Cultural Models and Gender Differences in Tobacco Use Among Congo Basin Hunter-Gatherers

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Introduction

• Determine beliefs and attitudes towards tobacco and similar substances and elucidate the patterns of use among Aka forest foragers of the Central African Republic
• Investigate gender (and age) differences in patterns of use
• Conduct a preliminary self-report health assessment
Background

• Drug use: religious-medical-secular (Sherratt, 1995b:15).

• Traditional societies—interrelationship of psychoactive substances and religion

• Origin of tobacco: the Americas

• Currently used world-wide

• Crosses social and cultural boundaries (Black, 1984:477).
Background

- European contact with New World and the tobacco complex.
- Africa: Portuguese, Hollanders and Arabs (Laufer, Hambley, & Linton, 1930).
- *N. rustica*: in Guinea by 1558 by Portuguese,
- *N. tabacum*: from Brazil soon after (Laufer, Hambley, & Linton, 1930).
- Caravan trade: interior of Africa (Laufer, Hambley, & Linton, 1930).
- 1800’s: tobacco used throughout Congo (Laufer, Hambley, & Linton, 1930).
Study Population

- Aka (Bahuchet, 1984, 1992; Hewlett 1991)
  - Hunter-gatherers/forest foragers
  - Egalitarian
  - 30,000 Aka
    - Bantu language (*diaka*)
  - Speak separate but related language of farmers
Study Population

- Transitional foragers
- Multi-dimensional forager-farmer relations (Hewlett, 1996b)
- Residing near the village
  - 3-4 months a year
  - Labor exchanges with konza
    - Plantation foods
    - Clothes
    - Salt
    - Tobacco and cigarettes
    - Axes and knives
    - Alcohol
    - Money

Images courtesy of Edward Hagen, Washington State University Vancouver
Study Population

SW Central African Republic
—Bagandou— Bokoka quartier
  2000 Aka associated with Bagandou
  300 associated with Bokoka
  800 Ngandu farmers in quartier

Bambolango Trail
  12 camps set up approximately 1,400 meters from the first camp to the last

July 1-July 30, 2008

(African Development Bank Group: Central Africa
http://www.afdb.org/en/countries/central-africa/)
Methods

• Cultural and social data
  – Open-ended, semi-structured focus group interviews
  – Two structured interviews/surveys—Forty 25-45 year old male and female Aka (female, n=20; male, n=20)
  – Third survey assessing broader distributions of use patterns—106 18-70+ year old male and female Aka (female, n=66; male, n=40)
Variables

- Sex
- Age (18-45) (18-70+)
- Camp residence
- Smoking status (smoker, non-smoker or quit)
- Traditional beliefs about the substances
- Mate preference
- Perceived health effects
- Age of initiation
- Medicinal uses
• Ndako—tobacco

Ndako Cultural Model

• Blancs
  – Manufactured cigarettes
  – Most preferred

• Bangaya
  – Tobacco grown locally by Ngandu farmers
  – Preferred over tunga—”its more like a blancs”
Ndako Cultural Model

- **Tunga** (*Polyalthia sauveolens* [Annonaceae])
  - “Ndako of the ancestor” or “forest tobacco”
  - Least preferred substance
• Traditional Beliefs
  – Ndako makes one warmer and stronger
  – Motivational effects
  – Extensively share

• Cannabis (Hewlett 1977)
  – Motivational effects
  – Work harder, more courage, dance better
Ndako Cultural Model

Why smoke?

- Ndjala, or desire (e.g. to desire ndako, sex, or food) (73.3%, n=11).
- A “normal thing” (13.3%, n=2)
- Get/stay warm and strong (13.3%, n=2).
Ndako Cultural Model

- Tobacco incorporated into traditional pharmacopeias throughout Africa
  - Bokoka Aka: Treat *Dombo*, an unidentified skin-infection, with *bangaya*.

- Fruits, roots and leaves of *polyalthia sauveolens* are used throughout Africa
  - Some Bokoka Aka use tuna to treat stomach parasites (madjembe)

- Tunga: Leaf and bark extracts contain antileishmanial chemicals
  - Against *Leishmania infantum* and *O. gutterosa* (microfilaria).
Patterns of Use

Tobacco smoking is more prevalent in developing nations than in developed nations (Mackay and Erickson, 2002).

<table>
<thead>
<tr>
<th>Country</th>
<th>Percentage of smokers</th>
</tr>
</thead>
<tbody>
<tr>
<td>United States</td>
<td>23.6%</td>
</tr>
<tr>
<td>Italy</td>
<td>24.9%</td>
</tr>
<tr>
<td>India</td>
<td>16.0%</td>
</tr>
<tr>
<td>Guinea</td>
<td>51.7%</td>
</tr>
<tr>
<td>Kenya</td>
<td>49.4%</td>
</tr>
<tr>
<td>Aka</td>
<td>58.5%</td>
</tr>
</tbody>
</table>

Prevalence of smokers among Aka is 0.585 (58.5%) (n=62).

(Data from Mackay & Erickson, 2002)
Patterns of Use

Sex differences in developing countries are also very stark.

95% of males and 36.7% of females ages 18-70+

A difference of nearly 60%

(data from Mackay & Erickson, 2002)
Patterns of Use

  - Muslim influence in West Africa

- Aka are egalitarian: Autonomy, rough joking, prestige avoidance. No ascribed gender hierarchy.

- Aka females:
  - Choose to smoke at frequencies that turn out to be analogous to the frequencies in more developed countries.
  - The difference in prevalence of use by gender exists because nearly 100% of Aka males smoke, not because women are proscribed.
Patterns of use

Reasons why Aka females do not smoke

Indicate personal, rather than proscriptive reasons.

Reason given for not smoking

- Saw someone get sick
- Doctor told them it's bad
- It is not for women/it's for men
- Does not like it/made them sick
Patterns of use

Smoking Initiation
Children should not smoke
Can get pains or get sick, and/or they will grow up to not respect their parents

However, most Aka start smoking during adolescence (Bokola/Ngondo).
Patterns of tobacco (ndako) use

SOCIAL LEARNING AND MATE CHOICE
Starting to Smoke:

Who initiated with
Patterns of use

Mate Preference

95% (n=57) of males prefer a mate who does not smoke.

71.1% of females prefer a mate who smokes ndako.
Reasons Why

- Do not prefer women who smoke
  - Women do not listen or obey
  - It makes them dizzy, lazy, and/or crazy
  - Ndako is not for women/it is for men
  - Women become promiscuous
  - They take his ndako

- Do prefer males who smoke
  - It gives men strength for subsistence hunting and foraging or for working for the villagers.
Patterns of tobacco (ndako) use

FEMALE AGE TREND
FEMALE AGE TREND

While significantly fewer Aka females than males smoke, women are more likely to smoke as age increases. Seventy-five percent of women ages 45+ smoke, significantly more than women 18-44 (t=3.3, df=105, p=0.0017).

- As younger women are more likely to be pregnant, they may be more likely to avoid tobacco smoking.
- The gendered effect of smoking might be strongest for young women, who are trying to attract potential mates (and most males do not like women who smoke).
- move back in with their brothers or sons (Hewlett 1991) which may present additional liberties for older women.
- “more like a man” (Bonnie Hewlett, personal communication).

In sum, although smoking seems to be a “male” activity, it is by no means restricted to males. Several women have tried smoking and many remain smokers.
Perceived health effects

Maternal smoking while pregnant (MSP): Spontaneous abortion/miscarriage, premature birth, smaller infant, stillborn infant, etc. (Mackay & Erickson, 2002).

Aka (89.7%, n=35) believe that MSP is also bad for the fetus/baby


77% (n=30) of Aka say MSP is not ekila
Perceived health effects

Smoking is a major public health problem: Responsible for 90% of lung cancer, 75% of chronic bronchitis and emphysema, 25% of cases of ischaemic heart disease (Mackay & Erickson, 2002).

Aka associate several health problem with smoking ndako, mostly prolonged coughing and chest pain. Also vomiting and sometimes diarrhea.
Conclusions

- One of the first studies to examine cultural models and patterns of use for tobacco among a group of African forest-foragers.
- Tobacco related to success in working, hunting, foraging and dancing. Makes one warm and strong. Has motivational effects.
- Marked pro-tobacco socialization for young males (marker of adulthood and masculinity).
  - Initiate with older male and females prefer males who smoke because of these traits.
- Propose that this accounts for the high prevalence among males, which is driving the large gender difference in tobacco use.
Future Work

- Investigate the political-economic factors involved in substance use
  - particularly Aka relations with Ngandu farmers (tobacco as a labor inducer)
  - and the long term effects of acculturation on patterns of use and their resulting health outcomes.

- Introduction of tobacco during colonial era
  - Was tunga smoked before introduction? Role of tobacco in facilitating relations between colonialists and/or villagers.

- Incorporate patterns of use into a larger biocultural framework
  - Integrate cultural beliefs and attitudes, political economic factors, and history with biological factors (pharmacophagy, aversive learning/thresholds, etc?) for a holistic view of substance use in a traditional context.
Acknowledgements

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