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# Is channel segmentation necessary to reach a multiethnic population with weight-related health promotion? An analysis of use and perception of communication channels

**Marieke A. Hartman**[a,b], **Vera Nierkens**[a], **Stephan W. Cremer**[b], **Arnoud Verhoeff**[b,c], and **Karien Stronks**[a]

[a]Department of Public Health, Academic Medical Center, University of Amsterdam, Amsterdam, The Netherlands [b]Department of Epidemiology, Documentation, and Health Promotion, Public Health Service of Amsterdam, Amsterdam, The Netherlands [c]Department of Sociology and Anthropology, University of Amsterdam, Amsterdam, The Netherlands

## Abstract

**Objective—**To explore similarities and differences in the use and perception of communication channels to access weight-related health promotion among women in three ethnic minority groups. The ultimate aim was to determine whether similar channels might reach ethnic minority women in general or whether segmentation to ethnic groups would be required.

**Design—**Eight ethnically homogeneous focus groups were conducted among 48 women of Ghanaian, Antillean/Aruban, or Afro-Surinamese background living in Amsterdam. Our questions concerned which communication channels they usually used to access weight-related health advice or information about programs and whose information they most valued. The content analysis of data was performed.

**Results—**The participants mentioned four channels – regular and traditional healthcare, general or ethnically specific media, multiethnic and ethnic gatherings, and interpersonal communication with peers in the Netherlands and with people in the home country. Ghanaian women emphasized ethnically specific channels (e.g., traditional healthcare, Ghanaian churches). They were comfortable with these channels and trusted them. They mentioned fewer general channels – mainly limited to healthcare – and if discussed, negative perceptions were expressed. Antillean women mentioned the use of ethnically specific channels (e.g., communication with Antilleans in the home country) on balance with general audience–oriented channels (e.g., regular healthcare). Perceptions were mixed. Surinamese participants discussed, in a positive manner, the use of general audience–oriented channels, while they said they did not use traditional healthcare or advice from Surinam. Local language proficiency, time resided in the Netherlands, and approaches and messages received seemed to explain channel use and perception.

**Conclusion—**The predominant differences in channel use and perception among the ethnic groups indicate a need for channel segmentation to reach a multiethnic target group with weight-

Correspondence to: Marieke A. Hartman.

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related health promotion. The study results reveal possible segmentation criteria besides ethnicity, such as local language proficiency and time since migration, worthy of further investigation.

**Keywords**

health status disparities; minority groups; ethnic groups; overweight prevention; communication channels; access to information

## Introduction

The Netherlands and other European countries are becoming more ethnically diverse. Unequal burden among ethnic groups has been found in coronary heart diseases, diabetes, and mental illness (Rechel *et al.* 2011). Health risk factors such as overweight and physical inactivity during leisure time are more prevalent among ethnic minority groups than ethnic majorities (Dagevos and Dagevos 2008, Agyemang *et al.* 2009, Caperchione *et al.* 2009, El-Sayed *et al.* 2011). Therefore, there is need for effective health promotion aimed at weight loss and related behaviors among diverse groups of ethnic minorities. However, it can be challenging for health promoters to reach ethnic minority groups (Brill *et al*. 1991, UyBico *et al*. 2007).

Communication plays a central role in health promotion, not only when it is restricted to health education (e.g., dietary advice) but also if it relates to being informed about health promotion initiatives in a broader sense (e.g., inexpensive exercise facilities or available programs). McGuire's communication/persuasion model identifies five factors that influence communication effectiveness and are worth considering in planning health promotion efforts. These include source, message, channel, receiver, and destination (McGuire 1989, Kreuter and McClure 2004). Of these factors, communication channels are considered to influence reach. If health promoters employ channels consistently used by the target population, their information may more effectively reach the target population. Moreover, if the target population has a positive perception of a channel (e.g., finds it credible), the degree of the information's persuasiveness may improve. For example, individuals may be more likely to participate in an available program (i.e., reach of the program) (Kreuter and McClure 2004, Hornik and Ramirez 2006).

Channel segmentation by ethnic group may increase reach of and receptivity for health promotion efforts within multiethnic populations. Channel segmentation is the process of dividing diverse target populations into more similar subgroups based upon their channel use and preference (Slater 1996, Hornik and Ramirez 2006). The logic behind such segmentation is strong. If there are large, transparent differences between ethnic groups in channel use and perception, it could be argued that to reach the groups, channel segmentation within a multiethnic population may be necessary. However, it could also increase costs and make implementation more difficult, and there is as yet no evidence demonstrating the effectiveness of ethnicity-based segmentation (Bhopal 2006, Hornik and Ramirez 2006). Therefore, considering the need for segmentation is of ongoing concern. When ethnic groups commonly value and use certain channels, then providing similar

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channels becomes more appropriate and feasible in order to reach a multiethnic target population (Hornik and Ramirez 2006).

Insight into the differences and similarities of a variety of potential channels can inform preliminary segmentation decisions. Most of the few studies that compare communication channel use and perception among different ethnic groups have been conducted in the USA (O'Malley *et al*. 1999, Brodie *et al*. 1999, Kreuter and McClure 2004,Hornik and Ramirez 2006). These studies focused mainly on media use, but some mentioned other channels, such as healthcare and informal networks. Replicating such studies among different ethnic groups within European countries seems worthwhile, as healthcare systems and migration histories of ethnic groups living in these countries are different from those in the USA (Starfield and Shi 2002, Avendano *et al*. 2009, Kumanyika *et al*. 2012).

Therefore, to gain more insight into the potential use of or need for channel segmentation, we investigated similarities and differences in the use and perception of communication channels within three ethnic minority groups living in Amsterdam, the Netherlands. The focus was on the channels through which women access weight-related health promotion.

## Methods

Without evidence from experimental studies, project-specific formative studies are a useful source of evidence for making informed decisions about whether and how to implement segmentation (Hornik and Ramirez 2006). This qualitative study was a formative study, part of a needs assessment, for a project aimed at promoting weight loss-related behaviors among a multiethnic population of mothers. To elicit information about similarities and differences in channel use and perception, we conducted ethnically homogeneous focus groups. We chose the focus group methodology because it enables the exploration of interwoven aspects of topics or processes (Yardley 2000), such as the different factors that influence communication effectiveness (e.g., receiver characteristics, channel, source, and message) (Kreuter and McClure 2004).

### Recruitment and procedure for the focus groups

This study was conducted in Amsterdam South-East in 2008. Amsterdam South-East is an ethnically diverse district in which immigrants from Ghana and the former Dutch colonies of Suriname and the Netherlands Antilles/Aruba form the largest ethnic minority groups. Focus groups were conducted with mothers from these three groups. The prevalence of overweight and obesity is greater among these ethnic minority groups than that among the ethnic Dutch population (Dagevos and Dagevos 2008, Agyemang *et al.* 2009). Box 1 presents information about Amsterdam South-East and these ethnic groups (i.e., receiver characteristics).

We had informal discussions with key informants from the Ghanaian, Antillean/Aruban, and Surinamese communities – mainly women from immigrant organizations – first in order to gain insight into how best to conduct the focus groups. We adapted the recruiters and moderators employed, and recruitment channels, settings, and language used in the focus groups based on their advice. Ghanaian key informants perceived the command of the Dutch language as poor within their community in Amsterdam South-East and emphasized the

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need to provide focus groups in a Ghanaian language to enable the women to express themselves.

Key people from the ethnic communities, some were key informants, recruited the focus group participants. They were asked to recruit a purposive sample of Ghanaian, Antillean/Aruban (hereafter referred to as Antillean), or Afro-Surinamese (hereafter referred to as Surinamese) mothers from Amsterdam South-East. At women's religious services, a prominent church member asked Ghanaian women to participate in a focus group held in their church. Antillean and Surinamese women from immigrant organizations provided flyers and personally invited the women to join a focus group in a familiar setting, such as a women's empowerment center.

In total, we conducted eight ethnically homogeneous focus groups with four-to-ten women: two focus groups with Ghanaian women, three with Surinamese, and three with Antillean. Two female researchers – a moderator and an observer – led each focus group. The moderators were Dutch public health researchers (VD and MAH) trained in focus group techniques. The recruiter was present in the focus groups to increase confidence (perceived similarity and familiarity with this key person) and to translate if necessary (Clark *et al*. 2003, Halcomb *et al*. 2007). A Ghanaian nurse with prior experience in overweight-related research in the Ghanaian community (Agyemang *et al.* 2009) was trained to moderate the Ghanaian focus groups, as these discussions were held in Akan. These focus groups were observed by Dutch researchers. After each focus group meeting, the observer provided feedback to the moderator on her style and the topics discussed, as preparation for the next focus group.

Finally, when all focus groups were conducted, two new key informants per ethnic community (women's leaders from immigrant organizations and a Surinamese dietician) were consulted to discuss the first interpretations. The informal discussions with key informants before and after the focus groups provided the researchers' with context knowledge for data collection, final analysis, and interpretation.

## Data collection

Before the focus group started, the moderator gave a brief introduction about the purpose of the meeting. She emphasized that participation was voluntary; anyone could leave whenever she liked or refuse to answer any question. Anonymity of the transcripts and reporting was assured. Participants consented to the focus group and to the discussion being taped. This study did not require review by a medical ethics board since it did not fall under the Dutch Medical Research Involving Human Subjects Act; participants did not undergo medical treatment nor was a certain behavior change imposed, moreover, no burdensome questions were asked.

We used semi-structured questioning for our needs assessment. With regard to communication channels, participants were asked how they found or received advice about weight loss, diet, and physical activity or information about related facilities or programs; through whom or which organizations, and whose advice they perceived as most valuable. If the group discussed these topics spontaneously, the moderator asked further explorative

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questions. The focus groups averaged 75 minutes, and incentives were given afterwards (a €10 gift voucher).

At the end of the focus group, the participants completed a short survey that provided us data on participant characteristics that can be seen as *receiver characteristics*. We determined the ethnicity and generation level by asking for the participant's country of birth and that of their parents. Ethnic minority participants were considered first generation if they were born in another country and second generation if they were born in the Netherlands to at least one parent born in another country (Stronks *et al.* 2009). Furthermore, the survey included questions about the participant's age and youngest child, self-reported weight and height for calculating the body mass index (BMI), years since migration, education, and employment (employed or unemployed, and open questions about working hours and profession).

### Data handling and analyses

The focus groups audiotapes were transcribed verbatim. The Ghanaian moderator translated the focus groups from Akan into English during transcription. These transcripts were subjected to content analysis using the software Maxqda (2010).

The analysis consisted of three main stages: data management, description, and explanation (Spencer *et al.* 2003). In the first stage, relevant excerpts regarding (1) communication channel use and (2) perceptions were deductively derived from the data. Then, themes related to communication channel use and perceptions were inductively derived and sorted according to channel type (e.g., media, healthcare). In the description stage, the excerpts were summarized by ethnic group to enable analysis of similarities and differences in channel use and perception between the ethnic groups. During the third explanation stage, possible explanations for differences in channel use and perception between ethnic groups were analyzed by searching for patterns in the qualitative data and comparing these with the receiver characteristic data for confirmation *vs.* conflict. Finally, a second analyst (VN) checked whether all relevant excerpts were extracted from the transcripts, checked for additional or conflicting outcomes, and for agreement of the conclusions.

## Results

### Characteristics of the study population

There were a total of 48 participants (Table 1). The mean ages of the women and their youngest children were highest among Ghanaian and Surinamese women. Most participants were overweight or obese (BMI 25 kg/m$^2$). All Ghanaian and Antillean participants were first-generation immigrants (mean time since migration ≈ 14 years, with the largest range for Antilleans) compared with 11 of the 16 Surinamese participants (mean time since migration = 25.5 years). Based on employment and education data, the Ghanaian participants appeared to have the lowest socioeconomic status (SES) and the Surinamese the highest.

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### Use and perception of communication channels

The participants mentioned use of channels in four broad categories: (1) regular healthcare and traditional care from the home country, (2) general audience-oriented and ethnically specific media, (3) ethnically specific and multiethnic gatherings, and (4) personal communication with people in the Netherlands or in their home countries. Similarities and differences in use and perception of these channels between the ethnic groups are described below.

**(1) Regular and traditional healthcare—**In the Netherlands, primary care providers, paramedics, and health promoters in public health services who provide regular healthcare can actively be involved in giving weight-related health advice or referrals to health promotion programs. The Ghanaians named fewer types of healthcare professionals than the Antilleans and the Surinamese. All the ethnic groups named sources in regular healthcare, particularly the physician and the dietician, as channels. The Antillean women named, in addition, the public health service, pregnancy courses, and child healthcare clinics, whilst the Surinamese women also mentioned the physical therapist and the psychologist. Moreover, Surinamese and Antillean women mentioned primary-care lifestyle programs.

In all ethnic groups, participants with severe illness or at health risk spoke positively about healthcare providers and that the advice provided had contributed to their weight loss. Ghanaians, on the other hand, mentioned mainly negative experiences with and perceptions of regular healthcare, the physician in particular. Their excerpts suggested two possible explanations for this: communication barriers and treatment received. As a group, the Ghanaian women felt that they were not taken seriously. They were dissatisfied and distrusted the physician as a consequence of their own negative experiences or those of others.

> M: ‘Are there places in the community where we can go to for help or advice?’
>
> - ‘The physician is the immediate person to turn to, but they are not always helpful to us. In fact, we Ghanaians are never well taken care of. They just look at your face and give you a prescription without letting you finish explaining your problem.’
>
> - ‘Some people say it is because of the language barrier that he gives us the wrong diagnosis and treatment. But I always go to the physician with my daughter who was born here [in the Netherlands] and who has higher vocational training. She speaks and understands Dutch well and is a good interpreter. And yet they always make the same mistakes.’

The Antilleans had various perceptions of healthcare, which related to its messages and might be due to a mismatch with their personal needs. Some Antilleans did appreciate the weight they lost as a result of the dietician's advice. Others wished to lose a lot of weight quickly. Then their perceptions of the dietician's approach were that it takes too much effort and has too little effect.

> - [I tried to lose weight on dietician's advice] ‘It went well in the beginning, until I was only losing two pounds a week.’

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- 'That's not what you want, you want to lose more in a week.'

- 'You don't want to see it or hear it [losing only two pounds a week]'

M: 'And then you quit?'

- 'Yes, I quitted directly.'

The Surinamese women said they had easy access to and much confidence in regular healthcare. They said, for example, 'You can easily ask a dietician for nutritional advice, though,' and spoke about 'Going to the physician every 3 months.' The Surinamese long sojourn in the Netherlands or being born there might have affected trust in healthcare. For example, one woman had known her physician since she was 6 years old, which reinforced the credibility of the physician's message for her.

With regard to traditional care from the home country, we observed the opposite: Ghanaians were oriented toward traditional care and trusted it; Surinamese did not. The Ghanaians said that they got traditional care from Ghanaian shops in town or from people in their home country. They called 'home' or asked holiday goers to bring them healthcare products such as natural herbs, bitters, and medicines. They trusted this care more than regular Dutch healthcare.

M: 'Because we say we don't trust the physicians, are there any other ways to get help?'

- 'Yes, we can use our native treatments like bitters and many others from our Ghanaian shops around town.'

In contrast, the Surinamese mentioned only one traditional product they knew, but they did not use it in the Netherlands because they distrusted its different labeling. Traditional care was perceived as something for their ancestors in Surinam, but they, themselves, live in the Netherlands now.

M: 'Is there no alternative care from Surinam?'

- 'There are so few of those people.'

- 'Ancestors.'

- 'And we live here in Europe, and, you see, those people are all in Surinam.'

**(2) General audience-oriented and ethnically specific media—**The Ghanaians mentioned no media use, while their Antillean and Surinamese counterparts did. Both groups spoke of information leaflets, searching the Internet, and watching television, although it is uncertain whether they actually read written media. A Surinamese woman said, 'To be honest, 9 times out of 10 you throw them [leaflets] away.'

Of the general audience–oriented media, national and local television were the most frequently discussed among the Antilleans and Surinamese. Whereas *messages* from television programs about extreme weight loss seemed to reinforce the Antilleans' needs to lose weight (quick and extensive), the Surinamese women did not perceive them as credible.

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Surinamese participants seemed to consider the consequences and alternative options more often.

> - 'I really want to exercise with a coach. The way they do with those XXXLs and those others: "The weight losers". The first episodes...'
>
> - 'Yes, they were good, they got really slim.' (Antillean women)
>
> - 'I should really lose 110 pounds, but then everything sags and then it would be another operation. I have seen a lot of documentaries where people lose an extreme amount of weight.'
>
> - 'But if you do it gradually, bit by bit.'
>
> - 'With exercise, I know.' (Surinamese women)

Antillean television and Antillean or Surinamese radio were only mentioned by the key people present at the focus group meetings. It remained unclear whether the participants frequently watched this television channel and listened to these radio stations and, if so, what their perceptions of these channels were.

**(3) Ethnically specific and multiethnic gatherings—**Ghanaian and Antillean women were focused on their own churches and events. The high rate of attendance at religious services and, subsequently, the high participation rate in the Ghanaian focus groups indicated that their churches (via a Ghanaian key person) could reach many Ghanaian women. Participants asked the moderator for health and weight change-related advice several times in both focus groups. This may be because they are used to experts coming to their churches to give information. One Ghanaian woman said:

> 'If there are people in the community apart from the family physician, we do not know about them. But we often get help from lectures given by representatives of organizations like the ones we have here, with you.'

The Antilleans explained that Antillean events reach many people because of the social aspect, 'You know that you will see each other again,' and that you 'get something' (a party, free groceries). Such an event should consist of more than just providing information, and as an Antillean woman said:

> 'Either organize events or you have to know where to find the groups. People do come, don't they, but they always want some advantage. Just information, who's interested in that?'

Among the Surinamese and, to a lesser degree, the Antilleans *multiethnic* events were also considered a way to get information. Both groups expressed appreciation for an active approach of, for instance, health professionals via events. Within this context, it was the Surinamese women who emphasized the value of involving *various* ethnic groups.

> 'You just have to come with a good plan about how you approach these people, the diverse target groups. Not only the Surinamese women. Include other cultures, Antilleans, Ghanaians, to approach people. You really have to organize events in order to reach them.'

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#### (4) Interpersonal communication in the Netherlands and in the home country

—Participants from all three ethnic groups gave examples of interpersonal communication with peers about experiences with healthcare or weight-loss methods and nutritional advice. These interpersonal communications concerned women's needs including weight loss (Ghanaians and Antilleans) and advice for healthful eating while juggling responsibilities of motherhood (Surinamese women). Most women perceived this advice and its effects as positive.

The Antilleans explicitly referred to word-of-mouth communication as a channel through which they received information. Tangible outcomes such as weight loss due to a strict diet seemed to trigger this interpersonal communication. They shared messages about such diets frequently and enthusiastically.

> 'Yes, I hear it a lot: "Oh, this diet is good," "Send him to me," it's like that.'

This communication also reaches beyond the borders of the Netherlands. The Antillean women knew about several Antillean weight-loss methods. They had heard about the quick and extensive effects of these methods, about which they were enthusiastic.

> 'Yes, for example, I phone my sister very often [in Curaçao], she takes good care of her health'... 'She has lost a whole lot of weight on the diet of a well-known Antillean.'

In contrast, the Surinamese said they were unfamiliar with Surinamese weight-loss methods, partly because they did not try to lose weight in Surinam. The concern about weight for them started in the Netherlands. Again, they seemed to refer to their long sojourn in the Netherlands. If there were current methods in Surinam, they had not heard of them.

> 'We were never concerned with weight loss there [in Surinam], you know, in the way that you use a means to lose weight... but here you do, yes. Here one does that, but there one doesn't. Maybe now, but...'

## Discussion

The participating ethnic minority groups differed primarily in which communication channels they mentioned using and their perceptions of them. There was emphasis on and positive perceptions of ethnically specific channels in the Ghanaian focus groups (e.g., they trusted and were used to traditional healthcare from Ghanaian shops, help from Ghana, and information received in Ghanaian churches). Simultaneously, they mentioned fewer general audience-oriented channels (i.e., mainly limited to the physician), and if discussed, negative perceptions (distrust and dissatisfaction) were expressed. Within the Antillean focus groups, there was more of a balance between ethnically specific channels mentioned (Antillean events and word-of-mouth communication with Antilleans) and general audience-oriented channels (healthcare, media, and multiethnic events). Perceptions were also mixed. In contrast, Surinamese participants discussed the use of general audience-oriented channels (regular healthcare, media, and multiethnic events) in a positive manner, while they said they did not use ethnically specific channels (traditional healthcare and contacts with people the home country). Excerpts of the ethnic minority women related their channel use and

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perception to receiver characteristics, such as Dutch language proficiency and time they had resided in the Netherlands (i.e., generation level, time since migration), as well as to communication approaches and messages received through the channels.

This study has limitations and strengths that we must consider when interpreting the results. First, there were at least two focus groups for every ethnic group for the initial exploration of the use of communication channels and the perceptions of mothers in the different ethnic minority groups living in the Netherlands. More focus groups per ethnic group might have resulted in new information, for instance on media use. To minimize this potential bias, we obtained the most complete and reliable picture possible by involving key people in all phases of the study (Huer and Saenz 2003, Halcomb *et al.* 2007).

Second, while we adapted the focus group recruitment strategy to the ethnic groups in order to promote participation, this may have resulted in recruitment bias and may explain differences in characteristics between the ethnic groups. However, these differences in generation level, time since migration, and SES show a pattern similar to that seen at the national level (Ministry of the Interior and Kingdom Relations 2002, Gijsberts and Dagevos 2009) and might, therefore, not be a result of the recruitment method.

Third, our study was limited to ethnic minority groups from 3 of the 178 nationalities living in Amsterdam (O+S Department for Research and Statistics 2012). These ethnic groups differed on such characteristics as generation level, time since migration, SES, and local language proficiency. Therefore results related to these characteristics might be transferable to other ethnic groups. Comparing the results with those from other ethnic minority groups from other countries could provide insight into the broader applicability to multiethnic populations.

When we compared our study results with previous studies, we found differences in channel use and preference between ethnic/racial groups in the USA as well (Brodie *et al.* 1999,O'Malley, Kerner and Johnson 1999). Although ethnically specific channels, like their own media and events, are a frequently applied approach to reach ethnic minority groups for health promotion (UyBico, Pavel and Gross 2007, Netto *et al*. 2010), they may not benefit all ethnic minority groups equally. Ethnic groups or subgroups with receiver characteristics such as good local language proficiency and a longer duration in the host country seem to rely less on ethnically specific channels. Of these characteristics, local language proficiency might be the most studied characteristic. Brodie *et al.* (1999) found that ethnic minority subgroups less fluent in the local language were more directed to ethnically oriented media. Furthermore, several studies show a relationship between poor local language proficiency and dissatisfaction with healthcare (Scheppers *et al*. 2006, Lien *et al*. 2008, Boateng *et al*. 2012).

The perceptions of communication approaches and messages linked to their channels might also be attributed to characteristics of ethnic groups, such as culture and educational level. Ghanaians, and also Antilleans, described healthcare as a less-credible channel because the advice or treatment did not match their communication expectations and needs for short-term but substantial weight loss. Communication patterns and norms and values can be seen

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as characteristics of one's culture (Kreuter and McClure 2004). Moreover, educational level could be a plausible explanatory characteristic in this context. The Antilleans wanted quick and extensive weight loss – a short-term goal in contrast to some Surinamese who considered the long-term consequences more. Those with low educational levels have been reported to be more likely to seek short-term goals than those with high levels (Crockett *et al*. 2009). Interpersonal communication with peers and the TV programs Antillean women watched were directed to such short-term effects and were perceived positively. Healthcare on the other hand, communicates that quick, extreme weight loss could be detrimental to one's health, thus resulting in a mismatch with the women's needs.

These message and receiver characteristics, rather than ethnicity, explanations could have important implications for policy and practice. Logically, segmentation is inefficient if the wrong or less important intervention aspect, e.g., channel instead of message, is segmented (Hornik and Ramirez 2006). Moreover, if differences are actually larger within ethnic groups than between them, alternative segmentation criteria might be more sensitive (Hornik and Ramirez 2006). Within our ethnic groups there was a clustering of receiver characteristics: first generation participants with relatively short time in the Netherlands had lower SES and relatively poor local language proficiency, while the ethnic group who had lived longer in the Netherlands were more proficient with the Dutch language and had higher SES, and in turn, we found differences in use and perception of ethnically specific channels. Clayman *et al.* (2010) have also reported such a clustering of characteristics and related differences in channels use, although within just one ethnic/racial group (Hispanic). Therefore one could wonder whether ethnicity is the most sensible criterion for segmentation or whether other characteristics of ethnic groups – such as local language proficiency, generation or educational level – could serve as alternative segmentation criteria across ethnic groups (Hornik and Ramirez 2006).

Yet, our findings imply that channel segmentation seems necessary to reach a multiethnic population with weight loss-related health promotion communications. Locally, we would recommend adapted, more ethnically specific communication channels for Ghanaian residents. Internationally, small-scale qualitative studies using face-to-face interviews with individuals from different ethnic groups might be appropriate to further unravel information about differences in channel use, perception, and the relationship with message, source, and receiver characteristics. Large-scale quantitative studies of channel use and perception could test statistically significant relationships of these characteristics against differences in channel use and perception across ethnic groups in order to identify the most important predictor (i.e., most sensitive segmentation criteria).

We conclude that the predominant differences in channel use and perception between the ethnic groups indicate a need for channel segmentation to reach a multiethnic target group with weight-related health promotion initiatives. This study reveals that practical segmentation criteria other than ethnicity, e.g., local language proficiency and time since migration, warrant further investigation.

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**Key messages**

- Three ethnic minority groups differed in their use of ethnically specific channels and their perception of the channels' credibility.
- Distinct communication channels seem to be needed to equally reach multiethnic groups of women with weight-related health promotion initiatives.
- Segmentation criteria beside ethnicity, such as local language proficiency and time since migration, are worthy of further investigation.

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### Box 1. Contextual information about Amsterdam South-East and its main ethnic minority groups: Ghanaian, Antillean, and Surinamese

Amsterdam South-East is a multiethnic district of Amsterdam that covers 22.11km $^2$ . Of its 77,917 inhabitants, 32.9% are Surinamese, 28.9% Dutch, 9.1% Ghanaians, and 5.9% Antillean/Aruban (van Zee and Hylkema 2007). The overweight problem in South-East is high (35% overweight, 17% obese) compared with the rest of Amsterdam (30% overweight, 10% obese) (Dijkshoorn *et al*. 2009). When this project began in 2007, 141 nationalities were represented in Amsterdam South-East, 63% belonged to an ethnic minority group.

Ghanaian immigrants first settled in the Netherlands in the late 1970s and early 1980s, largely for economic reasons. The second major wave of immigration was mainly the result of family reunion in the early 1990s. Ghana was a British colony, and English is still its official language. However, there are 75 Ghanaian languages and dialects, each associated with an ethnic group, including the Akan (40% of the Ghanaian population). Dutch is a difficult language for Ghanaians to learn and generally their proficiency is poor. The Ghanaian community in the Netherlands is characterized as dense, highly organized, and closed. It is estimated that 97% of the Ghanaian-Dutch are religious. They work hard but generally have marginalized socioeconomic positions. Most Ghanaians cherish their cultural background, and because most do not speak Dutch, they do not integrate well into Dutch society (Nimako 2000, Ministry of the Interior and Kingdom Relations 2002).

Suriname and the Netherlands Antilles have a colonial history with the Netherlands. Most Surinamese migrants came to the Netherlands before 1976. Most of the Antilleans who have settled in the Netherlands did so after 1986. Initially, only the elite and students migrated to the Netherlands. However, when Suriname became independent (1975), there was a peak of Surinamese migration to the Netherlands from all social classes. Moreover, when this study was conducted, the Netherlands Antilles were still part of the Kingdom of the Netherlands, so immigration was uncontrolled. Over the years, more disadvantaged (less skilled) Antilleans have migrated to the Netherlands (Vermeulen and Penninx 1994). Dutch is still the official language in Surinam and the Netherlands Antilles. However, English and Papiamento are also official languages in the Netherlands Antilles. Consequently, Dutch language proficiency among Surinamese and Antilleans is relatively good. Surinamese residents have almost no difficulty with Dutch. First-generation Antilleans have a little more difficulty with Dutch, though they seem to speak the language better than other ethnic minority groups (Gijsberts and Dagevos 2009). Antilleans and Surinamese appear to be more integrated into Dutch society than Ghanaians. However, integration depends on the position of the individual. The better-educated and second-generation Surinamese and Antillean populations integrate into Dutch society with relative ease (Vermeulen and Penninx 1994).

The position of the Surinamese minorities is more favorable compared to other ethnic minorities. Surinamese women, especially, have a better position in the labor market and are often more economically independent than ethnic Dutch women. At the same time,

they are more frequently unemployed and on average less educated than ethnic Dutch women (Gijsberts and Dagevos 2009).

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**Table 1**

Characteristics of the focus group participants

| | **Ghanaian ($n$ = 19)** | **Antillean ($n$ = 13)** | **Surinamese ($n$ = 16)** |
|---|---|---|---|
| *Age* | | | |
| Mean age (range) | 42.7 (26–57) | 37.6 (23–56) | 39.3 (21–60) |
| *Children* | | | |
| Mean age of youngest child (range) | 11.4 (0–25) | 7.8 (0–26) | 11.8 (3–40) |
| *Migrational factors* | | | |
| Mean years since migration (range) | 14.1 (4–26) | 14.8 (7–40) | 25.5 (7–39) |
| First generation | 19 | 13 | 11 |
| Second generation | 0 | 0 | 5 |
| *Educational level*[*] | | | |
| Low | 8 | 3 | 0 |
| Intermediate | 7 | 9 | 12 |
| High | 2 | 1 | 3 |
| Missing data | 2 | 0 | 1 |
| *Employment* | | | |
| Unemployed | 2 | 7 | 3 |
| Employed 24 h | 1 | 0 | 1 |
| Employed 24–36 h | 2 | 0 | 5 |
| Employed 36 h | 11 | 6 | 5 |
| Missing data | 3 | 0 | 2 |
| *Indication of overweight* | | | |
| Mean body mass index in kg/$m^2$ (range) | 29.4 (22.8–38.0) | 32.4 (22.5–60.4) | 34.6 (24.4–50.4) |
| Missing data | 2 | 0 | 2 |

[*]Educational level: low: primary school; intermediate: secondary school or lower/senior secondary vocational education; high: higher vocational training or university