$$\text{var}(u) = \text{var}(L \cdot m)$$
$$= L \cdot \text{var}(m) \cdot L^T$$

with $\text{var}(m)$ being a diagonal matrix D with diagonal elements

$$\sigma_u^2 \cdot (D)_{ii} = \text{var}(m_i) = \begin{cases} \left(\frac{1}{2} - \frac{1}{4}(F_s, E_d)\right)\sigma_u^2 & (1) \\ \left(\frac{3}{4} - \frac{1}{4}F_s\right)\sigma_u^2 & (2) \\ \sigma_u^2 & (3) \end{cases}$$

where (1): both parents known
(2): only one parent s is known
(3): no parents known

$$\Rightarrow \text{var}(u) = L \cdot D\sigma_u^2 L^T \quad \text{where } \sigma_u^2 D = \text{var}(m)$$
$$= \underbrace{L \cdot D \cdot L^T} \cdot \sigma_u^2$$
$$= A \cdot \sigma_u^2$$