 0 | 0.00 | 0.0000 | . | . |  |
| item | gang_gan | 1 | -27.3653 | 0.5313 | 2653.1095 | 0.0001 |
| item*region1 | gang_gan, 1 | 1 | 0.6169 | 0.6284 | 0.9638 | 0.3262 |
| item*region1 | gang_gan, 2 | 0 | 0.0000 | 0.0000 | . | . |
| item*island | gang_gan, 1 | 0 | 25.3176 | 0.0000 | . | . |
| item*island | gang_gan, 2 | 0 | 0.0000 | 0.0000 | . | . |
| scale | 0 | 1.00 | 0.0000 | . | . |  |

GGG by Island and Decile in N and C only
Analysis Of Initial Parameter Estimates

| parameter |  | DF | Est. | Std Err | ChiSquare | Pr>Chi |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| intercept | 0 | 0.00 | 0.0000 | . | . |  |
| item | gang_gan | 1 | -25.8132 | 0.5431 | 2258.7626 | 0.0001 |
| decile*item | gang_gan | 1 | -0.2450 | 0.1128 | 4.7208 | $\mathbf{0 . 0 2 9 8}$ |


| item*island | gang_gan, 1 | 0 | 25.3241 | 0.0000 | . | . |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| item*island | gang_gan, 2 | 0 | 0.0000 | 0.0000 | . | . |
| scale | 0 | 1.00 | 0.0000 | . | . |  |

Ink pink by Decile and Main Region in $\mathbf{N}$ and C only
Analysis Of GEE Parameter Estimates - Empirical Standard Error Estimates

| parameter |  | Est | Std Err | Lower | Upper | Z | $\operatorname{Pr}>\|\mathrm{Z}\|$ |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| intercept | 0.0000 | . | . | . | . | . |  |
| item | ink_pink | -0.7166 | 1.0905 | -2.8540 | 1.4208 | -.6571 | 0.5111 |
| decile*item | ink_pink | -0.6615 | 0.2139 | -1.0807 | -0.2423 | -3.093 | $\mathbf{0 . 0 0 2 0}$ |
| item*reg1 | ink_pink, <br> 1 | 1.2378 | 0.8784 | -0.4838 | 2.9595 | 1.4092 | 0.1588 |
| item*reg1 | ink_pink, <br> 2 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| scale | 0.7443 | . | . | . | . | . |  |

Ink pink by Island and Main Region in $\mathbf{N}$ and C only
Analysis Of Initial Parameter Estimates

| parameter |  | DF | Estimate | Std Err | ChiSquare | Pr>Chi |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| intercept | 0 | 0.00 | 0.0000 | . | . |  |
| item | ink_pink | 1 | -27.3653 | 0.7282 | 1412.1353 | 0.0001 |
| item*region1 | ink_pink, 1 | 1 | 0.9910 | 0.8220 | 1.4533 | 0.2280 |
| item*region1 | ink_pink, 2 | 0 | 0.0000 | 0.0000 | . | . |
| item*island | ink_pink, 1 | 0 | 24.5619 | 0.0000 | . | . |
| item*island | ink_pink, 2 | 0 | 0.0000 | 0.0000 | . | . |
| scale | 0 | 1.00 | 0.0000 | . | . |  |

Ink pink by Island and Decile in N and C only

| parameter |  | DF | Estimate | Std Err | ChiSquare | Pr>Chi |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| intercept | 0 | 0.00 | 0.0000 | . | . |  |
| item | ink_pink | 1 | -24.9537 | 0.6753 | 1365.5254 | 0.0001 |
| decile*item | ink_pink | 1 | -0.6055 | 0.2147 | 7.9577 | $\mathbf{0 . 0 0 4 8}$ |
| item*island | ink_pink, 1 | 0 | 25.1171 | 0.0000 | . | . |
| item*island | ink_pink, 2 | 0 | 0.0000 | 0.0000 | . | . |
| scale | 0 | 1.00 | 0.0000 | . | . |  |

The Sky is Blue by Decile and Main Region in N and C only

| parameter |  | Est | Std Err | Lower | Upper | Z | $\operatorname{Pr}>\|\mathrm{Z}\|$ |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| intercept | 0.0000 | . | . | . | . | . |  |
| item | the_sky | -3.2145 | 0.9670 | -5.1098 | -1.3192 | -3.324 | 0.0009 |
| decile*item | the_sky | -0.0681 | 0.0953 | -0.2549 | 0.1187 | -.7150 | 0.4746 |
| item*reg1 | the_sky, 1 | 3.2280 | 0.7846 | 1.6902 | 4.7657 | 4.1143 | 0.0000 |
| item*reg1 | the_sky, 2 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| scale | 0.9840 | . | . | . | . | . |  |

The Sky is Blue by Island and Main Region in $\mathbf{N}$ and C only Analysis Of Initial Parameter Estimates

| parameter |  | DF | Estimate | Std Err | ChiSquare | Pr>Chi |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| intercept | 0 | 0.00 | 0.0000 | . | . |  |
| item | the_sky | 1 | -27.3653 | 0.7282 | 1412.1353 | 0.0001 |
| item*region1 | the_sky, 1 | 1 | 2.4849 | 0.7761 | 10.2524 | $\mathbf{0 . 0 0 1 4}$ |
| item*region1 | the_sky, 2 | 0 | 0.0000 | 0.0000 | . | . |
| item*island | the_sky, 1 | 0 | 24.5619 | 0.0000 | . | . |
| item*island | the_sky, 2 | 0 | 0.0000 | 0.0000 | . | . |
| scale | 0 | 1.00 | 0.0000 | . | . |  |

The Sky is Blue by Island and Decile in $\mathbf{N}$ and C only
Analysis Of Initial Parameter Estimates

| parameter |  | DF | Estimate | Std Err | ChiSquare | Pr>Chi |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| intercept | 0 | 0.00 | 0.0000 | . | . |  |
| item | the_sky | 1 | -26.6772 | 0.4722 | 3192.2203 | 0.0001 |
| decile*item | the_sky | 1 | -0.1042 | 0.0827 | 1.5886 | 0.2075 |
| item*island | the_sky, 1 | 0 | 26.2822 | 0.0000 | . | . |
| item*island | the_sky, 2 | 0 | 0.0000 | 0.0000 | . | . |
| scale | 0 | 1.00 | 0.0000 | . | . |  |

