

S12 - 3.11 - Sample Means/Variiances/Proportions

Boy Mike
 Girl Anna
 Girl Barbara
 Girl Chris

Choose 2 w/replacement

List 16 Possibilities

(M, M) (A, A) (B, B) (C, C)
 (M, A) (A, M) (B, M) (C, M)
 (M, B) (A, B) (B, A) (C, A)
 (M, C) (A, C) (B, C) (C, B)

\bar{p} of G's	$p(\bar{p})$	$\bar{p}p(\bar{p})$
0	1/16	0
0.5	6/16	0.1875
1	9/16	0.5625
		$\mu = 0.75$

Sample distribution of mean of females

$$\bar{p} = \frac{3}{4} = 0.75$$

Sample distribution of proportion of females

Assassinated Presidents
 Lincoln (56)
 Garfield (49)
 McKinley (58)
 Kennedy (46)

Choose 2 w/replacement

List 16 Possibilities

$(56,56)$ $(49,49)$ $(58,58)$ $(46,46)$
 $(56,49)$ $(49,56)$ $(58,56)$ $(46,56)$
 $(56,58)$ $(49,58)$ $(58,49)$ $(46,49)$
 $(56,46)$ $(49,46)$ $(58,46)$ $(46,58)$

\bar{x} = Age	$p(\bar{x})$	$xp(x)$
46	1/16	2.875
47.5	2/16	5.9375
49	1/16	3.0625
51	2/16	6.375
52	2/16	6.5
52.5	2/16	6.5625
53.5	2/16	6.6875
56	1/16	3.5
57	2/16	7.125
58	1/16	3.625
		$\mu = 52.25$

Sample distribution of mean of ages

$$\mu = \frac{56 + 49 + 58 + 46}{4} = 52.25$$