Principal Component Analysis
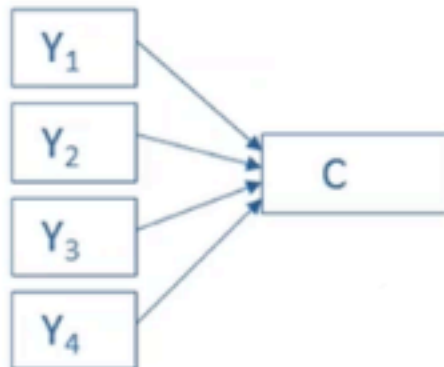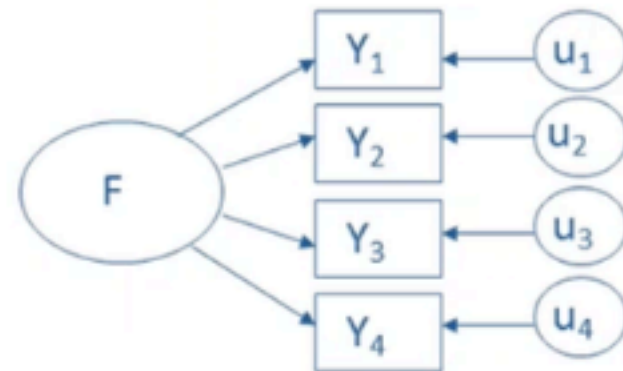
$$C = w_1(Y_1) + w_2(Y_2) + w_3(Y_3) + w_4(X_4)$$

Factor Analysis

$$Y_1 = b_1*F + u_1$$
$$Y_2 = b_2*F + u_2$$
$$Y_3 = b_3*F + u_3$$
$$Y_4 = b_4*F + u_4$$