

GWAS-Metric	Stat	Formula (Eq. #)
GM (Eq. 110)	mean	$2 \sum_{a \in \mathcal{A}} F^{\text{GM}}(a) \quad (114)$ <p>where $F^{\text{GM}}(a) = 2(1 - f_a)^3 f_a + 2f_a^3(1 - f_a) + (1 - f_a)^2 f_a^2$</p>
	variance	$2 \sum_{a \in \mathcal{A}} F^{\text{GM}}(a)[1 - 2F^{\text{GM}}(a)] \quad (116)$ <p>where $F^{\text{GM}}(a) = 2(1 - f_a)^3 f_a + 2f_a^3(1 - f_a) + (1 - f_a)^2 f_a^2$</p>
AM (Eq. 111)	mean	$2 \sum_{a \in \mathcal{A}} F^{\text{AM}}(a) \quad (119)$ <p>where $F^{\text{AM}}(a) = (1 - f_a)^3 f_a + f_a^3(1 - f_a) + (1 - f_a)^2 f_a^2$</p>
	variance	$\sum_{a \in \mathcal{A}} \left[G^{\text{AM}}(a) - 4 \left(F^{\text{AM}}(a) \right)^2 \right] \quad (121)$ <p>where $F^{\text{AM}}(a) = (1 - f_a)^3 f_a + f_a^3(1 - f_a) + (1 - f_a)^2 f_a^2$ and $G^{\text{AM}}(a) = (1 - f_a)^3 f_a + f_a^3(1 - f_a) + 2(1 - f_a)^2 f_a^2$</p>
TiTv (Eq. 112)	mean	$(\gamma_0 + \gamma_2 + 2\gamma_1) \sum_{a \in \mathcal{A}} F^{\text{TiTv}}(a) + \left[\frac{3}{2}(\gamma_0 + \gamma_2) + 2\gamma_1 \right] \sum_{a \in \mathcal{A}} G^{\text{TiTv}}(a) \quad (135)$ <p>where $F^{\text{TiTv}}(a) = (1 - f_a)^3 f_a + f_a^3(1 - f_a)$ and $G^{\text{TiTv}}(a) = (1 - f_a)^2 f_a^2$</p>
	variance	$\left[\frac{1}{4}(\gamma_0 + \gamma_2) + \gamma_1 \right] \sum_{a \in \mathcal{A}} F^{\text{TiTv}}(a) + \left[\frac{9}{8}(\gamma_0 + \gamma_2) + 2\gamma_1 \right] \sum_{a \in \mathcal{A}} G^{\text{TiTv}}(a) + \sum_{a \in \mathcal{A}} \left([\gamma_0 + \gamma_2 + 2\gamma_1] F^{\text{TiTv}}(a) + \left[\frac{3}{2}(\gamma_0 + \gamma_2) + 2\gamma_1 \right] G^{\text{TiTv}}(a) \right)^2 \quad (137)$ <p>where $F^{\text{TiTv}}(a) = (1 - f_a)^3 f_a + f_a^3(1 - f_a)$ and $G^{\text{TiTv}}(a) = (1 - f_a)^2 f_a^2$</p>