Abstract A linear 50/50 beamsplitter, together with a coincidence measurement, has been widely used in quantum optical experiments, such as teleportation, dense coding, etc., for interferometrically distinguishing, measuring, or projecting onto one of the four two-photon polarization Bell-states $|\psi^-(\rangle)$. In this paper, we demonstrate that the coincidence measurement at the output of a beamsplitter cannot be used as an absolute identifier of the input state $|\psi^-(\rangle)$ nor as an indication that the input photons have projected to the $|\psi^-(\rangle)$ state.