



# Media Use and Source Trust among Muslims in Seven Countries: Results of a Large Random Sample Survey

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# Media Use and Source Trust among Muslims in Seven Countries: Results of a Large Random Sample Survey

## **Author Biography**

Steven R. Corman is Professor and Director of the Center for Strategic Communication (CSC) in the Hugh Downs School of Human Communication at Arizona State University. He teaches and studies public sector strategic communication and is a principal- or co-investigator on several large research projects focusing on Islamist extremism and counter-extremism. Steven Hitchcock is a doctoral student at the Hugh Downs School of Human Communication at Arizona State University. His research interests include critical studies, media studies, and organizational communication.

## **Abstract**

Despite the perceived importance of media in the spread of and resistance against Islamist extremism, little is known about how Muslims use different kinds of media to get information about religious issues, and what sources they trust when doing so. This paper reports the results of a large, random sample survey among Muslims in seven countries Southeast Asia, West Africa and Western Europe, which helps fill this gap. Results show a diverse set of profiles of media use and source trust that differ by country, with overall low trust in mediated sources of information. Based on these findings, we conclude that mass media is still the most common source of religious information for Muslims, but that trust in mediated information is low overall. This suggests that media are probably best used to persuade opinion leaders, who will then carry anti-extremist messages through more personal means.

## Introduction

It is a widely held belief, perhaps even a truism, that media use plays a crucial role in the spread of Islamist extremism among contested populations of Muslims all over the world. There are statements by extremists that say as much. For example, it is common for extremists to speak of a “media jihad.” One user on an extremist form stated: “The responsibility for media jihad is great and there must be real awareness of this responsibility.”<sup>1</sup> Another recent post in an extremist message forum quotes Abu Hafs al-Sunni—believed to be a senior al Qaeda media strategist—as saying “electronic jihad is the other side of the precious coin of jihad.”<sup>2</sup> His organization has for years maintained an official media and public relations arm, *as-Sahab*, that produces and releases videos through the internet, the mainstream media, and other channels.<sup>3</sup> Paul concludes that Islamist extremists

“recognize influence as a primary operational objective, and they integrate operations with related media requirements as a matter of course...Hezbollah innovatively subjected “virtually all its military action to its propaganda and mass media requirements.”<sup>4</sup>

Since Islamist extremists typically frame their influence attempts in religious terms, it is important to know about Muslims’ consumption of media with respect to religious issues.

There is also a widely propagated narrative that the Internet is fueling social transformation in virtually all domains and places around the globe. For instance, Dutton argues that “the Internet, World Wide Web, mobile cellphones, digital television, and numerous other new electronic information and communication technologies (ICTs) are opening fresh pathways for transforming the way we live, work, learn, and communicate.”<sup>5</sup> If true, this must apply as well to radicals as well as to counter-radicals, and the mainstream.

At the same time, it is an open question how important the Internet is relative to other, more traditional media. As we show below, in some places where Islamist extremism is a concern there is little penetration of ICTs, meaning that print/broadcast media—and even old-fashioned face-to-face communication—could still be the dominant channels for transmitting religious information. Understanding the mix and importance of media is crucial for the success of military and diplomatic strategic communication efforts to counter the radicalization efforts of Islamist extremists.

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<sup>1</sup> For example, Nasir al-Qaeda, “Message to My Brothers, the Supporters of the Mujahidin on the Jihadist Forums,” *Ansar al-Mujahidin Network*, August 29, 2012.

<sup>2</sup> M. Maghrebi, “A conversation with the brother Abu-Hafs al-Sunni al-Sunni,” Global Jihad Network forum, March 2, 2012, available at <http://www.aljihad.com/vb>.

<sup>3</sup> “Tracking Al-Qaida’s Media Production Team,” *National Public Radio*, July 11, 2006, available at <http://www.npr.org/templates/story/story.php?storyId=5548044>.

<sup>4</sup> Paul, Christopher. *Strategic Communication: Origins, Concepts, and Current Debates: Origins, Concepts, and Current Debates* (New York: Praeger, 2011), 114.

<sup>5</sup> William H. Dutton, *Social Transformation in an Information Society: Rethinking Access to You and the World* (UNESCO, 2004), 13.

Given this, it is quite surprising that so little is known about how Muslims engage the contemporary media milieu and evaluate the sources of the messages these media carry. Paul claims that Internet technology “has reached a critical mass in accessibility, with high-speed Internet access available worldwide,”<sup>6</sup> but we can find no evidence that this true for many countries where Muslims are a majority, or where they are a significant minority and extremism/counter-extremism are going concerns. We must also be careful to distinguish between access and *use*. While there is some—albeit spotty—data available on media access, there is very little available on use, as we will show. Therefore, our first research question asks:

*RQ1: On what media do Muslims rely for information about religious issues?*

Even if we had an answer to this question, it would not be enough to understand the ways in which extremist or counter-extremist influence operates. Media are, after all, channels for communication by individuals and groups. Just because someone receives a message through a given channel, this does not mean they will take it to heart. Some research shows that people are skeptical about information received through media in general, and that interpersonal communication mediates acceptance of such information.<sup>7</sup> Accordingly, we also ask:

*RQ2: What sources do Muslims trust for information about religious issues?*

*RQ3: What is the relationship between media relied upon and trust in sources?*

In the next two sections we review what is currently known that may help answer our research questions. Following that, we report results of a large random-sample study of Muslims in seven countries in West Africa (Niger, Nigeria and Senegal), Western Europe (France, Germany and UK), and Southeast Asia (Malaysia).<sup>8</sup> We conclude by discussing implications of this research.

## Media Use by Muslims

As we have already explained, little research exists on Muslims’ use of media. What is available comes primarily from data produced by the International Telecommunications Union (ITU). ITU is an increasingly active organization which “covers the whole ICT sector, from digital broadcasting to the Internet, and from mobile technologies to 3D TV.”<sup>9</sup> In 2001 the UN endorsed the World Summit on the Information Society which sought to “establish the foundations for an Information Society for all, reflecting the different interests at stake” and “find solutions and reach agreements in the fields of Internet governance.”<sup>10</sup> This summit called upon member states to “...develop tools to provide statistical information on the information society” and as such “...the United Nations in cooperation with many international organizations developed core ICT indicators to measure both ICT infrastructure and usage in different sectors...”<sup>11</sup>

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<sup>6</sup> Paul, 115.

<sup>7</sup> Spiro Kiouisis, “Public Trust or Mistrust? Perceptions of Media Credibility in the Information Age,” *Mass Communication and Society* 4:4 (2001): 381-403.

<sup>8</sup> See below under Methods—Participants for an explanation of country selection.

<sup>9</sup> “ITU: Committed to connecting the world,” *International Telecommunications Union*, November 25, 2013, available at <http://www.itu.int/en/Pages/default.aspx>.

<sup>10</sup> “World Summit on the Information Society Home,” WSIS National Committee, November 25, 2013, available at <http://www.wsis.ae/en>.

<sup>11</sup> “Egyptian Ministry of Communications and Information Technology,” November 25, 2013, available at <http://www.mcit.gov.eg>.

Because the ITU's charge is to produce "indicators" for measurement of ICT development, the majority of data that exists in developing countries is infrastructure statistics, and a great deal of academic research on media in these countries is founded on this data. A number of organizations draw from the data produced by ITU, often compiling it alongside independent data. One prominent example is Internet World Stats<sup>12</sup> which produces internet usage and population statistics for all countries and regions of the world. Table 1 illustrates the increase of internet connections in each of the countries examined in this study between 2000 and 2011, the number of connections in comparison to population of each country, and the number of Facebook users in comparison to the population of each country.

**Table 1: Internet Users, Growth, Penetration, and Facebook Users of Selected Countries**

Country	Population	Users in Dec 2000	Users in Dec 2011	Penetration (% Pop.)	Facebook
France	65,102,719	50,290,226	77.20%	77.20%	23,544,460
Germany	81,471,834	67,364,898	82.70%	82.70%	22,123,660
Malaysia	28,728,607	3,700,000	17,723,000	61.70%	12,365,780
Niger	16,344,687	5,000	128,749	0.80%	47,440
Nigeria	170,123,740	200,000	45,039,711	29.00%	5,051,520
Senegal	12,969,606	40,000	1,989,396	15.70%	665,880
UK	62,698,362	52,731,209	84.10%	84.10%	30,470,400

Note: Adapted from Internetworldstats.com, 2012.

Some media consumption research has been conducted separately of the aforementioned ITU data. It is generally country-focused and thus is able to offer a valuable understanding specific national contexts. Within this however, there is a substantial disparity in the amount of scholarship between the European and African countries and research within Africa is somewhat uneven in terms of both depth and breadth. In addition, the vast majority of scholarship conducted in Europe examining media consumption amongst ethnic groups is framed in terms of immigration and acculturation. Finally, very limited academic research has been conducted looking at Niger specifically; however, given its internet penetration of less than <0.1%,<sup>13</sup> this is to be expected. In the remainder of this section we address what infrastructure and academic research is available about countries that are included in the current study.

<sup>12</sup> "Internet World Stats - Usage and Population Statistics," Miniwatts Marketing Group, November 26, 2013, available at <http://www.internetworldstats.com>.

<sup>13</sup> Ibid.

## Senegal

Senegal is categorized by the UN as one of the Least Developed Countries (LDC).<sup>14</sup> A recent study conducted by Columbia Business School as highlighted the importance of telecommunications technology to the struggling Senegalese economy. In terms of ICT adoption over the past 30 years, fixed telephony, personal computers, and fixed broadband have shown poor growth since introduction in the mid-1990s have yet to rise above 5% penetration.<sup>15</sup> In line with many other developing countries, dial-up internet currently sits at around 16% penetration and wireless phones at around 65%. Surprisingly, the telecommunications industry accounts for over 10% of Senegal's GDP. Wireless phones are one of the driving economies in Senegal, where "for every 1% increase of mobile penetration, the annual average contribution to the GDP is equal to 0.044%"<sup>16</sup>. In terms of news consumption, Senegal is one of the few countries in Africa where private news organizations are trusted more than public news organizations.<sup>17</sup> Moreover Senegal also has the second highest 'trust gap' between private and public news organizations, second only to Namibia.<sup>18</sup>

## Nigeria

Nigeria has the highest number of internet users in Africa at around 45 million, yet sits third in penetration at 29%, behind Morocco, Seychelles, and Reunion (FR).<sup>19</sup> Interestingly, there is a substantial amount of research regarding ICT in Nigeria. Over the past ten years a number of studies have come forward specifically examining engagement with the internet. *The Electronic Library* produced a special issue in 2005 looking specifically of ICT in Nigerian libraries. Ani, Uchendu, and Atseye focus on understanding why people use the internet in the Calabar Metropolis, and more specifically who does not use the internet and why. Their data indicate that 53% of use is for education/academic endeavors, 15% to look for work, and 19% for entertainment.<sup>20</sup> They further note that the combination of "poor internet services and infrastructure (e.g. slow response time, network fluctuation etc), the lack of financial capacity to pay and inaccessibility to the internet" have led to what has been called a digital divide, separating people who have access from ICTs from those who do not. The authors call for decentralization and the implementation of regional exchanges. While the number of computers has increased dramatically due to both rising university enrolments and demand for internet cafes, the infrastructure is simply not keeping up.

Many other scholars agree that cyber cafes and universities are key areas of interest in regard to ICT connectivity and are studying these environments. Among undergraduates specifically, Ani notes that "the use of internet in Nigerian universities among the students is pervasive and innovative, but the problem of providing equitable, affordable and sustainable access to the

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<sup>14</sup> "Homepage - UN-OHRLLS," United Nations Office of the High Representative for the Least Developed Countries, November 25, 2013, available at <http://unohrlls.org>.

<sup>15</sup> Paul Katz and Pantelis Koutroumpis, "The economic impact of Telecommunications in Senegal," *Communications and Strategies* 86 (2012): 21.

<sup>16</sup> Ibid, 12.

<sup>17</sup> Ibid.

<sup>18</sup> Ibid.

<sup>19</sup> [Internetworldstats.com](http://Internetworldstats.com).

<sup>20</sup> Ani, Okon Edet, Chika Uchendu, and Emmanuel U. Atseye, "Bridging the digital divide in Nigeria: a study of internet use in Calabar Metropolis, Nigeria," *Library management* 28:6/7 (2007): 355-365.

internet on different university campuses in Nigeria persists.”<sup>21</sup> A study looking specifically at the patronage of cyber cafes illustrates that little has changed in the past ten years. Adomi, Okiy, and Ruteyan (correctly) predicted that until the issues poor infrastructure and prohibitive costs were resolved on a governmental level then little would change.<sup>22</sup> Despite these frustrations, a recent study of university staff and students showed predominantly positive views towards the information available on the internet.<sup>23</sup> This “zeal” is echoed by Adetimirin<sup>24</sup> who discusses the overwhelmingly positive attitudes towards ICT by Nigerian staff and students despite the inadequate service available. However he notes that, predictably, federal and private universities have far better service on offer.

### *Malaysia*

As with the other, more developed countries in our study, a great deal of research examining media use has been undertaken in Malaysia. The latest ITU data show that in 2010 there were 16.9 million internet users in Malaysia (population 26.1 million) with a penetration of around 64.6%.<sup>25</sup> A study published in 2009 indicated that time spent on computers collectively surpasses time spent on television or radio. A similar study indicated that Malaysians ranked third in the world in average time spent online per week at 20 hours.<sup>26</sup> Interestingly, while mainstream media is state-owned and state regulated – internet-based media has remained largely unregulated.<sup>27</sup>

### *Germany, France and UK*

A study published in 2010, carried out by TNS for the British Government, sought to better understand media use and media consumption of British Muslims.<sup>28</sup> Males consumed more media than females. While the vast majority cited the newspaper and television as the most trusted source for news, on matters of religion and history, parents were by in large the most trusted source. Unsurprisingly, younger participants tended to engage with media for entertainment and education more than their older counterparts. It is important to note that given the large size of the Muslim community in Britain, there were a large number of texts written specifically for Muslim audiences that were more trusted than ‘British’ ones.<sup>29</sup>

<sup>21</sup> Ani, Okon E. "Internet access and use: A study of undergraduate students in three Nigerian universities." *The Electronic Library* 28:4 (2010): 555-567.

<sup>22</sup> Adomi, Esharenana E., Rose B. Okiy, and Josiah O. Ruteyan. "A survey of cybercafés in Delta State, Nigeria." *The Electronic Library* 21:5 (2003): 487-495.

<sup>23</sup> Ekwelem, Vincent O., Victoria N. Okafor, and Scholastica C. Ukwoma. "Students' Use of Electronic Information Sources at the University of Nigeria, Nsukka." *African Journal of Library, Archives and Information Science* 19:1 (2009).

<sup>24</sup> Adetimirin, Airen Edale. "ICT literacy among undergraduates in Nigerian universities." *Education and Information Technologies* 17:4 (2012): 381-397.

<sup>25</sup> International Telecommunications Union.

<sup>26</sup> M. Asiuzzaman, "Media Pluralism and Development in Malaysia: A Third Eye View," *The Asian Scholar* 7 (2010).

<sup>27</sup> Ibid.

<sup>28</sup> "RICU - British Muslim Media Consumption Report," UK Home Office, March, 2010, available at <http://www.scribd.com/doc/44585546/RICU-British-Muslim-Media-Consumption-Report>.

<sup>29</sup> Ibid.

Rigoni suggests that the aversion to mainstream British media is due to the absence of Muslim representation.<sup>30</sup> Her examination suggests the environment is much the same across the UK and France. She believes the marginalization and general treatment of Islamic issues is highly problematic.<sup>31</sup> While she notes the structural and contextual framework of modern journalism as a factor, her concern is primarily focused on power of the mainstream media to shape public opinion.<sup>32</sup> A 2009 study conducted in the UK, Germany and France found that Muslim and non-Muslim participants alike felt that “when it comes to reporting issues related to Muslims, there appeared to be a significant lack of trust in the mainstream media’s objectivity and fairness.”<sup>33</sup> Moreover, 86% of Muslim participants felt the need to augment their mainstream media with so-called “minority media.”<sup>34</sup>

A series of studies have examined media usage of French-Muslims from an acculturation perspective.<sup>35</sup> These works illustrate how each progressive generation consumes less ethnic media. In addition, it is suggested that religiosity plays a key role in media consumption. Croucher et al.<sup>36</sup> examined ethnic identification and ethnic media use between French-Muslims and British-Muslims. The study’s findings suggested that British-Muslims were across the board, higher consumers of ethnic media. Croucher et al.<sup>37</sup> suggest that there are contextual reasons for this:

“In Britain, Islam is more visible, with numerous mosques and other visible symbols not limited by British law. However, in France such public symbols are limited by legal, tax, and public means (Croucher, 2006). Second, as Croucher (2009) and Phillips (2006) asserted, Britain’s Muslim population, unlike many other European nations’ Muslim populations, has a history of higher levels of balancing ethnic identification and assimilation. Thus, many members of this population are keen to strongly identify with Islam and actively seek out ethnic media, whether they are a first-generation or subsequent-generation Muslim immigrant (H1 and H2).”<sup>38</sup>

Pies questions the notion that media usage/consumption and integration are positively related: “It is not sufficient to ask whether an Arab immigrant in Germany uses German or Arab media. In fact you have to ask what meaning this recipient credits and its content.”<sup>39</sup> She illustrates this

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<sup>30</sup> Rigoni, Isabelle. "Challenging notions and practices: the Muslim media in Britain and France." *Journal of Ethnic and Migration Studies* 31:3 (2005): 563-580.

<sup>31</sup> Ibid.

<sup>32</sup> Ibid.

<sup>33</sup> “Muslims in the European ‘Mediascapes’: Integration and Social Cohesion Dynamics,” Institute for Strategic Dialogue, 2009, available at:

[http://www.strategicdialogue.org/documents/isd\\_intranet/ISD%20muslims%20media%20WEB.pdf](http://www.strategicdialogue.org/documents/isd_intranet/ISD%20muslims%20media%20WEB.pdf).

<sup>34</sup> Ibid.

<sup>35</sup> Croucher, Stephen M., Deepa Oommen, and Emily L. Steele. "An examination of media usage among French-Muslims." *Journal of Intercultural Communication Research* 38:1 (2009): 41-57. Croucher, Stephen M., Deepa Oommen, Ian Borton, Samara Anarbaeva, and Jacob S. Turner. "The influence of religiosity and ethnic identification on media use among Muslims and non-Muslims in France and Britain." *Mass Communication and Society* 13:3 (2010): 314-334.

<sup>36</sup> Ibid.

<sup>37</sup> Ibid.

<sup>38</sup> Ibid (328).

<sup>39</sup> Judith Pies, *I Can Watch Both Sides: Media Use among Young Arabs in Germany* (Boston, MA: Brill, 2008), 398

point by juxtaposing her participants' consumption data against their understood meanings of such consumption. She suggests that the consumption of German media on the part of German-Muslims may be more accurately described as an attempt to orient themselves within the cultural landscape; as opposed to an indication of acculturation or integration.

In summary, there is some existing research on media use by Muslims, however the bulk of it is focused on penetration of new media systems in particular countries, providing us little insight into how these channels are actually used. Some research describes users' reliance on particular forms of media, but it tends to focus on particular countries and does not focus on use of the media specifically for obtaining religious information. If we can draw any generalization from existing research, it is that we can expect lower availability—and therefore less importance—of “new” internet-based communication technology in less developed countries (in comparison to Europe). In the next section we look at what is known about trust in information sources.

## Muslims' Trust in Information Sources

While little is known about Muslims' use of particular media for religious information, even less is known about how they evaluate sources of this information, notwithstanding the channels through which it is transmitted. This is an important dimension of the phenomenon under study because users might attend to communication through a particular medium but view the information it contains with skepticism, dampening its potential for persuasion and attitude change.

The study most directly relevant to the present effort is by Ibrahim, Noor, and Mehad.<sup>40</sup> They reported the results of a large (convenience) sample survey of 605 Muslim students from Southeast Asia and the Middle East assessing their trust in online sources of Islamic information. Results showed that over 2/3 of the respondents agreed with the statement “I can only trust the offline form of information dissemination.” Reasons for not trusting web-based information included the uncertain nature of the web, unreliable or inauthentic websites, poor website design, and poor content reliability and validity.<sup>41</sup>

Fandy<sup>42</sup> examines trust in broadcast sources in the Middle East. He argues that questionable reporting during the 1967 war broke Arabs' trust with local media, and forced them to look to foreign sources, such as the BBC, for accurate information. He argues that even al-Jazeera is questioned by many because of its ownership by the Qarati government. In addition, he says, cultural traditions of the Arabs favor oral communication as a source of information because trust is to some extent built-in to personal relationships through which these forms of communication operate.

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<sup>40</sup>Emma Nuraihan Mior Ibrahim, Nor Laila Md Noor, and Shafie Mehad, "Trust or Distrust in the Web-Mediated Information Environment (W-MIE): A Perspective of Online Muslim Users." *Journal of Enterprise Information Management* 22:5 (2009): 523-547.

<sup>41</sup> Ibid.

<sup>42</sup> Mamoun Fandy, "Information Technology, Trust, and Social Change in the Arab World," *The Middle East Journal* (2000): 378-394.

Skuse<sup>43</sup> reports results of a survey of radio station preferences in Afghanistan. It shows that by large percentages both male and female listeners prefer the BBC World Service as a source of information because it is seen as less biased and less likely to be a source of propaganda. With regard to faith as a basis for trust, Siala, O'Keefe and Hone studied trust in online book retailers by members of Christian, Muslim, and other faiths (the location of the participants was not specified).<sup>44</sup> Their hypothesis that users would trust websites from same-faith operators was partially supported for Muslims, who placed significantly greater trust in information from Muslim sites.

In summary, research on trust in sources is sparse, and focuses more on trust in channels than on trust in sources per se. General conclusions we can draw are that there is low trust overall in mediated sources, and that there may be a built-in preference for personal/oral communication for information regarding religious issues. In the next section we describe research designed to answer our research questions.

## Methods

### *Survey Design*

The survey is one element of a larger investigation of counter-radical discourse and praxis in Southeast Asia, West Africa and Western Europe that also includes ethnographic and web mining components. The larger investigation looked at the ways in which Muslim individuals and communities respond to, and counter, radical or extremist actors (individual and organizational), and their discourses. The complete survey contained 60 core questions, developed through collaborative and repeated engagements of the full research team. Space does not permit complete discussion of survey design, participants, sampling and procedures. Full details are available elsewhere.<sup>45</sup> The research team included scholars with backgrounds in anthropology, communications, computer science, mathematics, religious studies and sociology. This paper reports on a number of questions in the survey that focused on media use and trust in sources.

### *Participants*

Two thousand eight hundred and ten Muslims in 7 countries were surveyed over a period of two months in 2011. The surveys were conducted in France, Germany, Malaysia, Niger, Nigeria, Senegal, and the United Kingdom (UK). The number of countries was determined by budget constraints. The particular countries were selected on the basis of (a) size of the Muslim population, (b) the role of religion in ethnic and political violence in the country, (c) for the European countries, the presence of salient, active, radical groups in diaspora communities, and (d) research accessibility and ability to secure host country permission to conduct research.<sup>46</sup>

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<sup>43</sup> Andrew Skuse, "Radio, Politics and Trust in Afghanistan A Social History of Broadcasting," *International Communication Gazette* 64:3 (2002): 267-279.

<sup>44</sup> Haytham Siala, Robert M. O'Keefe and Kate S. Hone, "The Impact of Religious Affiliation on Trust in the Context of Electronic Commerce." *Interacting with Computers* 16:1 (2004): 7-27.

<sup>45</sup> David Jacobson, Maureen Olmstead, Natalie Deckard and Mark Woodward, "Survey of Muslims in Western Europe, West Africa, and Malaysia: Sample Characteristics," Center for the Study of Religion and Conflict, June 2012, available at <http://csrc.asu.edu/research/publications/articles/survey1-sample>.

<sup>46</sup> This last factor accounts for the inclusion of only one Southeast Asian country in the study, as it proved impossible to secure host country permission in a timely manner in Indonesia and Singapore.

Four-hundred individuals completed survey interviews in all countries except Malaysia, where 410 individuals completed the survey.

### *Sample Recruitment, Sampling Unit Selection, and Participant Eligibility*

Surveys were conducted by a survey research contractor, which subcontracted with local market research firms in each country, and used a combination of telephone and face-to-face interviews. In countries with low telephone penetration (Malaysia, Niger, Nigeria, and Senegal), multilevel cluster sampling was used to select participants and data was collected face-to-face. In these countries, regions with low population size and areas where on-going conflict had the potential to put researchers at risk were eliminated from the sample.

Elsewhere (France, Germany and the UK), interviews were conducted by telephone. Here a personal interview were not practical because of a low incidence of Muslims and a lack of official data on this population. Accordingly, insights from ethnographers working in the region were used to identify four strata, high incidence, medium incidence (except Germany), low incidence, and very low incidence. In high, medium, and low incidence strata random digit dialing was used to enroll participants. In very low incidence strata phone numbers were randomly selected from directory listings of households with typically ethnic Muslim names. Within eligible households the recent birthday method was used to select participants if there was more than one eligible household member.

Eligibility criteria required that participants be over the age of 18 and report Muslim or Islam as their religious preference. Efforts were made to ensure that the sample contain approximate equal number of male and female respondents. Interim review of datasets revealed an imbalance between male. Table 2 shows eligibility and participation rates for all countries.

**Table 2: Sampling, Eligibility and Completion Statistics**

Region	Country	Sampling Units Selected	Eligible Households	Refusals (%)	Completed Interviews (%)
SE Asia/Africa					
	Malaysia	656	521	21.3	78.7
	Niger	585	473	15.4	84.6
	Nigeria	546	450	11.1	88.9
	Senegal	627	555	27.9	72.1
	TOTAL/AVG	2,414	1,999	18.9	81.1
Europe					
	France	31,110	2,961	86.5	15.6
	Germany	14,929	1,692	76.4	23.6
	UK	46,133	4,664	91.4	8.6
	TOTAL/AVG	92,172	9,317	84.8	15.9

### *Procedures*

All interviewers were residents of the area and native speakers of the language in which the interview was conducted. At first contact (whether via phone or face-to-face), the interviewers read a script describing the project, soliciting participation, and assuring confidentiality. After screening questions to confirm eligibility and determination/selection of the participant from the Kish diagram or the recent birthday method, participants verbally consented and the interview was either conducted immediately or scheduled for a later date/time. Interviews were conducted in the interviewee's preferred language.

### *Items*

Two sets of survey items, along with demographic data, were used in this analysis. One set of items sought answers about usage of different communication media for obtaining information on faith and religious issues. The prompt asked: "Many of us rely on different kinds of sources to learn about faith and religious issues. How often do you use the following sources to obtain information on faith and religious issues?" The options were: Television and radio; Audio CDs, cassettes, MP3s, videotapes, DVDs; Audio CDs, cassettes, MP3s, videotapes, DVDs; Text messages on cell phones; Internet social networking sites; Other Internet sources (blogs, web sites, video sharing sites); Religious services or group meetings. For each, participants were asked to respond often, sometimes, rarely, or never.

A second set of items asked about trust in different sources. The prompt was: "On a scale of 1 to 5 where 1 means least trustworthy and 5 means most trustworthy, how much do you trust the information on religious issues obtained from the following sources?" Here the options were: Family members, acquaintances and friends, religious leaders and scholars, group/political/community leaders, and journalists/broadcasters/bloggers.

Demographic data included age of the respondent, highest level of education, and standard of living. Education is complicated because different countries have different education systems and levels. For the purposes of these analyses education was mapped from the different countries' responses onto four levels: None, primary, secondary, and post-secondary. Standard of living was measured by asking the respondent to describe his household using categories: prosperous, living very comfortably, living reasonably comfortably, just getting along, nearly poor, and poor.

### *Analysis*

For each set of items, participants rated a number of related options. While it is possible to analyze these ratings individually, it is rarely the case that a respondent always relies on one medium for information or trusts only one kind of source. Instead, the most common responses exhibit a mix of media and source-types. Accordingly we treated responses on the two sets of items as profiles, and sought to determine if there were participant types based on their response profiles.

Profiles for each pair of participants were analyzed using the SPSS two-step clustering procedure, using a log-likelihood distance. This procedure is suitable because it supports mixed-type attributes (in this case, ordinal for the media profiles and interval for the trust profiles). In

the first step it estimates the maximum number of clusters using a Bayesian Information Criterion and in the second step assigns cases to clusters using ratios of the change in distance for k-1 vs. k clusters, referred to as a *coherence measure*, as a criterion.

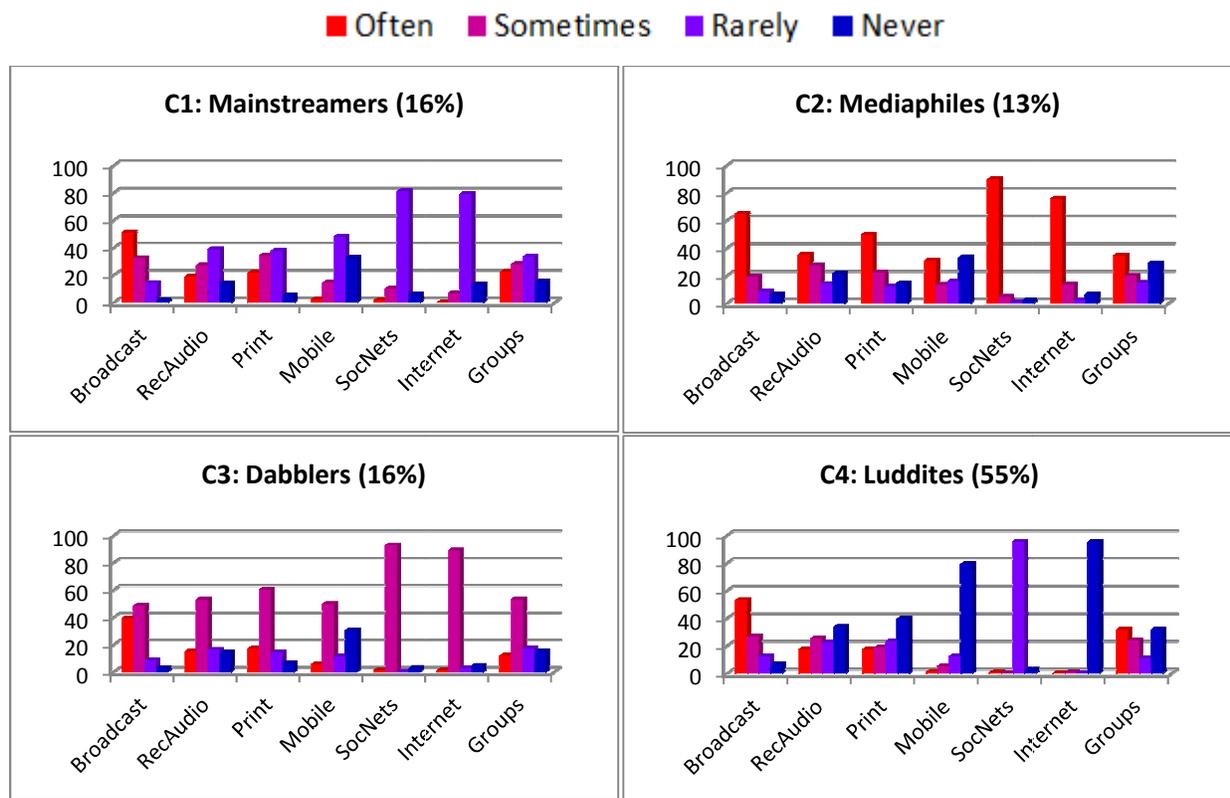
Cluster assignments for participants were then treated as nominal level variables for the purposes of discovering associations with demographic data, and relationships between the media and trust variables. These tests were performed with standard contingency table analysis.

## Results

### Media Use Clusters

Solutions with two to four cluster produced similar coherence measures. Reasoning that we wanted to discriminate more rather than fewer profiles, we selected the four cluster solution. Figure 1 shows the percentages of participants in each cluster responding at the various levels for each media type. The colors are intended to reflect a “heat” gradient with the “often” response being the hottest and the “never” response being the coldest.

**Figure 1. Percentages of Item Responses for Media Clusters**



As the charts show, members of all clusters report often or sometimes obtaining information from broadcast media. Otherwise, there are apparent differences between the groups. For ease of reference we apply interpretive names to each of the four clusters, described as follows.

*Mediaphiles* make up 16% of the cases. They are so named because they generally report often obtaining information from all of the media named, though about an equal number in this group report never using mobile media. This group reports extremely high use of social media and other internet sources. They also report highest of all the groups on broadcast sources. *Luddites* comprise the largest group, making up 55% of the cases. They are so named because they report rarely or never using mobile, social media, and internet sources. Substantial percentages report rarely or never using recorded audio or print media. *Mainstreamers* account for 16% of the cases. They have a similar profile to the luddites, except that they rarely, rather than never, use recorded audio, print, mobile, and internet sources. *Dabblers* represent 16% of the cases. They are distinctive in that they have a high “sometimes” response on all of the channels.

Based on similarity of the profiles, in a three-cluster solution we would expect the Luddites and Mainstreamers to merge. A two cluster solution would have Mediaphiles vs. everyone else. As we shall see in the contry analysis, this would essentially distinguish the European participants from the non-European ones.

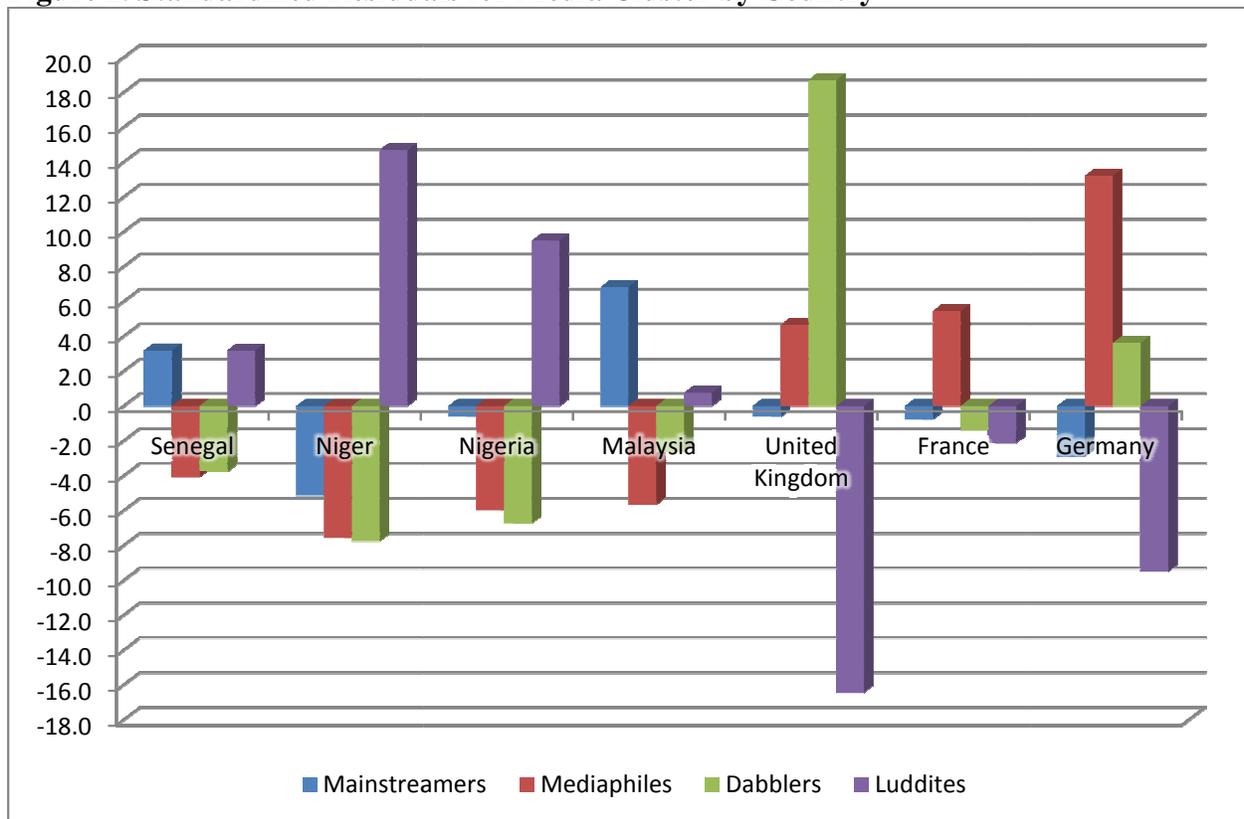
#### *Media Cluster by Demographics*

Because young people are generally considered more receptive to technology, we expected that there would be significant age differences between the groups. A contingency table analysis of media cluster by age group was significant,  $\chi^2(15) = 25.94$ ,  $p < .039$ . However, standardized residuals showed only one significant cell, with fewer mainstreamers than expected in the 55-64 age group. So contrary to our assumption, younger age groups were not more likely to fall into the Mediaphile cluster.

There was no significant difference in educational level between media use clusters. There was a significant difference in standard of living between media use clusters  $\chi^2(15) = 45.69$ ,  $p < .0001$ . Relative to expected values: (a) Mainstreamers were more likely to be living very comfortably or just getting along, and less likely to be living reasonably comfortably; (b) Mediaphiles were more likely to be living reasonably comfortably and less likely to be living very comfortably; and (c) Luddites were more likely to be poor or nearly poor.

#### *Media Clusters by Country*

Given the varying levels of technology penetration in the countries studied, we expected differences in cluster membership by country. A contingency table analysis of media cluster by country produced a large effect,  $\chi^2 = 959.183$ ,  $p < .000$ . The Figure 2 shows the standardized residuals, where values greater than +/- 2 are considered significant. Almost all values are significant except the small stubs for mainstreamers in Nigeria, UK, and France and for Luddites in Malaysia. For these cases, the numbers are approximately what one would expect given the row and column distributions in the table. In all other cases there are more or fewer cases than one would expect, in the magnitudes shown.

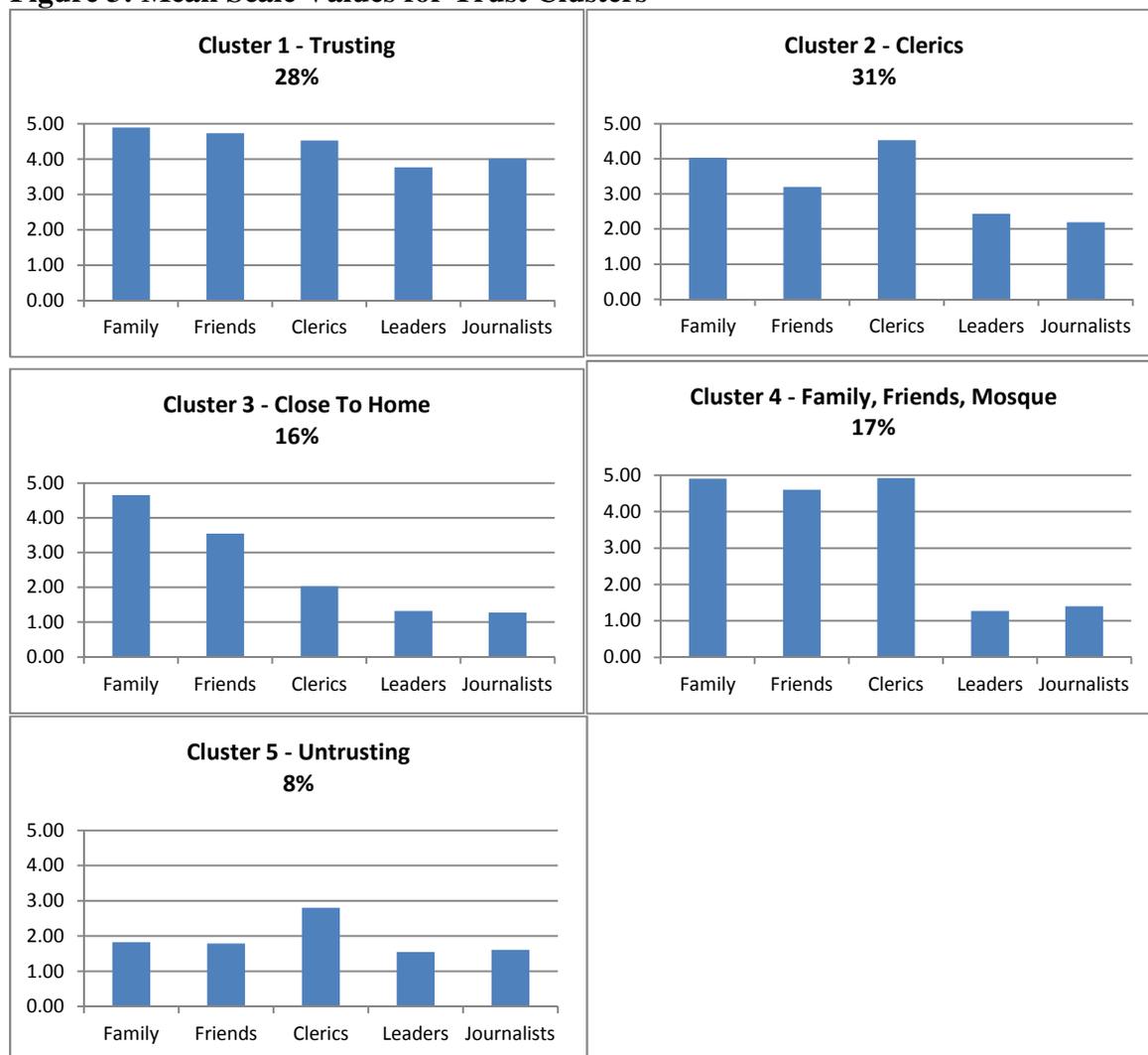
**Figure 2. Standardized Residuals for Media Cluster by Country**

Mediaphiles are concentrated in the European countries. Germany and the UK are drastically under-represented in the Luddites. Somewhat surprisingly, UK is over-represented in the dabbler cluster. Niger and Nigeria are over-represented in the Luddite category, whereas Senegal and Malaysia have the highest numbers of mainstreamers. The association in the table is large,  $\phi = 0.584$ , meaning that about a third of the variance cluster membership is accounted for by country.

### *Trust Clusters*

Clustering of the trust items resulted in five clusters. Figure 3 shows the average scale ratings for the various sources for each of the clusters. Here again, we provide interpretive names for ease of reference.

**Figure 3: Mean Scale Values for Trust Clusters**



*Trusting* respondents represent 28% of the participants. They are characterized by high trust ratings (above mid-scale) for all of the sources, with family, friends, and clerics scoring somewhat higher than leaders and journalists. *Clerics* respondents, comprising 31% of the sample, are noteworthy for placing trust in religious leaders and scholars above all others. Ratings of leaders and journalists are higher than all the other clusters except trusting. *Close to Home* makes up 16% of participants. This group shows an almost monotonic decline with relationships of increasing social distance. *Family/Friends/Mosque* (FFM) includes 17% of participants. This cluster has the highest average trust rating for clerics, and also high trust in family and friends. Along with the Close to Home cluster, it gives low ratings to leaders and journalists. *Untrusting* includes 8% of the respondents. They are noteworthy for their low ratings of trust for all sources. Of these, clerics are the only group to rate above mid-scale, and then just barely.

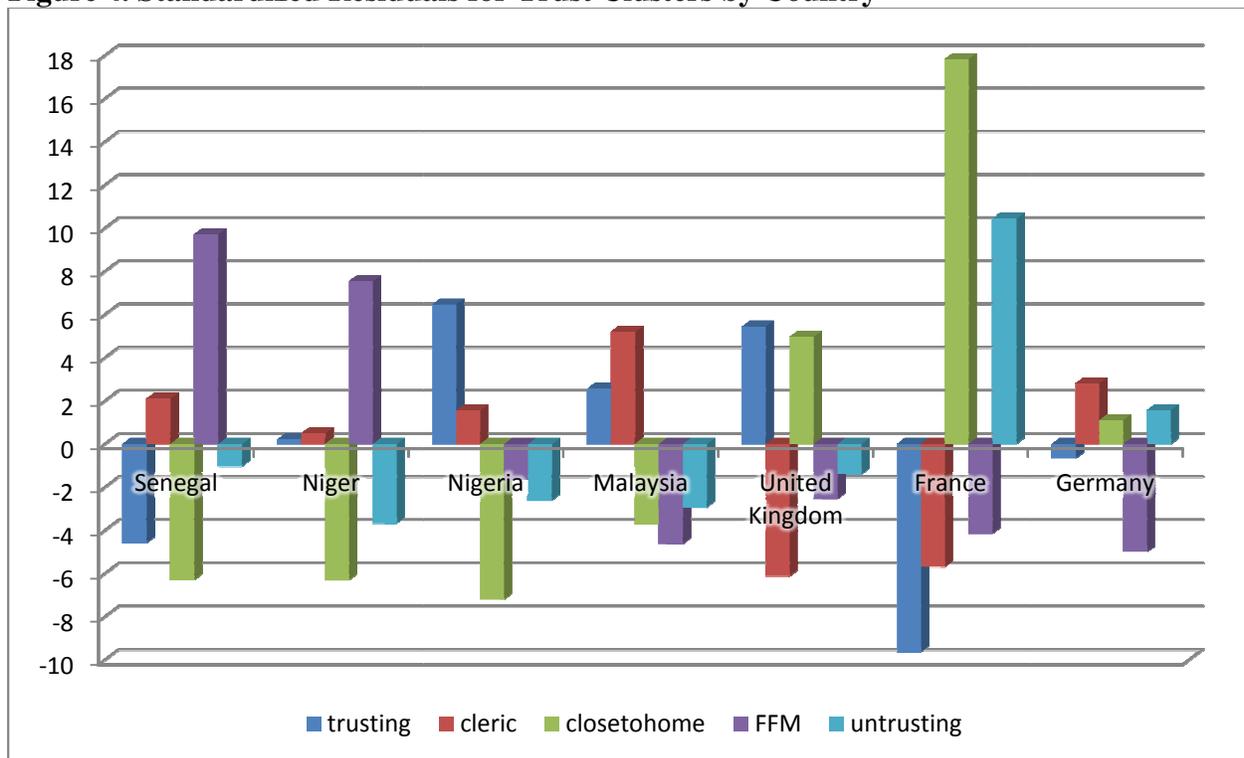
### *Trust Clusters by Demographics*

A contingency table analysis of trust clusters by each of the demographic variables was performed. Results showed no significant differences in age, education, or standard of living between clusters.

### *Trust Clusters by Country*

A contingency table analysis of trust clusters by country showed, again, a very large effect,  $\chi^2(24) = 1159.986$ ,  $p < .000$ . The standardized residuals are shown in Figure 4, where values greater than  $\pm 2$  are considered significant. All of the non-European countries are significantly lower than expected on the Close to Home cluster, whereas the UK and France are significantly higher. France is also significantly higher in the untrusting cluster. The clerics cluster is higher than expected only in Malaysia and Germany. The FFM cluster is higher than expected only in Malaysia and Germany. The FFM cluster is more frequent than expected in Senegal and Niger, and lower elsewhere.

**Figure 4. Standardized Residuals for Trust Clusters by Country**

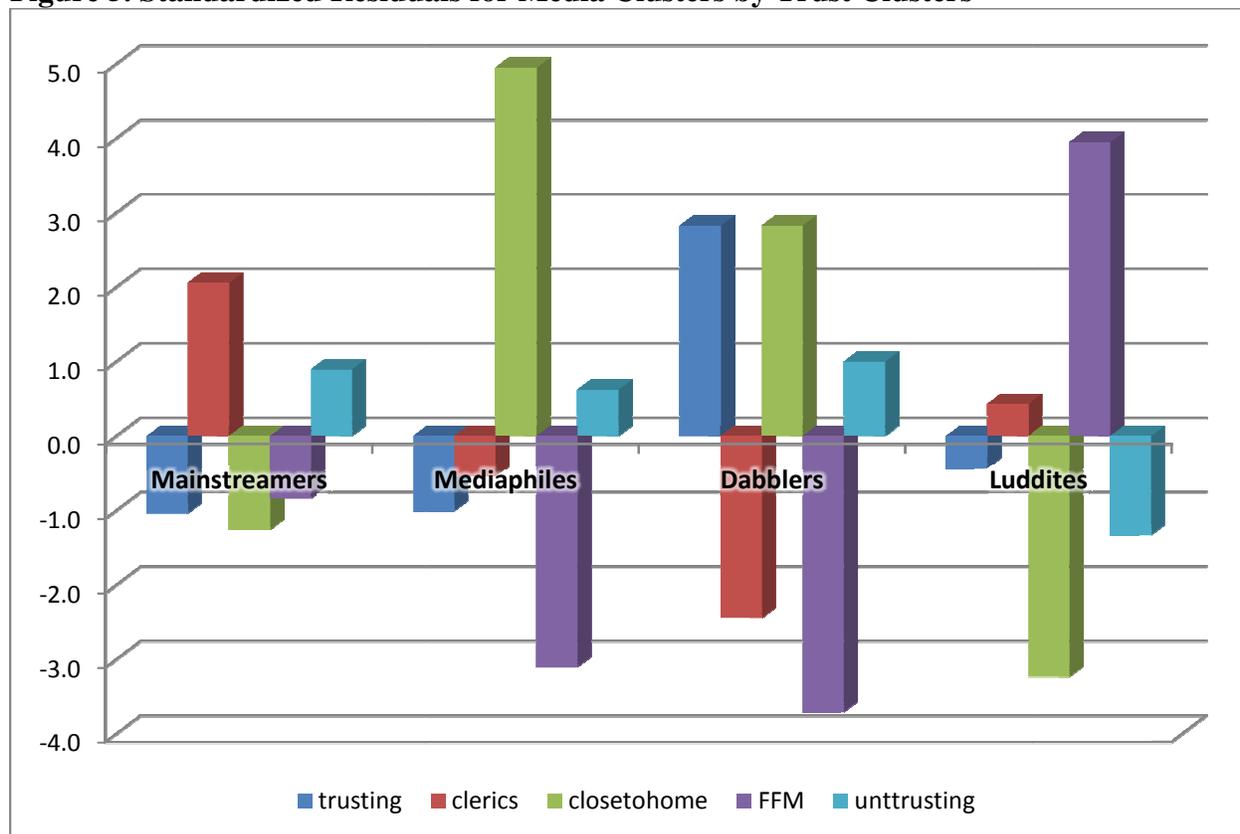


### *Media Clusters by Trust Clusters*

Contingency table analysis of media clusters by trust clusters produced a significant effect,  $\chi^2(12) = 109.064$ ,  $p < .000$ . Figure 5 shows the standardized residuals, with values greater than  $\pm 2$  being significant. Mainstreamers are higher than expected only on the clerics cluster, and within expectations on the others. Mediaphiles are higher than expected on the Close to Home cluster, and lower than expected on the FFM cluster. Dabblers are higher than expected on the Trusting and Close to Home clusters, and lower on Clerics and Friends, Family, and Mosque.

Finally, Luddites are higher than expected on Friends, Family and Mosque, and lower on Close to Home and Untrusting.

**Figure 5. Standardized Residuals for Media Clusters by Trust Clusters**



## Discussion

Our first research question asked: On what media do Muslims rely for information about religious issues? A couple of generalizations are possible. First, broadcast media were important sources in all the use profiles we discovered. Even in the case of the Luddites, who often reported never using most of the other media, about 60% said they often got information about religion from broadcast media. So broadcast would seem to be the best single medium to use if one's purpose is to reach Muslim audiences. Second, Muslims in the European countries were much more likely than those in Africa or Southeast Asia to get their religious information from a variety of different media, with the Mediaphiles concentrated there and Luddites underrepresented. This suggests that other media besides broadcast may be useful for reaching Muslim audiences in Europe, but are probably less effective elsewhere.

Otherwise, our results paint a surprisingly complex picture of media use by Muslims in the countries studied. There is a variable pattern of consumption across different countries, indicating that Muslims are by no means a monolithic audience, and that even differences between developed and developing countries are not absolutely predictable. In the three African countries, the distribution of usage profiles is fairly similar in pattern, though Senegal has more than the expected number of mainstreamers, while Niger has significantly less, and Nigeria has

about what we would expect. Another less developed country, Malaysia, also has many more Mainstreamers than expected, but unlike the African countries, does not exceed the expected number of Luddites.

The European countries are also somewhat similar in pattern, but have notable differences. The UK is the outlier (among all countries, Europe included) in terms of numbers of dabblers, whereas Germany has only somewhat more than expected. The UK and Germany are very low on the number of Luddites, but the deficit in France is just barely below the significance criterion. Germany has significantly fewer Mainstreamers than expected, whereas the UK and France are within expectations.

Generally speaking, our data resonate with existing scholarship in terms of media use. There are some difficulties drawing robust conclusions for some regions, especially given the comparatively small amount of scholarship undertaken in many African nations. In addition, we must highlight the uniqueness of this study given that extant scholarship which has examined media usage of Muslims around the world is for the most part focused on acculturation. To further complicate the issue, the vast majority of the existing scholarship conducted in the UK and Europe on media usage is positioned in terms of generation on generation acculturation and thus focuses on generation on generation comparisons which this study did not collect. Moreover, the focus on acculturation tends to lead scholarship to comparing the consumption of mainstream media with ethnic media – data which this study did not collect. Despite these factors, strong ties can be seen between our findings and previous scholarship. As discussed by Croucher et al (2009; 2010) Muslims in the UK, France, and Germany tend to rely on sources closer to home when it comes to cultural and religious information.

Our second research question asks: What sources do Muslims trust for information about religious issues? One general finding is that in all profiles trust in personal contacts (family, friends and clerics) is much higher than trust in impersonal sources (leaders and journalists). The disparity between these two classes differs across the profiles, however, with those in the Trusting cluster much higher than those in the other three clusters.

The largest cluster in our findings was the Clerics group, which puts relatively high trust in clerics, family and friends, and lower trust in leaders and journalists. This is very similar to the family, friends, and Mosque (FFM) cluster, which rates these sources near the top of the scale on average, and leaders and journalists even lower than the clerics cluster. Together these clusters make up almost 50% of the sample, and bears out conclusions from some of the existing research that Muslims have a preference for personal sources.

The other clusters violate this principle in different ways. Members of the Trusting cluster, making up 28% of the sample, rate personal sources higher than impersonal ones, but only moderately so, and all of the averages are well above the midpoint of the scale. The Close to Home cluster, with 16% of the respondents, shows high trust in family members, but diminishing trust with increasing social distance. Clerics, leaders and journalists all average below the midpoint of the scale. Finally the 8% in the Untrusting cluster seem to view everyone except clerics with suspicion, and clerics only average slightly above the midpoint of the scale.

Looking at source trust by country, the developing countries are all low on the Close to Home and Untrusting clusters and otherwise are a mixed bag. The FFM cluster is centered primarily in Senegal and Niger, whereas the trusting cluster is highest in Nigeria and the Clerics cluster is highest in Malaysia. The European countries do not show a consistent pattern. France is particularly notable for extremely high residuals on the Close to Home and Untrusting clusters, and an extremely low residual on the Trusting cluster. Clearly there is something unique about France with regard to source trust that bears further investigation.

Our third research question asks: What is the relationship between media relied upon and trust in sources? Here there seems to be a rather clear pattern. Mainstreamers have no significant residuals, meaning they are distributed across the trust clusters more or less proportional to the percentages of those in the sample. They are highest of all the clusters, and nearly significant, on the Clerics profile.

Mediaphiles are extremely high on the Close to Home trust profile, so those who rely on a variety of media trust family members most and everyone else in a declining pattern with social distance. Recall that these participants were largely in Europe, so this pattern suggests that radicalization on the continent may be more difficult, as it depends on impersonal sources that these participants tend to distrust.

Dabblers, who are over-represented in the UK, are high on Trusting and Close to Home and low on Clerics and FFM. This indicates something of a split in that country, with some people placing high trust in all sources, and others trusting primarily family members. It is possible that the latter group represents recent immigrants, an issue that may bear further research.

Finally Luddites are the highest of all the other clusters on the FFM trust profile, indicating trust in personal relationships and distrust in impersonal ones. They are lowest on the Close to Home profile, making them almost a mirror image of the Mediaphiles and Dabblers. Given that these respondents were concentrated in the developing countries, there is further evidence of a distinct use and trust profile here compared to Europe.

An important limitation of the study is that it was based on a mixed sampling methodology. Random-digit-dialing telephone surveys were conducted in Europe, whereas personal interviews were conducted in the developing countries. This was done for practical reasons: The sparser Muslim population in Europe made the personal interview approach cost prohibitive and impractical. Still we must acknowledge that the differences we found between the developing and developed countries may be due, at least in part, to the different methods used to collect the data.

## Conclusion

This study began with the observation that little is known about how Muslims consume media and what sources they trust, despite the fact that media use is believed to be a key factor in radicalization. A review of existing literature showed that what is known primarily takes the form of international government studies of Internet penetration. We addressed that gap by

reporting results of a large, random sample survey of Muslims in seven countries. We found that responses clustered into four distinct profiles for media use, and five for source trust.

We also found that the size of these clusters differed significantly by country. All countries reported substantial use of traditional mass media, which implies that this is still the best overall source for influence activities. However respondents in Africa had low use of other forms of media including mobile and Internet media, whereas European respondent had much higher use of other forms of “new” media. This implies that multiple-medium campaigns are more likely to be successful in Europe than elsewhere. Contrary to expectations, younger people were not likely to be more avid consumers of different types of media. However, as expected, media variety was related to standard-of-living. With regard to the trust clusters, respondents were generally less trusting of sources the less personally close those sources were.

The big picture painted by these results is that personal relationships are the main conduit through which Muslims obtain trusted information about religious issues. Over half of the respondents, in the Luddites profile, rely primarily on mass media for their information about religious matters, paying little attention to other sources. At the same time, they place relatively low trust in sources who use that channel. On the other end of the use continuum, the Mediaphiles are the most eclectic in their media use, but are also the most likely to have the Close to Home trust profile, which shows declining trust in sources with increasing social distance. The implication is that that media are not good vehicles for influencing these audiences, and that more effort should be placed on personal engagement if the goal is to persuade people to resist extremist ideas and positions.

It is something of a puzzle, then, that strategic communicators for both extremists and counter-extremists place so much emphasis on the media. It is possible that the results of this study do not generalize to all Muslims; however, our use of a large random sample suggest they probably do, at least for the countries studied. It is also possible that strategic communicators have been caught up in new media hype. But a more interesting possibility is that media messages can influence a select few, who then persuade others through personal communication. This is Katz and Lazarsfeld’s old idea of a two-step-flow in mass communication.<sup>47</sup> This implies that media efforts to resist extremism should not be so much concerned with mass appeals, but should precisely target opinion leaders and encourage them to influence others.

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<sup>47</sup> Katz, Elihu, and Paul Felix Lazarsfeld, *Personal Influence, The part played by people in the flow of mass communications* (Piscataway NJ: Transaction Publishers, 1970).