STAT 457 Delinquency Problem

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Is delinquency related to birth order?

Table 1: Row Proportion

	Oldest	In-between	Youngest	Only Child	Total
Most Delinquent	127	123	93	17	360
Least Delinquent	345	209	158	65	777
Difference (Most - Least)	-218	-86	-65	-48	-417

Table 2: Difference in Proportion for Oldest : Most Delinquent - Least Delinquent

Iterations	10000	100000	1000000
Mean	-0.19159	-0.19171	-0.19172
95% CI	(-0.22681, -0.15648)	(-0.22731, -0.15591)	(-0.22735, -0.15587)
P(diff>0)	0	0	0

Table 3: Difference in Proportion for In-Between : Most Delinquent - Least Delinquent

Iterations	10000	100000	1000000
Mean	-0.07588	-0.07571	-0.07564
95% CI	(-0.10704, -0.04338)	(-0.10681, -0.04460)	(-0.10676, -0.04456)
P(diff>0)	0	0	0

Table 4: Difference in Proportion for Youngest : Most Delinquent - Least Delinquent

Iterations	10000	100000	1000000
Mean	-0.05724	-0.05720	-0.05717
95% CI	(-0.08396, -0.03031)	(-0.08417, -0.03039)	(-0.08434, -0.03016)
P(diff>0)	0	1e-05	1e-05

Table 5: Difference in Proportion for Only : Most Delinquent - Least Delinquent

Iterations	10000	100000	1000000
Mean	-0.04229	-0.04220	-0.04222
95% CI	(-0.05805, -0.02735)	(-0.05800, -0.02720)	(-0.05805, -0.02718)
P(diff>0)	0	0	0

```
##                   [,1]      [,2]      [,3]
## Iterations       "10000"   "1e+05"   "1e+06"
## Combined p-value "1.00000" "1.00000" "1.00000"
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There is evidence that birth order has an effect on delinquency rates. There may be an argument that younger brothers are more delinquent, but my younger brother is not a delinquent (anecdotal evidence!).