

The last 3 rows show summary statistics for variables observed after randomization. It is interesting to note that 13% of the fathers in the control group were nevertheless able to participate in JTPA services compared to 3% for the entire control group. The mean time to employment also seems to be about 30 days shorter for the individuals assigned to the treatment group compared to the control group. The censoring rate is similar for both groups. Figure 2 in Section D of the supplementary information plots a histogram of the observed follow-up time Y , where darker shading indicates a higher censoring rate. A lot of the censored observations are around the 600 days mark, at which time most of the first follow-up interviews took place. Since everyone in the sample participated in the first follow-up interview, an observation before the date of the first follow-up survey cannot be censored.

The results of applying the two-step estimator (using a logit model for Z), compared to other estimators, can be found in Table 2. The naive estimator, which does not treat Z as a confounded variable, seems to underestimate the effect of JTPA services on time until employment compared to the independent and proposed two-step estimator. At a 5% significance level, only the naive estimator finds a significant effect of JTPA training reducing time until employment. Moreover, the two-step estimate is almost twice the naive estimate which indicates that the individuals participating in the treatment are those with a lower ability to find employment. The independent estimator, which assumes independent censoring, has very similar results to the two-step estimator. This can be explained by the correlation estimate not being significantly different from 0 for the two-step estimator. Note that the naive estimator does estimate a significant negative correlation. Age seems to be significant for the naive and two-step estimator, while marriage status is significant for the naive and independent estimator. Being older seems to increase time until employment, while being married reduces it.

Table 2 Estimation results for the naive, independent and two-step estimator. Given are the parameter estimate, standard error (SE) and the p -value.

| | naive estimator | | | independent estimator | | | two-step estimator | | |
|-------------|-----------------|-------|------------|-----------------------|-------|------------|--------------------|-------|------------|
| T | Estimate | SE | p -value | Estimate | SE | p -value | Estimate | SE | p -value |
| Intercept | 4.753 | 0.224 | 0.000 | 4.851 | 1.269 | 0.000 | 4.867 | 0.504 | 0.000 |
| Age | 0.015 | 0.006 | 0.007 | 0.015 | 0.009 | 0.090 | 0.015 | 0.007 | 0.025 |
| White | -0.197 | 0.112 | 0.079 | -0.183 | 0.149 | 0.220 | -0.187 | 0.193 | 0.333 |
| Married | -0.331 | 0.127 | 0.009 | -0.326 | 0.161 | 0.042 | -0.331 | 0.293 | 0.259 |
| GED | -0.166 | 0.104 | 0.109 | -0.168 | 0.351 | 0.632 | -0.171 | 0.217 | 0.429 |
| α_T | -0.218 | 0.103 | 0.034 | -0.420 | 1.425 | 0.768 | -0.428 | 0.378 | 0.257 |
| λ_T | | | | -0.095 | 0.609 | 0.876 | -0.097 | 0.187 | 0.606 |
| C | Estimate | SE | p -value | Estimate | SE | p -value | Estimate | SE | p -value |
| Intercept | 6.866 | 0.134 | 0.000 | 6.677 | 1.611 | 0.000 | 6.848 | 0.194 | 0.000 |
| Age | -0.001 | 0.002 | 0.455 | -0.001 | 0.065 | 0.988 | -0.001 | 0.004 | 0.696 |
| White | 0.012 | 0.048 | 0.807 | -0.006 | 0.358 | 0.986 | 0.010 | 0.324 | 0.976 |
| Married | 0.010 | 0.056 | 0.853 | -0.008 | 0.281 | 0.978 | 0.013 | 0.049 | 0.785 |
| GED | -0.063 | 0.043 | 0.144 | -0.070 | 0.263 | 0.789 | -0.062 | 0.111 | 0.580 |
| α_C | -0.062 | 0.042 | 0.143 | -0.053 | 0.759 | 0.944 | -0.028 | 0.326 | 0.932 |
| λ_C | | | | 0.006 | 0.322 | 0.984 | 0.015 | 0.121 | 0.900 |
| σ_T | 1.817 | 0.040 | 0.000 | 1.802 | 0.038 | 0.000 | 1.816 | 0.045 | 0.000 |
| σ_C | 0.322 | 0.037 | 0.000 | 0.285 | 0.032 | 0.000 | 0.323 | 0.118 | 0.006 |
| ρ | -0.430 | 0.197 | 0.029 | | | | -0.432 | 0.709 | 0.543 |