Impact of a youth-parent asset transfer program on mental health, food security, and school attendance

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Context of Eastern DR Congo

• Prolonged insecurity
• Long-term humanitarian aid – what about development?
• Economic instability and extreme poverty (living on less than $2 day)
• Limited infrastructure, including health and social services
• GBV associated with conflict
• Household violence (IPV, harsh discipline, etc.)
Community Driven Solutions

Rural villagers express a desire:

- Economic stability – productive assets (livestock/animals)
- Programs that engage men and women in economic activities
- Rebuild families and communities after trauma experiences
- Improve family health and future opportunities
- Sustainable programs
Productive assets are important for economic security, health and gender equity

- A productive asset transfer program, Pigs for Peace (PFP), increased economic stability, improved subjective health and mental health in conflict-affected villages in rural DR Congo.†

- Married/partnered men and women reported a reduction in perpetration and victimization in all forms of intimate partner violence, although not significantly different from the control group (issue of statistical power).

†Glass et al., (2017). Randomized controlled trial of a livestock productive asset transfer program to improve economic and health outcomes and reduce intimate partner violence in a post conflict setting. BMJ Global Health
What about the Children?

- Examine relationship between livestock/animal and adolescent (10-15 years) outcomes with 479 parent/adolescent dyads
  - Having livestock/animal household assets was significantly associated with better mental health ($p=.005$), better outlook on life ($p=.003$), and less experienced stigma ($p=.007$) for adolescents.
  - Relationships remained after controlling for parents owing money, perceived wealth, and food security. They also remained after controlling for parent PTSD and parent experience/use of controlling behavior (e.g. isolation, restrict contact with family/friends).
  - The interaction of livestock/animal assets by sex was not significant for any of the outcomes indicating that livestock/animal assets has a similar effect for boys and girls.
Rabbits for Resilience: Youth Productive Asset Program

- Comparative effectiveness trial
- 10 villages in rural eastern DRC (same villages as PFP)
  - 503 adolescents aged 10-15 years
  - Change over time in health, school attendance, food security
Demographic Characteristics

<table>
<thead>
<tr>
<th>Baseline (n=503)</th>
<th>Pigs Only (n=171)</th>
<th>Pigs + Rabbits (n=167)</th>
<th>Rabbits Only (n=171)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percent Female</td>
<td>58.5%</td>
<td>52.4%</td>
<td>53.3%</td>
</tr>
<tr>
<td>Guardian is a parent</td>
<td>93.0%</td>
<td>94.0%</td>
<td>95.9%</td>
</tr>
<tr>
<td>Enrolled in school</td>
<td>90.6%</td>
<td>89.8%</td>
<td>90.1%</td>
</tr>
<tr>
<td>Age</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10-11 years</td>
<td>33.9%</td>
<td>39.5%</td>
<td>36.5%</td>
</tr>
<tr>
<td>12-13 years</td>
<td>39.8%</td>
<td>30.0%</td>
<td>35.9%</td>
</tr>
<tr>
<td>14-15 years</td>
<td>26.3%</td>
<td>30.5%</td>
<td>27.6%</td>
</tr>
<tr>
<td>Missed ≥ 3 days of school in past month</td>
<td>30.5%</td>
<td>36.4%</td>
<td>44.0%</td>
</tr>
<tr>
<td>Food Security M(SD), range of 0-12</td>
<td>3.4 (1.9)</td>
<td>3.0 (1.8)</td>
<td>3.1 (1.6)</td>
</tr>
</tbody>
</table>
## Retention by Group

<table>
<thead>
<tr>
<th></th>
<th>Pigs Only</th>
<th>Pigs + Rabbits</th>
<th>Rabbits Only</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baseline (n=503)</td>
<td>171</td>
<td>167</td>
<td>171</td>
</tr>
<tr>
<td>12 months (n=434)</td>
<td>144</td>
<td>147</td>
<td>143</td>
</tr>
<tr>
<td>24 months (n=443)</td>
<td>144</td>
<td>155</td>
<td>144</td>
</tr>
</tbody>
</table>

12 month retention = 85.3%
24 month retention = 87.0%
## Adolescent Trauma Events

<table>
<thead>
<tr>
<th>Lifetime</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lack of food or water</td>
<td>48.9%</td>
</tr>
<tr>
<td><strong>A bad health condition without access to healthcare</strong></td>
<td>48.7%</td>
</tr>
<tr>
<td>Lack of shelter</td>
<td>8.8%</td>
</tr>
<tr>
<td><strong>Severe injuries</strong></td>
<td>16.1%</td>
</tr>
<tr>
<td>Was in the middle of battles</td>
<td>9.4%</td>
</tr>
<tr>
<td>Been a victim of brainwashing</td>
<td>9.4%</td>
</tr>
<tr>
<td>Was about to die</td>
<td>14.8%</td>
</tr>
<tr>
<td>Separation of members of their family</td>
<td>11.0%</td>
</tr>
<tr>
<td><strong>Murder of a family member or friend</strong></td>
<td>42.7%</td>
</tr>
<tr>
<td>Was tortured or assisted in a torture</td>
<td>6.4%</td>
</tr>
<tr>
<td>Death of a family member of friend</td>
<td>11.2%</td>
</tr>
</tbody>
</table>

M (SD) events = 2.4 (2.1)
Statistical Analyses

- Intent-to-treat analysis
- Generalized Estimating Equations (GEE)
  - Uses all available data
  - Does not require complete data at all time points
- Examined the difference in the change over time between the 3 groups
  - Group by time interaction
Percent of Youth Missing 3 or More Days of School in Past Month

- Pigs Only
- Pigs + Rabbits
- Rabbits Only
Rabbits only group had a greater decline in the % of youth missing 3 or more days of school in past month compared to the Pigs only group (p=.009).
Externalizing Behavior (e.g. Acting out, being bad, rude, disrespectful)

- Pigs Only
- Pigs + Rabbits
- Rabbits Only
Youth in the Pigs + Rabbits group had a greater decline in externalizing behavior (e.g. acting out, rude and disrespectful) than youth in the Rabbits only group (p < .033).
Prosocial Behavior
(e.g. helping others, sharing, empathy)

- Pigs Only
- Pigs + Rabbits
- Rabbits Only
Youth in the Pigs + Rabbits group had a greater improvement in prosocial behavior than youth in the Pigs Only group (p=.011).
Food Security
(e.g. diversity in past 24 hours)

Food security improved for all groups (p < .001)
Rabbits for Resilience
Food Security

Household Dietary Diversity Score Number of food groups consumed in the last 24 hours (higher score is better diversity, 0-12)

- Cereals
- Root and tubers
- Vegetables
- Fruits
- Meat/poultry
- Eggs
- Fish and seafood
- Legumes/nuts
- Milk and milk products
- Oils/fats
- Sugar/honey
- Miscellaneous