

Type	Mean	Variance
rs-fMRI ( $\mathbf{d}_{\text{ROI}}^*$ )	$\frac{2p(p-1)}{\sqrt{\pi(p-3)}}$	$\frac{4(\pi-2)p(p-1)}{\pi(p-3)}$
rs-fMRI ( $\mathbf{d}_{\text{ROI}}$ )	<div> <math display="block">\frac{2p(p-1)}{\mu(m,p)\sqrt{\pi(p-3)}}</math> </div> <div>           where <math>\mu(m,p) = \frac{1}{\sqrt{p-3}}\Phi^{-1}\left(1 - \frac{1}{m(p-1)}\right)</math> </div>	<div> <math display="block">\frac{2[6(p-3)\mu^2(m,p)\log[m(p-1)](\pi-2) - \pi^2]p(p-1)}{\pi(p-3)\mu^2(m,p)(\pi^2 + 12(p-3)\mu^2(m,p)\log[m(p-1)])}</math> </div> <div>           where <math>\mu(m,p) = \frac{1}{\sqrt{p-3}}\Phi^{-1}\left(1 - \frac{1}{m(p-1)}\right)</math> </div>
GWAS ( $\mathbf{d}_{\text{GM}}$ )	<div> <math display="block">2 \sum_{a=1}^p F(a)</math> </div> <div>           where  <math>F(a) = [2(1-f_a)^3f_a + 2f_a^3(1-f_a) + (1-f_a)^2f_a^2]</math>,            and <math>f_a</math> is the probability of a minor allele at locus <math>a</math>.         </div>	<div> <math display="block">2 \sum_{a=1}^p F(a)[1 - 2F(a)]</math> </div> <div>           where  <math>F(a) = [2(1-f_a)^3f_a + 2f_a^3(1-f_a) + (1-f_a)^2f_a^2]</math>,            and <math>f_a</math> is the probability of a minor allele at locus <math>a</math>.         </div>
GWAS ( $\mathbf{d}_{\text{AM}}$ )	<div> <math display="block">2 \sum_{a=1}^p F(a)</math> </div> <div>           where  <math>F(a) = [(1-f_a)^3f_a + f_a^3(1-f_a) + (1-f_a)^2f_a^2]</math>,            and <math>f_a</math> is the probability of a minor allele at locus <math>a</math>.         </div>	<div> <math display="block">\sum_{a=1}^p [G(a) - 4F^2(a)]</math> </div> <div>           where  <math>F(a) = [(1-f_a)^3f_a + f_a^3(1-f_a) + f_a^3(1-f_a) + (1-f_a)^2f_a^2]</math>,  <math>G(a) = [(1-f_a)^3f_a + f_a^3(1-f_a) + 2(1-f_a)^2f_a^2]</math>,            and <math>f_a</math> is the probability of a minor allele at locus <math>a</math>.         </div>
GWAS ( $\mathbf{d}_{\text{TYT}_{\text{V}}}$ )	<div> <math display="block">(\gamma_0 + \gamma_2 + 2\gamma_1) \sum_{a=1}^p F(a) + \left[\frac{3}{2}(\gamma_0 + \gamma_2) + 2\gamma_1\right] \sum_{a=1}^p G(a)</math> </div> <div>           where  <math>F(a) = [(1-f_a)^3f_a + f_a^3(1-f_a)]</math> and <math>G(a) = (1-f_a)^2f_a^2</math>,  <math>f_a</math> is the probability of a minor allele at locus <math>a</math>, and <math>\gamma_0, \gamma_1</math>,            and <math>\gamma_2</math> are probabilities of PuPu, PuPy, and PyPy,            respectively, at locus <math>a</math>.         </div>	<div> <math display="block">\left[\frac{1}{4}(\gamma_0 + \gamma_2) + \gamma_1\right] \sum_{a=1}^p F(a) + \left[\frac{9}{8}(\gamma_0 + \gamma_2) + 2\gamma_1\right] \sum_{a=1}^p G(a) + \sum_{a=1}^p \left[(\gamma_0 + \gamma_2 + 2\gamma_1)F(a) + \left[\frac{3}{2}(\gamma_0 + \gamma_2) + 2\gamma_1\right]G(a)\right]^2</math> </div> <div>           where  <math>F(a) = [(1-f_a)^3f_a + f_a^3(1-f_a)]</math> and <math>G(a) = (1-f_a)^2f_a^2</math>,  <math>f_a</math> is the probability of a minor allele at locus <math>a</math>, and <math>\gamma_0, \gamma_1</math>,            and <math>\gamma_2</math> are probabilities of PuPu, PuPy, and PyPy,            respectively, at locus <math>a</math>.         </div>