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Women, Family, and Training: Is it too late for learning?

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ABSTRACT

Women are typically under-represented among the employed. In particular, young females face a higher probability of entering unemployment rather than finding a job since they are more likely to lack educational credentials and marketable skills. Second chance programs by increasing participants' human capital and employability skills could be considered a means to bring women back to employment.

Concerns: (1) Program evaluations focus on the average program participant—Few studies conduct a gender analysis and even fewer focus on youth. (2) Disregard that the program offers a bundle of services to participants.

RESEARCH OBJECTIVES

(1) Identify and estimate the impact of attaining a degree (GED, vocational, or high school diploma) on female participants' labor market performance (study period: Q16 after randomization):

- employment probability
- weekly earnings

(2) Address the heterogeneity of participants

- Whites and African-Americans
- High risk: mothers, youth (16-21 years old)

JOB CORPS (JC) AND NJCS

JC (the largest training program for low income youth (16-24 old) in the U.S.)

Offers a bundle of services:

- remedial education and vocational training
- job placement services, counseling, etc.

NJCS (randomized evaluation experiment)

• Positive and statistically significant impacts on key labor market outcomes and on education achievements after 3 years.

• **Nature of the program:** Intensive Educational Curriculum, Open-exit educational philosophy, and self-paced instruction, Residential component [1]

METHODS

Potential Outcomes Framework [2]:

Treatment indicator: $T = \{JC, NJC\}$

Degree Indicator: $S(T) = \{S(JC), S(NJC)\} \in \{0, 1\}$

Outcomes: 4 potential outcomes of the form, $Y(T, S(T))$

◊ Observed indicators:

$$S^{real} = TS(JC) + (1 - T)S(NJC)$$

$$Y^{real} = TY(JC) + (1 - T)Y(NJC)$$

Random Treatment Assignment

$$Y(JC), Y(NJC), Y(JC, S(NJC)), S(JC), S(NJC) \perp T$$

◊ The average total effect of participating in JC on the students' outcome is given by:

$$\begin{aligned} ATE &= E[Y(JC, S(JC)) - Y(NJC, S(NJ))] \\ &= \underbrace{E[Y(JC, S(JC)) - Y(JC, S(NJC))]}_{\text{Degree effect}} + \text{Net effect} \end{aligned}$$

Principal Stratification [3]:

Individuals are comparable at the stratum level

- would not acquire a credential regardless of T; (n0)
- would acquire a credential regardless of T; (n1)
- would acquire a degree if not in JC; (an)
- would acquire a degree only through JC; (ap).

$$LDegree_k = \{E[Y(JC, S(JC))|k] - E[Y(JC, S(NJC))|k]\}, k \in \{n0, n1, ap, an\}$$

Assumptions:

Individual level Monotonicity of Treatment on Degree Attainment

$$S(JC) \geq S(NJC)$$

Weak Monotonicity of Mean Potential Outcomes Within Strata

$$a. E[Y(JC, S(JC))|ap] \geq E[Y(JC, S(NJC))|ap]$$

$$b. E[Y(JC, S(NJC))|ap] \geq E[Y(NJC, S(NJC))|ap]$$

Weak Monotonicity of Mean Potential Outcomes Across Strata [4]

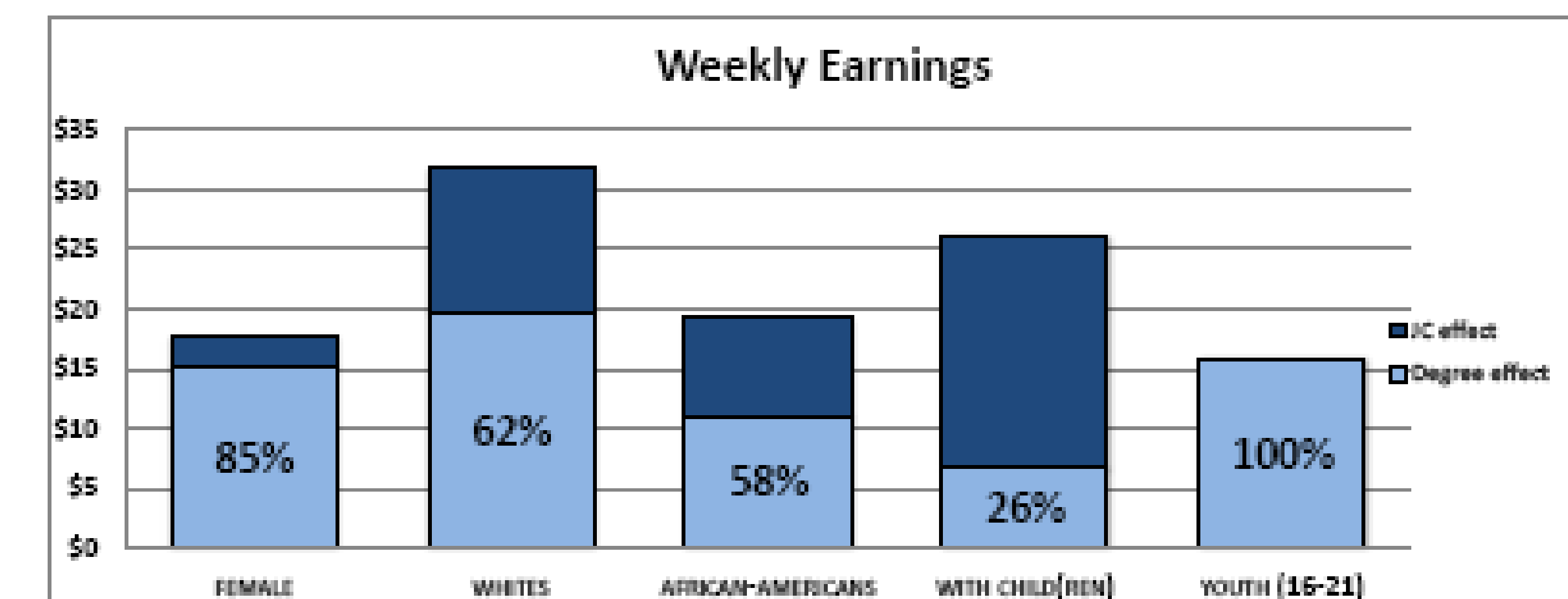
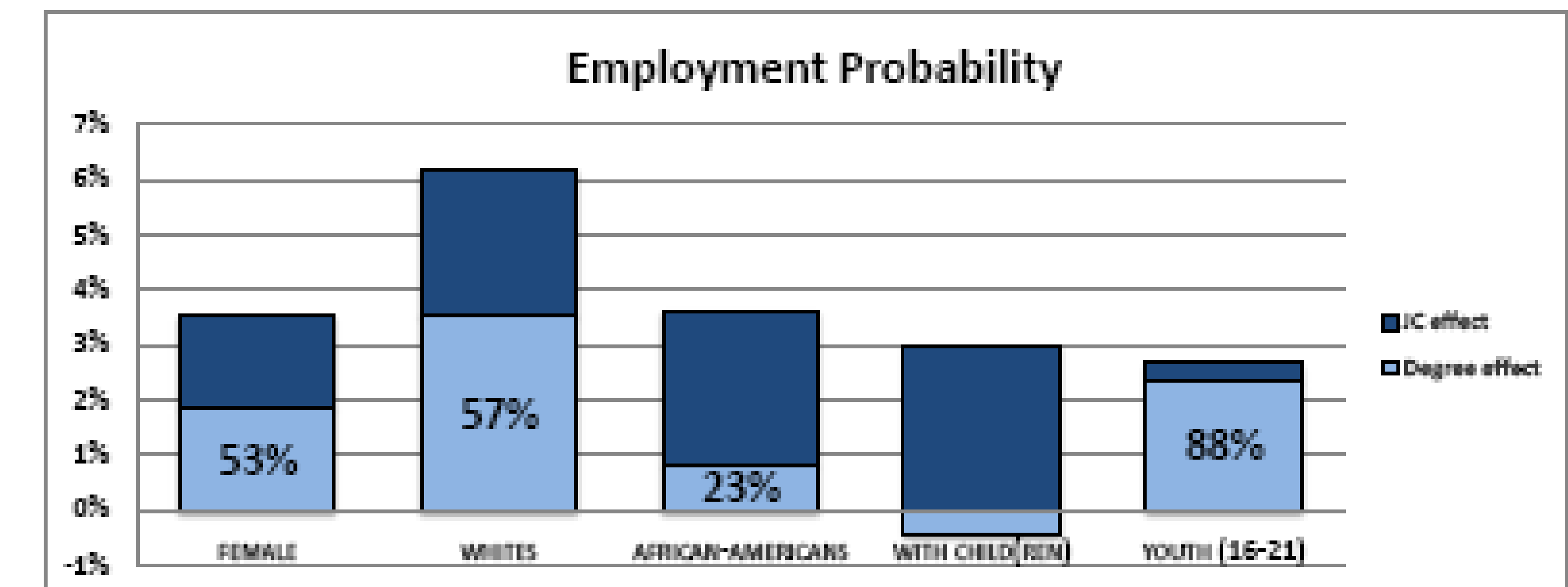
$$a. E[Y(JC)|n1] \geq E[Y(JC)|ap] \geq E[Y(JC)|n0]$$

$$b. E[Y(JC)|n1] \geq E[Y(JC, S(NJC))|ap] \geq E[Y(JC)|n0]$$

Degree Effect [4]:

$$DE = \pi_{ap} \{E[Y(JC, S(JC))|(ap)] - E[Y(JC, S(NJC))|(ap)]\}$$

RESULTS (4 YEARS AFTER RANDOMIZATION)



CONCLUSIONS

• The program is reported to have a significant and positive impact on participants' future labor prospects (higher employment probability and earnings gains).

• Importantly, we observe a significant and positive effect of obtaining a degree through JC on participants' labor outcomes

- The effects prevail 4 years after randomization
- Highlight importance in early human capital investment

• We observe heterogeneity between key demographic groups

- Whites and younger participants benefit more from the program and from attaining a degree
- Differences could be attributed to prior education level and job experience

• Novel estimates that provide information useful to "treat" gender blind employment and training programs.

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