

Call-back of nonrespondents is common in surveys involving telephone or mail interviews. In general, these call-backs gather information on unobserved responses, so incorporating them can improve the estimation accuracy and efficiency. Call-back studies mainly focus on Alho (1990)'s selection model or the pattern mixture model formulation. In this paper, we generalize the celebrated Heckman selection model to nonignorable nonresponses using call-back information. The unknown parameters are then estimated by the maximum likelihood method. The proposed formulation is simpler than Alho's selection model or the pattern mixture model formulation. It can correct the bias caused by the nonignorable missing mechanism and improve the estimation efficiency by incorporating the call-back information. Further, it provides a marginal interpretation of a covariate effect. Moreover, the regression coefficient of interest is robust to the misspecification of the distribution. Simulation studies are conducted to evaluate the performance of the proposed method. For illustration, we apply the approach to National Health Interview Survey data.