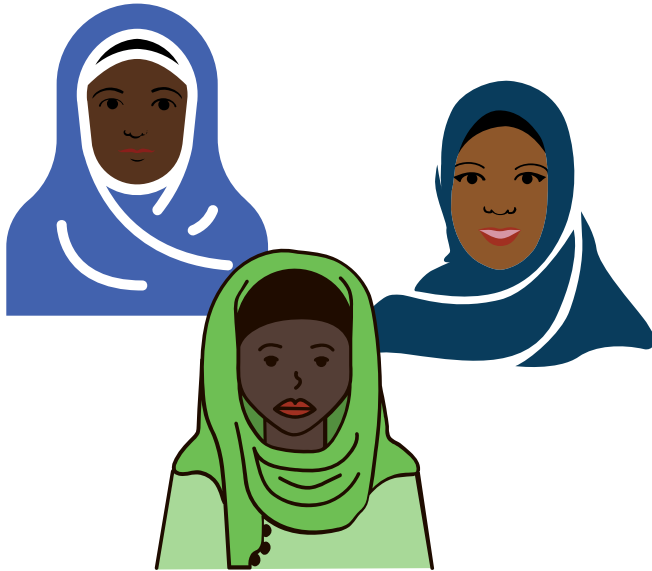# Using Audience Segmentation Approaches to Inform Integrated Family Planning and Maternal Health Programs in Niger

Understanding the specific behavioral determinants and barriers to health-seeking for reproductive and maternal health services is critical to developing social and behavior change (SBC) programs that can best address the needs of the community. Effective SBC interventions can incorporate audience segmentation, the practice of dividing an audience into subgroups based on demographic, psychographic, and/or behavioral factors to develop tailored SBC approaches that are most likely to resonate with each audience subgroup. This brief presents study results of audience profiles for women of reproductive age in Niger with a focus on three reproductive and maternal health behaviors. It is intended to inform integrated SBC activities implemented by the USAID-funded Resilience in the Sahel Enhanced (RISE) II partners to improve health outcomes.

KEY POINTS

The study provides information on audience profiles that can inform strategies to increase the use of maternal and reproductive health services.

To help describe some of the audience profiles generated through the analysis, we develop personas (e.g., Aissatou, Bintou and Fatou), which are fictional characters, based upon our analysis that represent different women of reproductive age in Niger that might use family planning (FP) and maternal health services in a similar way.

The overall lower scores related to social norms for women similar to our evidence-based persona, Aisssatou, suggest the need for more norm-based approaches such as engaging with opinion leaders to improve community sentiment toward the use of antenatal care (ANC) in this context.

For facility-based delivery, SBC strategies may need to focus on addressing restrictive social norms to reach community members similar to our persona Bintou.

To reach younger more vulnerable women with FP messages, SBC strategies may consider a positive deviant approach encouraging young women such as our persona Fatou to influence users who are more resistant to FP.

Background

In Niger, the total fertility rate is 7.6 births per woman.(1) Niger has the fastest growing population in the world (3.8% each year).(2) Understanding the specific behavioral determinants and barriers to health-seeking for reproductive and maternal health services is critical to developing programs that can best address the needs of the community. Effective SBC interventions can incorporate audience segmentation, the practice of dividing an audience into subgroups based on demographic, psychographic, and/or behavioral factors to develop tailored SBC approaches that are most likely to resonate with each audience subgroup. Application of audience segmentation profiles in SBC programs that go beyond segmentation based only on sociodemographic characteristics to incorporate other important behavioral determinants such as attitudes, self-efficacy, and social norms is limited in reproductive and maternal health programs or integrated health programs.

RISE II program

The USAID's RISE II program (2018–2023) implemented by Resilience Food Security Activities (RFSAs) partners uses a variety of SBC approaches including community engagement, interpersonal communication (IPC) through peer group activities, and radio to address priority behaviors and health outcomes in maternal, newborn, and child health (MNCH), FP, nutrition, and water, sanitation, and hygiene in the Maradi and Zinder regions of Niger (3).

Study Methods

The USAID-supported Breakthrough RESEARCH project conducted a household survey from April to May 2021 in the Maradi and Zinder regions of Niger—where the RISE II program has been supporting interventions to improve health outcomes since March/April 2020. Maradi and Zinder, located in southern Niger, are densely populated, agriculturally based regions as compared to the northern part of the country, which is largely desert and nomadic. Figure 1 presents a map of Niger and highlights the intervention and comparison communes sampled for the survey. Quantitative interviews were conducted with 2,709 married women aged 15–49.

FIGURE 1 MAP OF NIGER AND RISE II STUDY AREAS
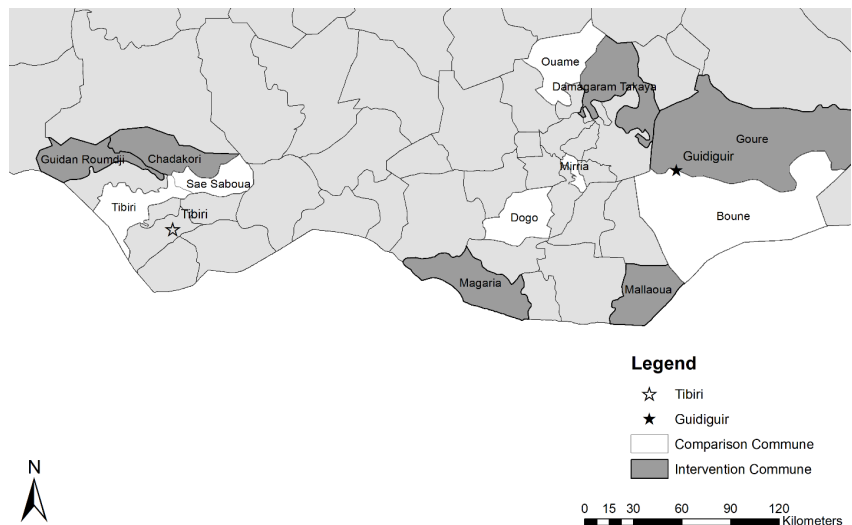
The survey collected information on the study participants sociodemographic characteristics and behavioral determinants (e.g., knowledge, attitudes, social norms) related to three health behaviors: attending four or more ANC visits, facility-based delivery for the most recent birth in the five years preceding the survey, and current use of a modern contraceptive method. Audience profiles were generated using latent class analysis based on patterns of responses across study participants. Latent class analysis allows us to move beyond singularly focusing on one characteristic at a time (e.g., age) and instead finds relationships within the data that provide a more nuanced understanding of audience profiles using multiple characteristics at the same time.

Associations between audience profiles and key outcomes were analyzed to provide important insights for SBC programs. Figure 2 presents the percentage of women in the sample who practiced each of the three behaviors.
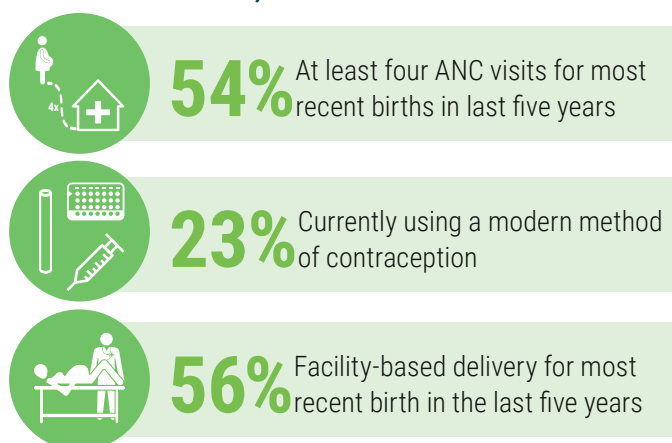
Table 1 presents a description of the demographic characteristics of the study sample while Figure 3 summarizes the behavioral determinants assessed in the survey and used to develop audience profiles in this analysis.

The majority of women interviewed were between the ages of 25 and 34, approximately two-thirds were in monogamous relationships, and over 85% had never attended school.

WHAT IS LATENT CLASS ANALYSIS?

Latent class analysis identifies a set of subgroups based on patterns of responses across study participants in survey data and is increasingly being applied in social and behavioral science research to understand risk profiles in the health field.

FIGURE 2 PERCENTAGE OF MARRIED WOMEN OF REPRODUCTIVE AGE PRACTICING REPRODUCTIVE AND MATERNAL HEALTH BEHAVIORS, MARADI AND ZINDER, NIGER 2021

54% At least four ANC visits for most recent births in last five years

23% Currently using a modern method of contraception

56% Facility-based delivery for most recent birth in the last five years

TABLE 1 DEMOGRAPHIC CHARACTERISTICS OF FEMALE STUDY PARTICIPANTS IN NIGER (N=2,709)

| Measures	%
Age	
15–24	16.6
25–29	21.0
30–34	28.9
35–39	19.4
40–49	14.1
Marital stats	
Polygamous	37.5
Monogamous	62.5
Education	
Any education	14.6
No education	85.4
Wealth index	
Poor	33.7
Middle	33.0
Rich	33.3

FIGURE 3 BEHAVIORAL DETERMINANTS

KNOWLEDGE

- Knows that a woman must have at least 4 **ANC** visits for her health and that of her baby
- Knows that a woman should give **birth** in a health **facility**
- Has heard of at least 3 different **FP methods**

ATTITUDE

- Pregnant women only need **ANC** if they are sick
- Health care **facility** is the best place to give **birth**
- Acceptable for a couple to use **FP methods** such as condoms, the pill or injectables to delay or avoid pregnancy

NORMS
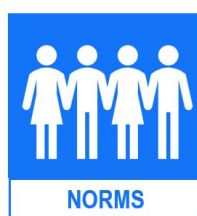
- Most women in the community have 4 or more **ANC** visits
- Most women in this community deliver in a health **facility**
- Members of this community agree that a woman should use **FP methods**

SELF-EFFICACY

- Not at all difficult to go to a health facility for **ANC**
- Not at all difficult to go to a health **facility** to give **birth**
- Know where to go to get **FP methods**
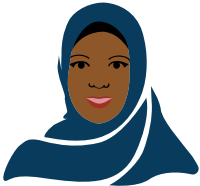
PARTNER COMMUNICATION

- Not at all difficult to start a conversation with my partner about **ANC** visits
- Not at all difficult to start a conversation with my partner about giving **birth** in a health care **facility**
- Feel comfortable discussing **FP methods** with my partner

Key Results

Our analysis aimed to develop maternal and reproductive health audience profiles integrating both sociodemographic and behavioral determinants to inform SBC approaches tailored to audience subgroups.

The constructed models identified audience subgroups based on patterns of responses across study participants in survey data using latent class analysis. To help describe some of the audience profiles generated through the analysis, we developed personas, which are fictional characters, based upon our analysis that represent different women of reproductive age in Niger that might use FP and maternal health services in a similar way (Table 2).

TABLE 2 PERSONAS IDENTIFIED

Persona	Persona Outcome
	Aissatou is less likely to use ANC services than other women in Niger. Approximately, 29% of women interviewed were similar to Aissatou.
	Bintou is more likely to use facility-based delivery services than other women in Niger Approximately, 12% of women interviewed were similar to Bintou.
	Fatou is more likely to use family planning than other women in Niger Approximately, 21% of women interviewed were similar to Fatou.

In looking at the ANC outcome, we compare Aissatou's sociodemographic and behavioral determinants to the study sample (Figures 4 and 5). We see Aissatou is slightly younger, less educated, and poorer than the study sample. We also see she has weaker behavioral determinants including fewer positive attitudes, low agreement with supportive social norms, and lower self-efficacy compared to the overall study sample.

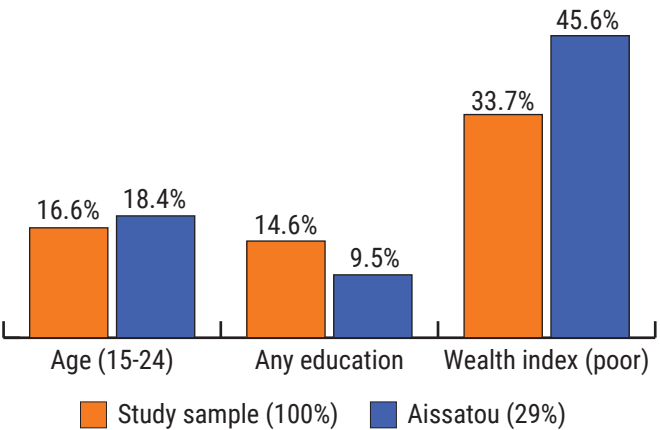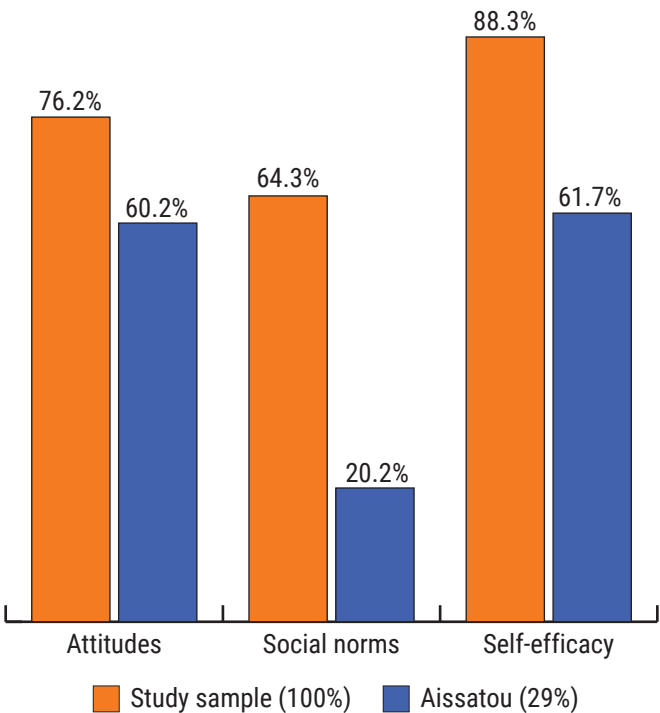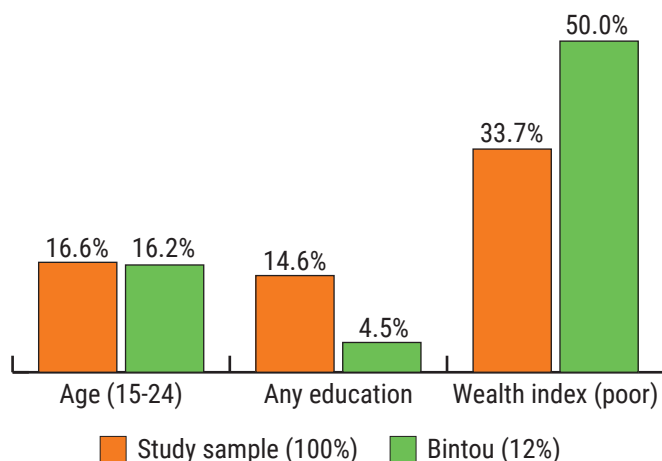## FIGURE 4 ANC PROFILE—SOCIODEMOGRAPHIC

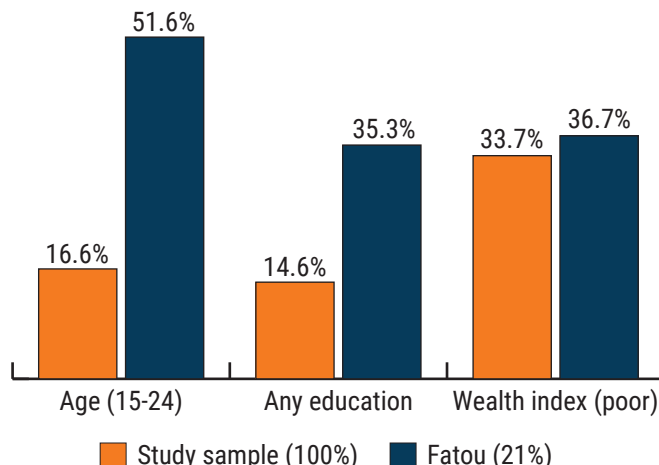## FIGURE 5 ANC PROFILE—BEHAVIORAL DETERMINANTS

For facility-based delivery, we find that Bintou is generally less educated, and poorer than our study sample (Figure 6). However, Bintou has "strong behavioral determinants" for attitudes and partner communication but scores much lower on social norms, suggesting her community environment may not be favorable to delivering in a facility (Figure 7).

For modern contraceptive use, we see Fatou (Figures 8 and 9) who is a younger and more educated woman (35.3% compared to 14.6% in the overall sample). She has comparatively more positive attitudes and self-efficacy related
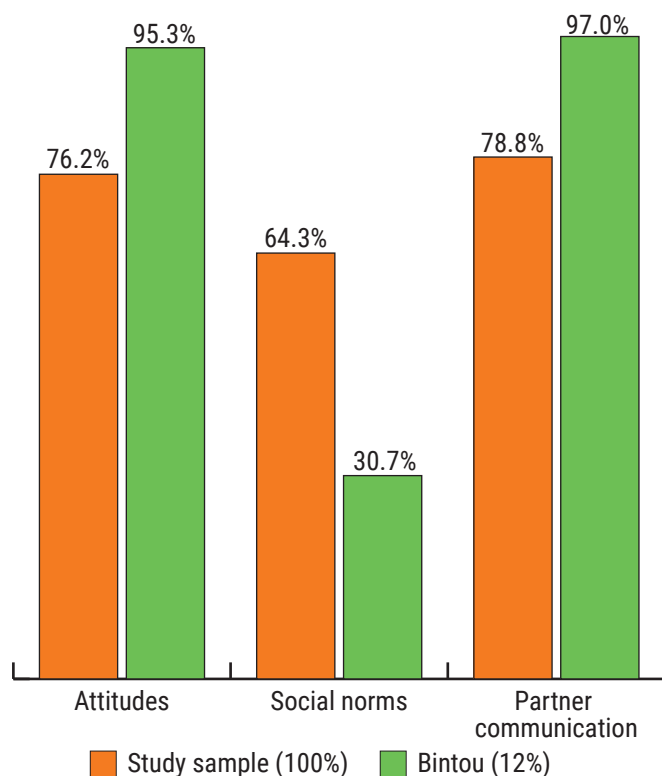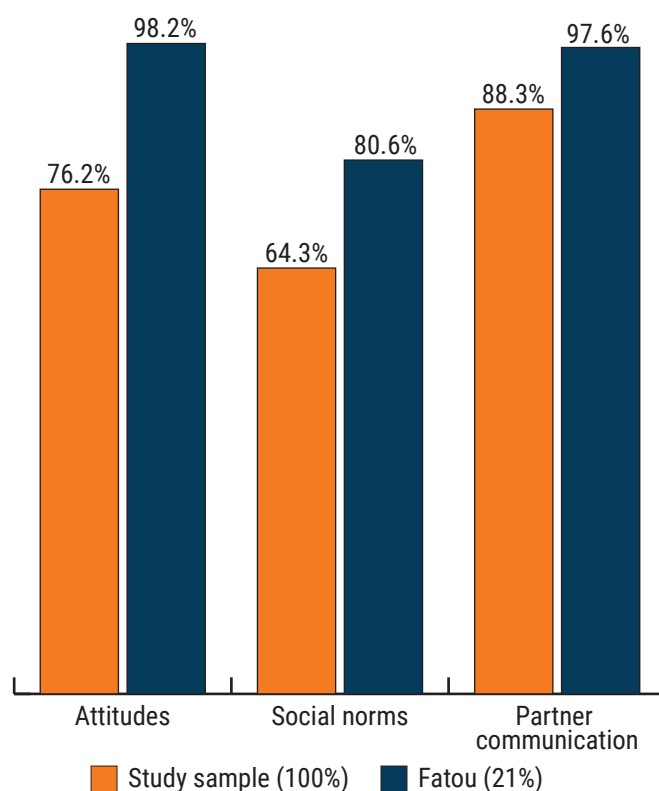
FIGURE 6 FACILITY DELIVERY PROFILE—SOCIODEMOGRAPHIC

Age (15-24): Study sample (100%) 16.6%, Bintou (12%) 16.2%
Any education: Study sample (100%) 14.6%, Bintou (12%) 4.5%
Wealth index (poor): Study sample (100%) 33.7%, Bintou (12%) 50.0%

Study sample (100%)   Bintou (12%)

FIGURE 8 MODERN CONTRACEPTIVE USE PROFILE—SOCIODEMOGRAPHIC

Age (15-24): Study sample (100%) 16.6%, Fatou (21%) 51.6%
Any education: Study sample (100%) 14.6%, Fatou (21%) 35.3%
Wealth index (poor): Study sample (100%) 33.7%, Fatou (21%) 36.7%

Study sample (100%)   Fatou (21%)

FIGURE 7 FACILITY DELIVERY PROFILE—BEHAVIORAL DETERMINANTS

Attitudes: Study sample (100%) 76.2%, Bintou (12%) 95.3%
Social norms: Study sample (100%) 64.3%, Bintou (12%) 30.7%
Partner communication: Study sample (100%) 78.8%, Bintou (12%) 97.0%

Study sample (100%)   Bintou (12%)

FIGURE 9 MODERN CONTRACEPTIVE USE PROFILE—BEHAVIORAL DETERMINANTS

Attitudes: Study sample (100%) 76.2%, Fatou (21%) 98.2%
Social norms: Study sample (100%) 64.3%, Fatou (21%) 80.6%
Partner communication: Study sample (100%) 88.3%, Fatou (21%) 97.6%

Study sample (100%)   Fatou (21%)

to modern contraceptive use and believes her community is supportive compared to our study sample.

When testing the associations of each profile (or persona) with the desired health behavior, we find the following:

- In comparison to Aissatou other women in the study area were 5.5 times more likely to use ANC.

- Bintou was 4 times more likely, to have a facility-based delivery compared to women with weaker attitudes and poor partner communication.
- Fatou was 9 times more likely to use contraception compared to other women in the study area.

Study Limitations

- The use of cross-sectional data does not establish causation between audience profiles (or personas) and health behaviors.
- High levels of intermediate behavioral determinants may be a function of social desirability bias.
- The influence of men's actions or determinants are not reflected in this analysis.

Implications

The study provides information that can inform strategies to increase the use of maternal and reproductive services.

- The overall lower scores related to social norms for women similar to Aissatou suggest the need for more norm-based approaches such as engaging with opinion leaders to improve community sentiment towards the use of ANC in this context.
- For facility-based delivery, SBC strategies may need to focus on addressing restrictive social norms to reach community members similar to Bintou.
- To reach younger more vulnerable women with FP messages, SBC strategies may consider a positive deviant approach encouraging young women such as Fatou to influence users who are more resistant to FP.

For More Information

For more information, the project has recently published the following journal article (both open access):

- "When you live in good health with your husband, then your children are in good health…." A qualitative exploration of how households make healthcare decisions in Maradi and Zinder Regions, Niger (*BMC Public Health*)
- Creating Reproductive Health Behavioral Profiles for Women of Reproductive Age in Niger Using Cross-Sectional Survey Data: A Latent Class Analysis (*International Journal of Public Health*)

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2. World Bank. World Development Indicators [Internet]. [cited 2019 Nov 29]. Available from: https://databank.worldbank.org/home

3. Packard, M. 2018. "Report on a review of social and behavior change methods and approaches within Food for Peace Development Food Security Activities." Food and Nutrition Technical Assistance III Project (FANTA) Report. Washington, D.C.: FHI 360.

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Email

BreakthroughResearch@popcouncil.org

Breakthrough RESEARCH | Population Council

4301 Connecticut Ave., NW, Suite 280 | Washington, DC 20008
+1 202 237 9400 | breakthroughactionandresearch.org

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