



Economic Shocks and Personality Traits of the Ultra Poor

Psychology & Economics of Poverty Convening

May 17th, 2019

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Motivation

- **Cognitive / Non cognitive skills and economic outcomes impact each other.**
 - Economic outcomes are affected by
 - Self-control (Kaur, Kremer and Mullainathan, 2015)
 - Poor mental health (Alloush, 2019)
 - Hope (Lybbert and Wydick, 2017)
 - Cognitive and Non-cognitive skills affect labor market and behavioral outcomes (Heckman et al., 2006)
- **Poverty alleviation: internal constraints matter as much as external constraints.**
 - What factors affect these “internal constraints”?
 - Do economic shocks have unintended impact on non-cognitive skills?
 - Can treatment impact be intensified by targeting non-cognitive skills?

Overview

Research Question

What are the short term effects of economic shocks on personality traits of ultra-poor individuals?

In this paper we consider two shocks:

- **Positive shock:** Selection into a Poverty Graduation Program + asset transfer
- **Negative shock:** A recent drought

Stability of Personality

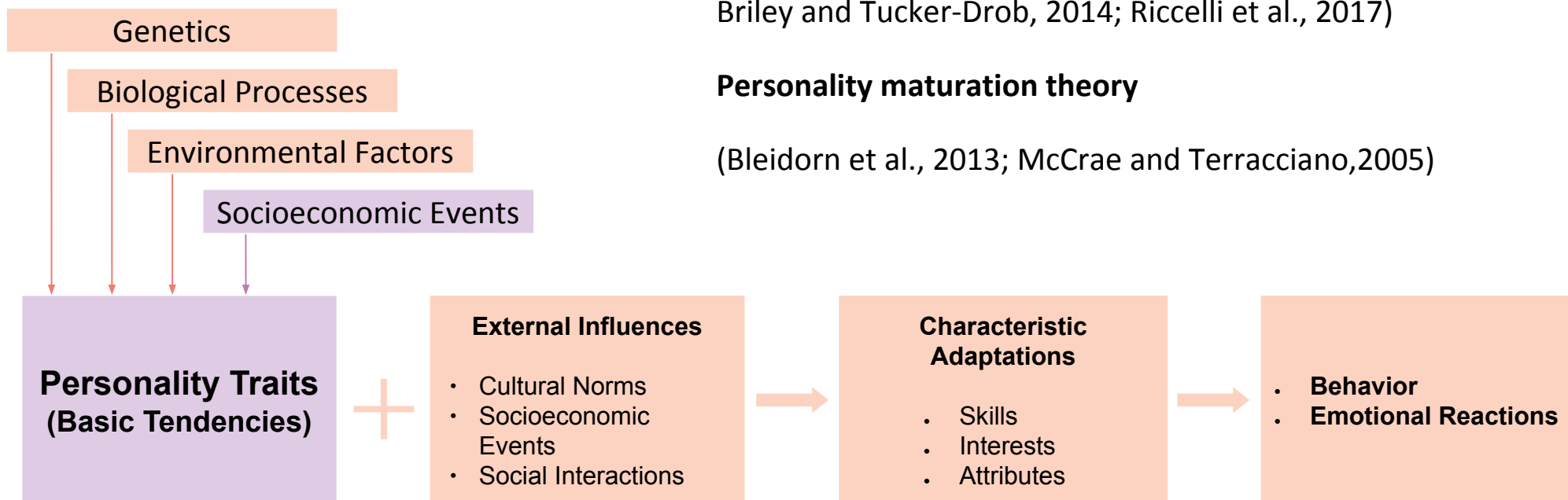
Personality development is a result of various factors.

(Costa et. al., 2019; Roberts and Nickel, 2017;

Briley and Tucker-Drob, 2014; Riccelli et al., 2017)

Personality maturation theory

(Bleidorn et al., 2013; McCrae and Terracciano, 2005)



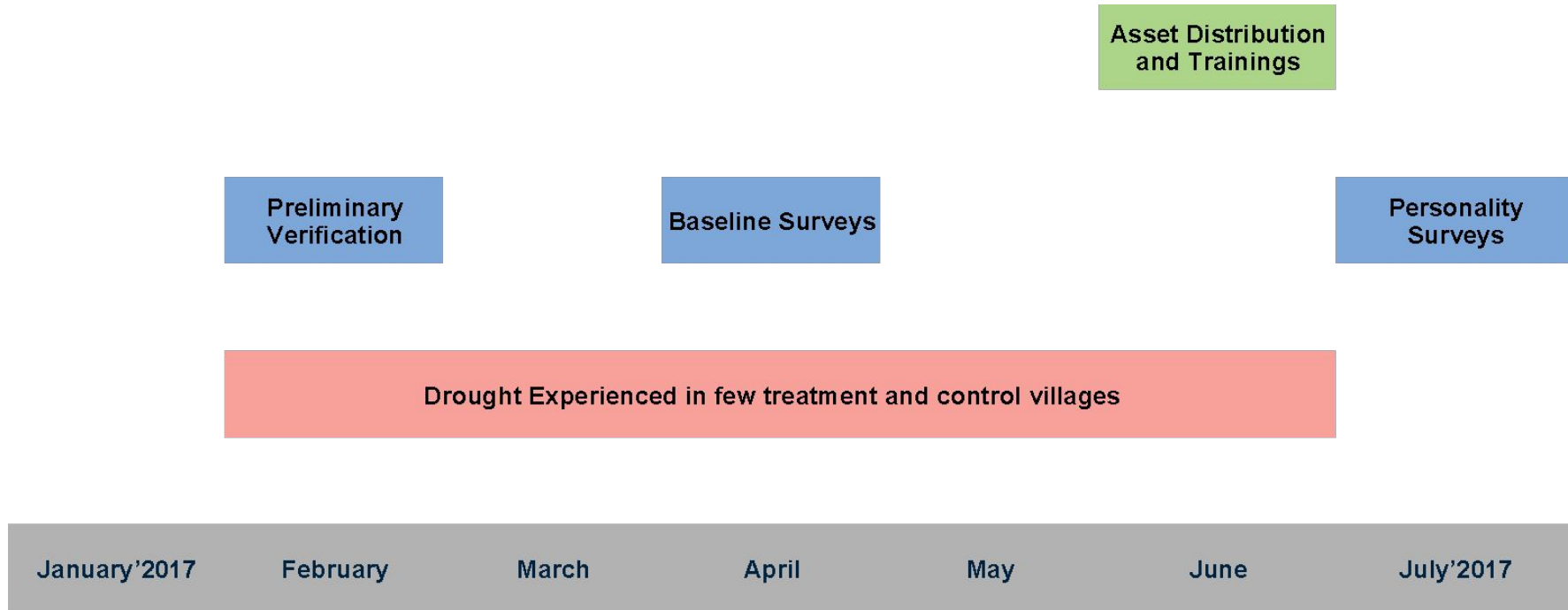
Socioeconomic Events and Climate Deviations

- **Persistent poverty affects beliefs, behavior, decision making, and personality**
 - Major shifts in social/occupational roles have lasting affects on psychological well being and personality traits (Roberts and Chapman, 2000; Roberts et. al, 2002; Gottschalk, 2005...)
 - Scarcity influences cognition and decision making (Mullainathan and Shafir, 2013)
 - Childhood poverty affects personality traits in early adulthood (Akee et al., 2018)
- **Climate influences behavior and personality**
 - Deviations from normal precipitation and higher temperatures systematically increase the risk of violence (Hsiang, Burke and Miguel, 2013)
 - Clement temperatures associated with higher levels of socialization, stability, personal grow, plasticity (Wei et al., 2017)
- **This paper's contribution: Personality of rural/uneducated and short-term impact of economic shocks.**

Ultra Poor Graduation Program

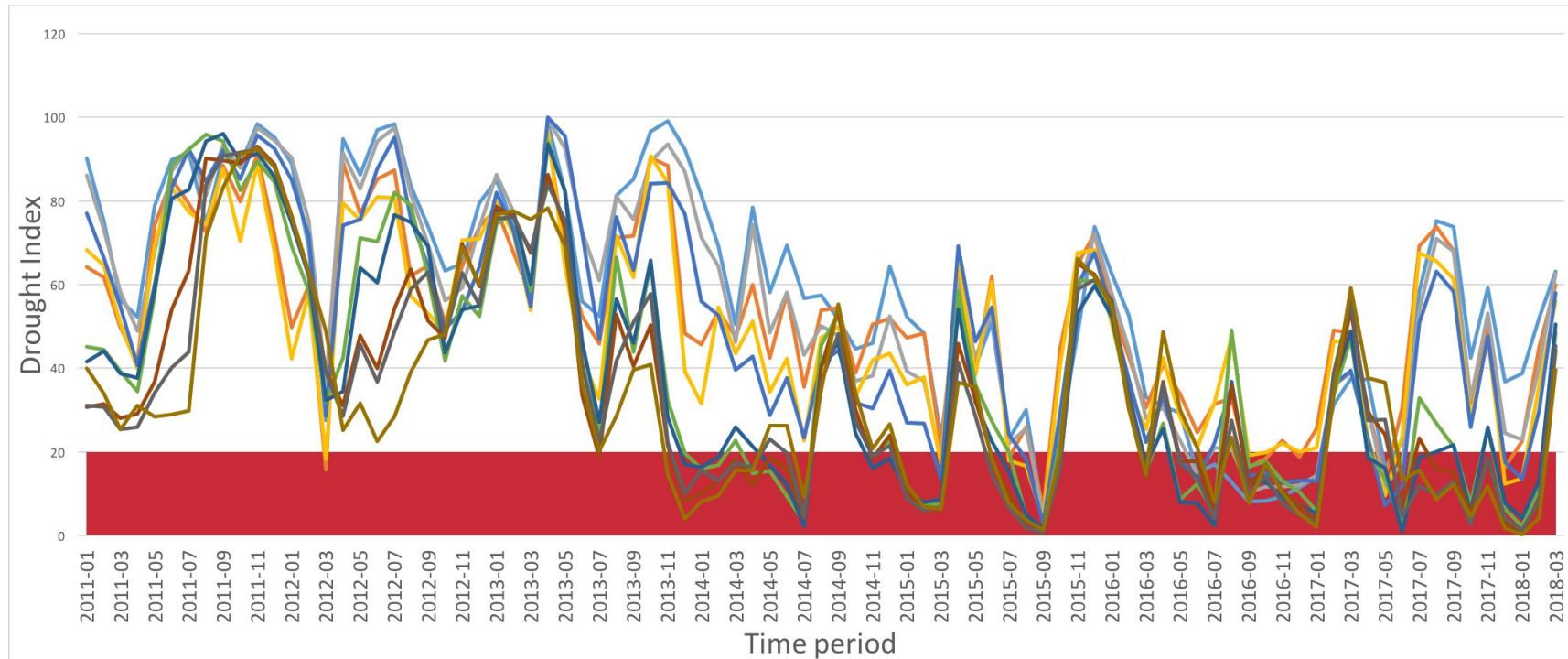
- Implemented across 5 districts in Uganda.
- Two year long program sponsored and implemented by BRAC Uganda.
- Primary goal to alleviate extreme poverty
- Based on "The Big Push" philosophy:
 - Income generating asset transfer
 - Short-term income support
 - Savings/Asset Management/Life skills coaching/counseling

Intervention Timeline



Drought Data

- Drought data from African Flood and Drought Monitoring System (AFDM) – Princeton Climate Analytics (PCA)
- Agricultural Drought index: Threshold of 20 percentile or lower used as indicator of drought.



Personality Data

Five Factor Model - Big Five Personality Traits

(John and Srivastava, 1999; John, Donahue and Kentle, 1990; Costa Jr and McCrae, 1992)

Agreeableness
(compassion/trust)

Conscientiousness
(organization/efficiency)

Neuroticism
(emotional stability)

Extraversion
(assertive/risk taking)

Openness to Experience
(creativity/curiosity)

Alpha

(socialization and stability)

Beta

(personal growth and plasticity)

Sample Characteristics

	Control	Treatment	Difference	p-value: H0 diff=0
Individual Level				
Age	24.7 (0.238)	23.794 (0.195)	0.906 (0.308)	0.003
Years of Education	8.397 (0.170)	8.03 (0.143)	0.367 (0.224)	0.101
Female	44.9%	45%	-00.10	0.966
Married	56.04%	52.12%	03.92	0.229
Literate	77.9%	78.5%	-00.60	0.835
Experienced at least one month long drought	45.4%	73.8%	-28.40	0.000
Experienced at least two month long drought	21.3%	31.3%	-10.00	0.001
Household Level				
Household Size	5.79 (0.155)	6.469 (0.1195)	-0.679 (0.193)	0.000
Meals Per day	2.085 (0.031)	2.069 (0.025)	0.015 (0.040)	0.700
At least one employed member in household	57.2%	59.6%	-02.40	0.526
Taken a Loan in the past year	14.9%	19.3%	-04.40	0.075

Empirical Strategy

$$PT_{iv} = \beta_0 + \beta_1 (T_{iv} * D_{iv}) + \beta_2 (T_{iv}) + \beta_3 (D_{iv}) + X'_i \delta + \text{enum}_n + \text{region}_m + e_{imv}$$

Pt_{iv} : one of the Big Five traits or the Alpha or Beta

T_{iv} : indicator variable for being part of the graduation program

D_{iv} : indicator variable for drought experience

X'_i : vector of individual and household characteristics age, gender,
number of members in HH, marital status, literacy and education level.

region_m : cluster fixed effects – villages grouped in clusters based on distance between them

enum_n : enumerator fixed effects

Sources of variation

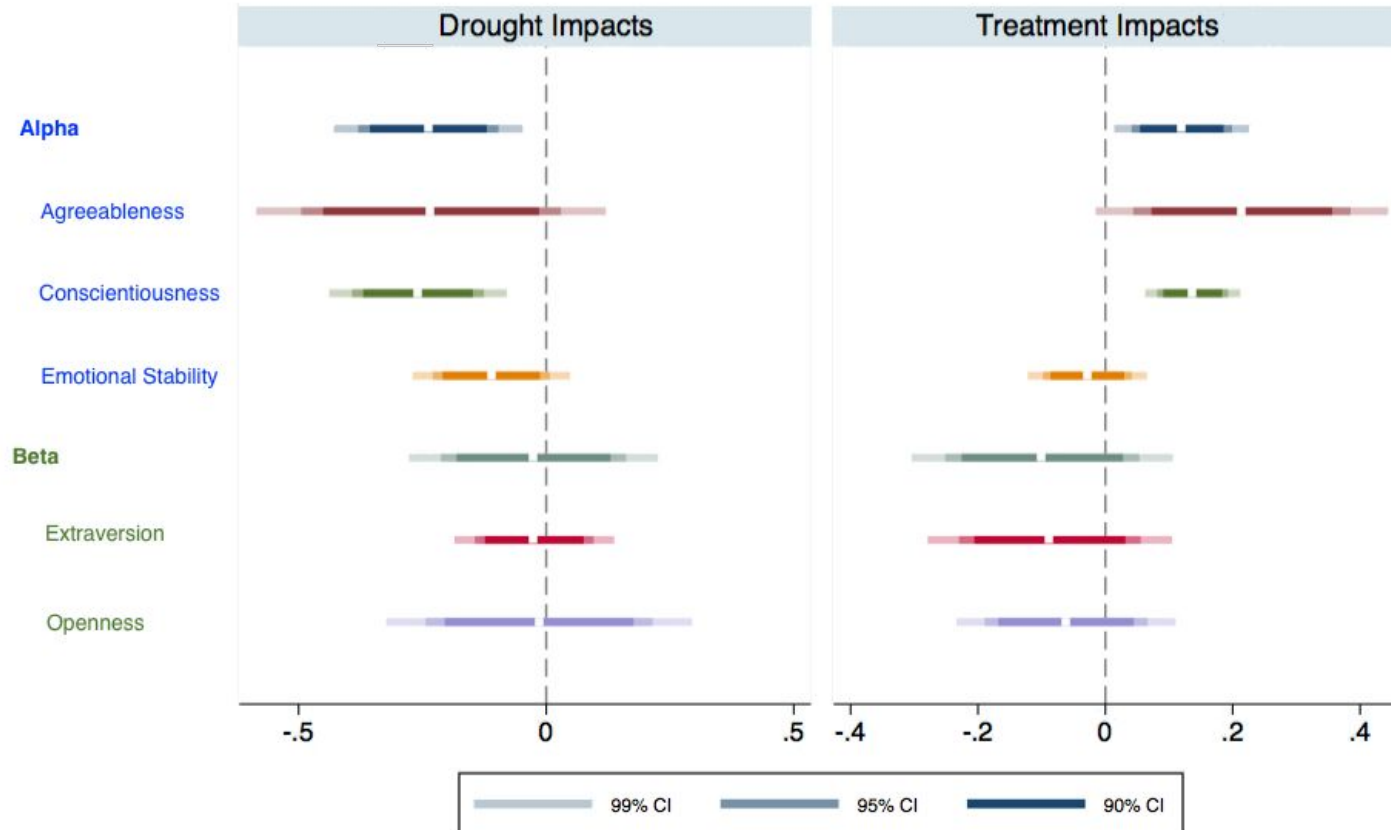
Being in treatment (Graduation Program) vs control

Different drought experiences due to being in different regions.

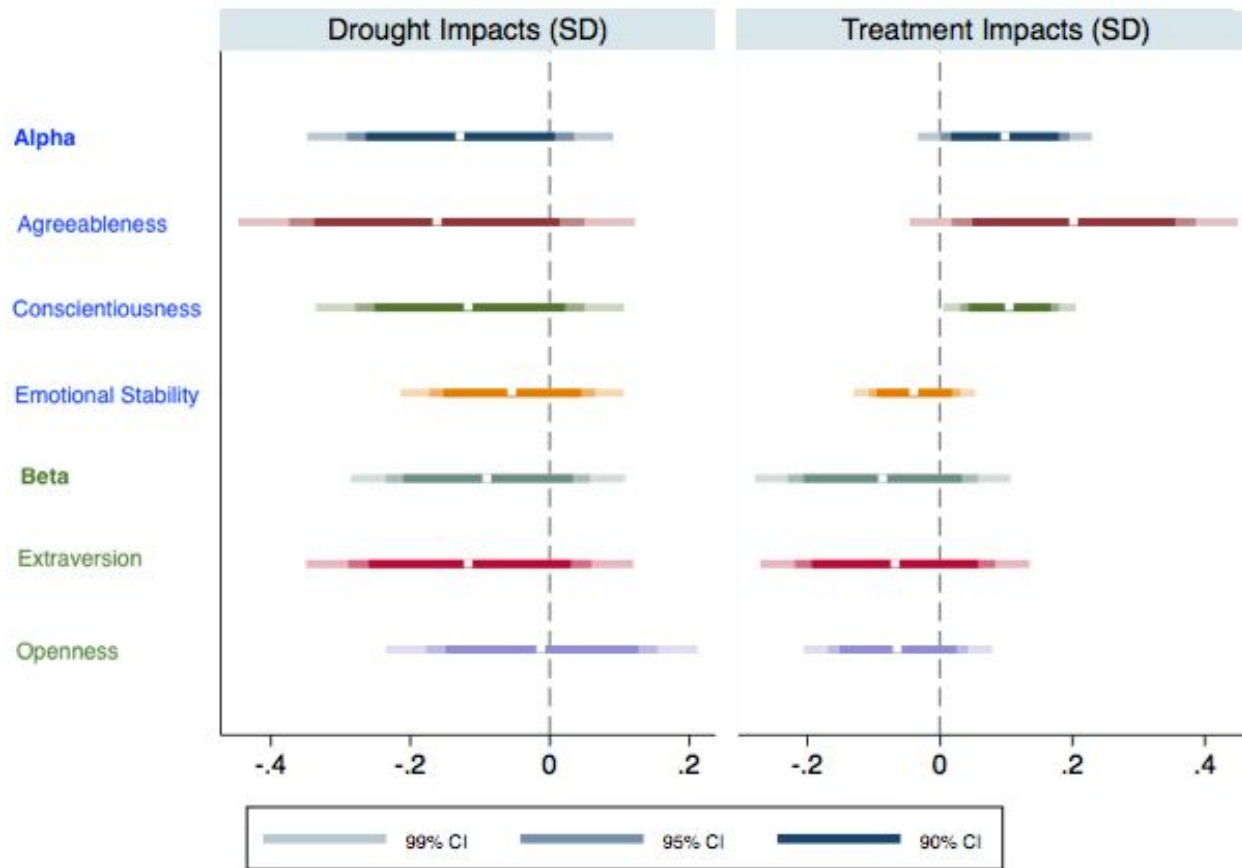
Different drought experiences due to being interviewed on different dates.

Assumption

Treatment (Graduation Program) & Control groups with no drought experience are similar at baseline.



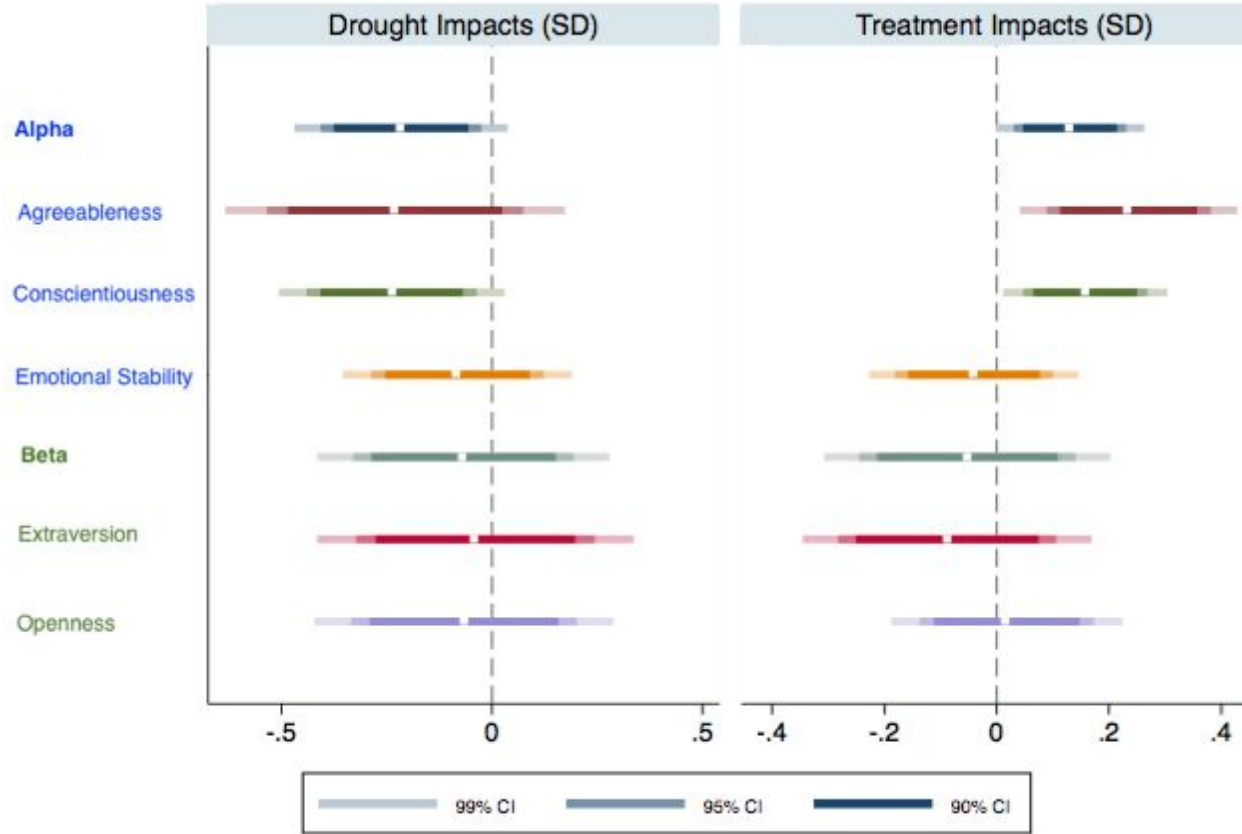
Effect of Drought and Treatment on Personality Traits
Drought length: At least one month.
Cluster Radii: 3 kms



Effect of Drought and Treatment on Personality Traits

Drought length: At least two months.

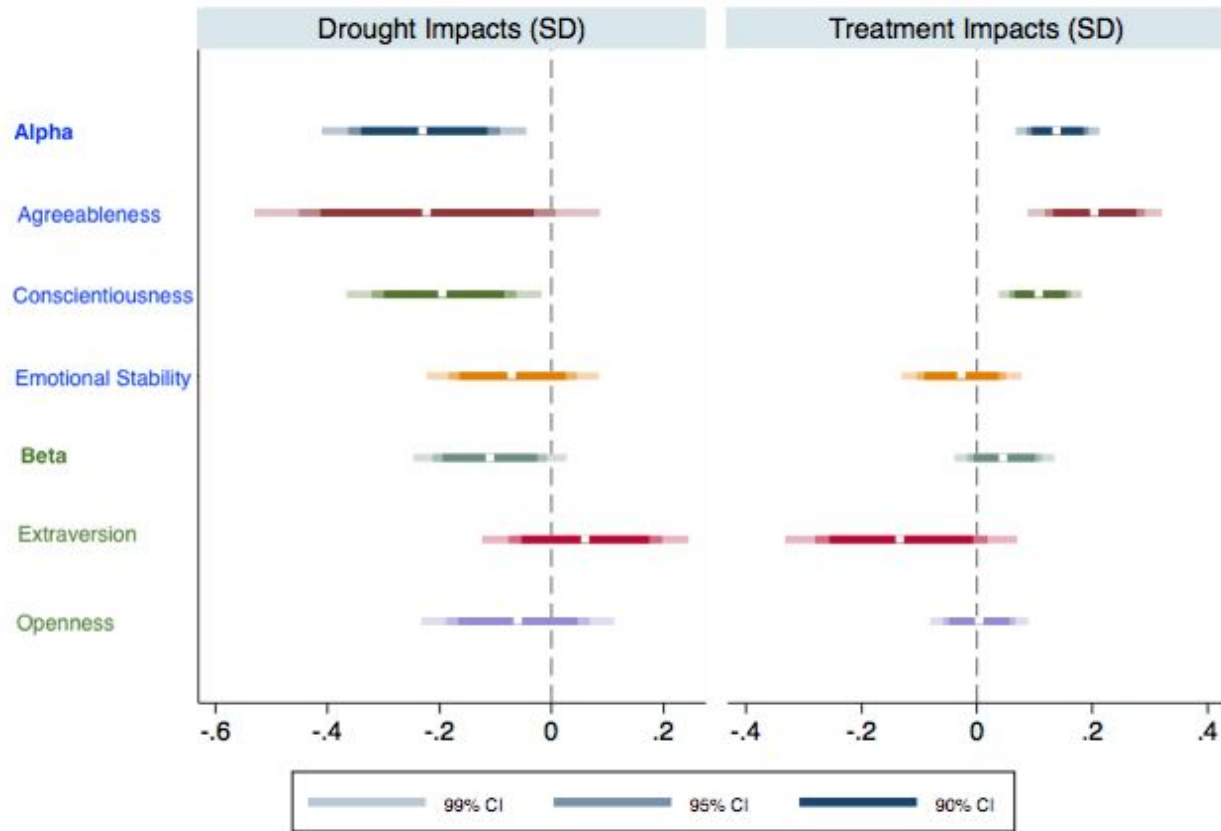
Cluster Radii: 3 kms



Effect of Drought and Treatment on Personality
Traits

Drought length: At least one month.

Cluster Radii: 2 kms



Effect of Drought and Treatment on Personality Traits

(PCF's)

Drought length: At least one month.

Cluster Radii: 3 kms

Policy Implications

- Development programs can affect personality; may be possible to leverage impacts to improve outcomes.
- Recent negative shocks also affect personality; may undermine development interventions.
- Suggest an additional personality-mediated effect of climate on conflict.
- Personality traits are more malleable in the short-run than previously known.
 - Requires methodological caution and innovation to ensure personality measurements are not undermined due recent life circumstances.

Thank You

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