$$p(e_i, a_i \mid \mathbf{f}, m) = \frac{1}{1 + n} p(e_i \mid f_{a_i})$$

$$p(\mathbf{e}, \mathbf{a} \mid \mathbf{f}, m) = \prod_{i=1}^{m} p(e_i, a_i \mid \mathbf{f}, m)$$