

“Dark Areas of Ignorance” Revisited

Comparing International Affairs Knowledge in Switzerland and the United States

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This study tests the hypothesis that cross-national differences in public awareness of international affairs are attributable to differences in the supply of international news and citizens' demand for information. Simultaneously, the authors compared the level of news coverage accorded specific “target” subjects in major Swiss and U.S. news organizations and the level of attentiveness to news among Swiss and U.S. citizens. The authors' results revealed that Swiss media provided more hard international news than U.S. media, that Swiss citizens reported higher levels of news exposure, and that the Swiss were also considerably more informed than the Americans on questions of hard news. Using a multilevel model, the authors further demonstrate that the effects of news on knowledge are stronger in Switzerland and that the greater availability of international news has the effect of reducing the knowledge gap between more and less attentive Swiss.

Keywords: *political knowledge; media systems; hard and soft news; international and domestic news; comparative studies*

Informed citizenship is a fundamental premise of democratic government. Deliberation over issues, participation in the political process, and holding elected officials accountable all presuppose an electorate capable of expressing informed opinions. In modern democracies, the institution entrusted with delivering costless access to public affairs information is the news media. In recent years, however, the rapid expansion of market-based news programming and the accompanying dilution of governmental regulation over the broadcast media have called into question the media's ability to make good on this civic responsibility.

Although news organizations across the globe are turning to more entertainment-centered forms of reporting and delivery (Hallin & Mancini, 2004; Hamilton,

2004; Patterson, 1993), there remains significant cross-national variability in the importance of market forces to news programming. Market forces have advanced the furthest in the United States, but their impact on news programming is not as pervasive in societies where elements of a “public service” media system remain intact (Hallin & Mancini, 2004).

An important consequence of the difference between market-based and public-service-oriented media systems is the level of coverage accorded international news. The market-based model is associated with the rise of “soft news” and a corresponding reduction in the supply of international news (Moisy, 1996). Thus, declining revenues prompted American news organizations to scale back their overseas bureaus and staff (Norris, 1996). In the public-service model, on the other hand, there is less pressure to reduce the substantive and international components of news programming. Therefore, in comparison with most European societies, we anticipate that news coverage in the United States is significantly more “domesticated.”

Cross-national differences in the visibility of international news imply corresponding differences in public familiarity with international events. Although there are few systematic cross-national comparisons of public awareness of domestic versus international issues (for some evidence that Americans tend to know more about domestic issues, see Delli Carpini & Keeter, 1996), what little evidence there is suggests that Americans tend to know less than Europeans about international affairs. Even at the height of the cold war, when international events dominated the news cycle, public opinion researchers characterized U.S. foreign policy and international relations as “dark areas of ignorance” (Kreisberg, 1949; Smith, 1970).

In the post-cold war era, notwithstanding their massive advantages in education, Americans continue to lag behind citizens of other industrialized democracies on measures of foreign affairs information. In 1994, for example, citizens of Spain, Italy, Canada, Germany, Britain, and France were generally more likely to provide correct answers to a series of questions tapping international affairs. Using the percentage of the sample unable to provide the correct answer to a single question as the indicator of public ignorance, the United States trailed other nations by 50 percentage points: 37% of the American sample was classified as ignorant compared with an average of 19% for Italy, France, Britain, Germany, and Canada (Kohut, Toth, & Bowman, 1994).

Dimock and Popkin (1997, p. 223) attributed the significantly lower levels of international information in the United States to significant cross-national differences in the “communication of knowledge”—that is, the greater prominence of public broadcasting networks in Europe that devote significant attention to international news (see also Emery, 1989). Their conjecture is supported by evidence that Europeans who report more extensive use of their countries’ public television newscasts display greater levels of information about the European Union (Holtz-Bacha & Norris, 2001) than those who watch commercial channels. In sum, the available evidence supports the inference that Europeans are more familiar than Americans with international events simply because European media cover these events more extensively.

The research described here was designed to test the hypothesis that cross-national differences in international affairs knowledge are attributable to differences in both the supply of international news and citizens' demand for information. Simultaneously, we compared the level of international affairs knowledge (using both hard news and soft news subject matter), the amount of news coverage accorded the "target" subjects in major Swiss and U.S. news organizations, and the level of attentiveness to news among Swiss and U.S. nationals. Our results revealed significant cross-national differences in public knowledge, the supply of hard news, and the demand for news. Swiss media provided more hard news coverage than U.S. media, Swiss citizens reported using the news media more extensively than Americans, and the Swiss were considerably more informed than the Americans on questions of hard news. Using a multilevel model, we further demonstrate that the effects of hard news supply on hard news knowledge are stronger in Switzerland and that the greater availability of international news has the effect of reducing the knowledge gap between more and less attentive Swiss.

Between- and Within-Nation Knowledge Gaps: A Theoretical Perspective

We argue that differences between Americans' and Europeans' awareness of international events can be explained by differences in their respective information environments. An informed electorate presupposes an electorate that is exposed to information. Exposure to information, in turn, depends on the nature of the media system (Hallin & Mancini, 2004). The American and Swiss media systems differ on multiple dimensions, most notably, in the prominence of commercial, market-oriented news sources.

The United States represents the prototype of a "pure" market-based model (Hallin & Mancini, 2004; Sparks, 1998) in which public broadcasting is weak and privately owned media are entirely free of state regulation. In contrast, the Swiss media system combines important elements of the "public service" and market models. Unlike the United States, Switzerland has a strong public broadcaster (Swiss Broadcasting Corporation) that captures more than 40% of the national audience. The Swiss Constitution specifies "information and education" as the primary objectives of public broadcasting and, further, that programming must "promote mutual understanding and exchange between the various parties of the country, linguistic communities and cultures" (Meier, 2004). In 2005, news, public affairs, and educational programs accounted for 38% of the programs aired on Swiss public broadcasting (Meier, 2004).²

The two countries differ less in the organization of their print media. The major newspapers in both countries are owned by private entities, and journalism embodies the norms of professional "objectivity." In Switzerland, the largest circulation papers include a free daily for commuters, national and regional broadsheets, and a national

tabloid. In the United States, most papers (with the exception of *USA Today*) reach regional or local audiences. More so in the United States than in Switzerland, declining circulation rates and the dominance of local television news have led publishers to emulate television in their programming; stories that “sell” take precedence over the delivery of international news (see Iyengar & McGrady, 2007).

The differences between the two media systems lead us to anticipate significant cross-national differences in the level of public knowledge about international affairs. To begin with, we expect that the Swiss will be more informed than Americans on questions of hard news, while Americans will have the edge on questions concerning soft news. As described below, our hypotheses seek to explain these cross-national differences in the level of information to corresponding differences in the media system’s delivery of news and to differences in the level of consumer demand for information.

The Swiss public service model assigns a higher priority to the goal of informing citizens. The strength of the Swiss public broadcaster coupled with the strong public affairs content of its programming means that the supply of hard international news will exceed the supply of soft news in Switzerland. In the United States, however, the market model is driven primarily by consumer demand, and news reports more frequently reference soft news. Therefore, we can state our first hypothesis as follows:

Hypothesis 1: The effects of the supply of hard news on citizens’ knowledge of hard news will be stronger in Switzerland than in the United States.

Hypothesis 1A: The effects of the supply of soft news on citizens’ knowledge of soft news will be stronger in the United States than in Switzerland.

Our second hypothesis concerns the effects of consumer demand for news on international affairs knowledge. We relied on self-reported frequency of exposure to newspapers and broadcast news as our indicator of demand. In general, citizens more motivated to monitor the news media are also more informed about current affairs (Bennett, 1994; Kull, Ramsay, & Lewis, 2004). In the United States, however, hard international news is more difficult to encounter and the acquisition of information therefore requires greater effort (i.e., higher demand).

Hypothesis 2: The hard news knowledge gap between more and less attentive citizens will be larger in the United States than in Switzerland.

Conversely, by the same logic, the probability of chance encounters with soft news is higher in the United States, and we therefore anticipate stronger effects of demand in Switzerland.

Hypothesis 2A: The soft news knowledge gap between more and less attentive citizens will be larger in Switzerland than in the United States.

In summary, differences between the American and Swiss media systems allow us to formulate distinctive predictions concerning the effects of supply and demand

Table 1
Overview of Surveys in Switzerland and the United States

	Switzerland	United States
Organization	Konso	Knowledge Networks
Date	September 7–24, 2005	November 2–6, 2005
Mode	Telephone	Online
Universe	Voting-age residents of German- and French-speaking cantons	Voting-age residents of California
Response rate	62%	49%
<i>n</i>	789	529

factors on international affairs information. In general, media systems that supply more hard news will boost the public's knowledge of hard news. These same media systems will also be characterized by weaker effects of consumer demand; the greater availability of hard news works to reduce the gap between more and less motivated citizens.

Indicators and Method

We commissioned parallel surveys of voting-age residents of California³ and the German- and French-speaking cantons of Switzerland (for details, see Table 1). Both surveys occurred in late 2005 in advance of a major referendum—the California special election called by Governor Arnold Schwarzenegger and the Swiss referendum on European immigration (*Personenfreizügigkeit*). We designed the survey instruments to address voting preferences in the respective referenda but also included a battery of open-ended factual information questions covering a variety of international news stories, both soft and hard.

The two surveys were administered in different modes and—due to different election dates—at different times. California respondents, selected at random from the Knowledge Networks (www.knowledgenetworks.com) national research panel, completed the survey online between November 2 and 6.⁴ The Swiss interviews occurred between September 7 and 24 and were conducted via telephone by Konso Institute for Consumers and Social Analyses AG (www.konso.ch). As shown in Table 1, the response rate (defined as the number of completed surveys divided by the number of respondents invited to participate) was 49% in the United States and 62% in Switzerland.⁵ Descriptive statistics comparing samples from two countries in terms of gender, education, and age are presented in the Appendix.⁶

Measurement of international affairs knowledge was based on nine information questions, four of them aimed at soft news stories and five focused on hard news. To approximate an equal level of difficulty across nations, we looked for items that could be considered relevant to news sources in both countries. As it turned out, this

proved easier for hard news topics. Most of the potential soft news items had a strong American bias in the sense that they involved actions by American celebrities who are clearly more familiar to Americans.⁷ Eventually, we chose the following international hard news questions:

Hard News Question 1: Can you name two of the countries (other than the United States) with troops in Iraq?

Hard News Question 2: Can you identify the prime minister of Britain?

Hard News Question 3: Can you identify the president of Mexico (United States) / of France (Switzerland)?

Hard News Question 4: Can you identify the secretary general of the United Nations?

Hard News Question 5: What issue was addressed in the Kyoto Protocol?

International soft news are as follows:

Soft News Question 1: Who was the winner of the Tour de France in 2005?

Soft News Question 2: Which country will host the 2008 Olympic Summer Games?

Soft News Question 3: Pop star Michael Jackson was accused of what crime?

Soft News Question 4: The actor Tom Cruise is a member of a religious organization. Which one?

For each of the above “targets,” we compiled data on the frequency of news coverage in major news organizations in each country. This was accomplished through a simple keyword search in appropriate news archives (details are provided in Table 2). In the case of U.S. news, we used Lexis-Nexis and the Vanderbilt Archives to analyze coverage in 28 daily newspapers and three evening network newscasts. For Swiss media, we monitored 12 daily newspapers, two national television newscasts, and one radio newscast by accessing the day-to-day media content database of the *Forschungsbereich Öffentlichkeit und Gesellschaft* at the University of Zürich. Both tracking analyses were dated back to 1 year before the survey. As a measure of overall information supply, we counted the total number of references to each specific knowledge topic during the 6 months leading up to the survey and then computed the per capita average number of these references (defined as the total number of references divided by the number of news sources).⁸

Analysis and Results

Cross-National Differences in Information Availability

We began by assessing between-country differences in the supply of information (see Appendix for the country means and standard deviations). As expected, when compared with their Swiss counterparts, U.S. media sources provided a substantially higher level of soft news in relation to hard news. The proportion of news references

Table 2
Overview of Content Analyses

	Switzerland	United States
Study period	September 2004–August 2005	November 2004–October 2005
Source	Foeg Media Monitoring	Lexis-Nexis, Vanderbilt Television Archives
Sample	12 newspapers, 1 radio, 2 TV news broadcast	28 newspapers, 3 network newscasts
Method	Keyword search	
Indicator	Monthly references per media outlet	

to the four soft news knowledge questions was roughly 44% in the United States (references to soft news topics / references to all news topics = .44). Given that our sample is limited to mainstream daily newspapers and national newscasts, this is a striking result. In Switzerland, where market forces are not as powerful, the frequency of media references to the hard news questions far exceeded the corresponding supply of soft news information (hard news references / all news references = .71).⁹ Alternatively, Swiss media sources made roughly 84% more references to hard news subjects when compared with their U.S. counterparts (129.8 vs. 70.5). Thus, the two media systems are characterized by significantly different information environments—the Swiss are more likely to encounter hard news than Americans.

Cross-National Differences in the Demand for News

Informed citizenship requires not only costless access to information but also a need to know. Those cultures that place a higher premium on keeping abreast of current affairs will be characterized by more informed citizens. We relied on standard self-reports to measure individuals' frequency of exposure to newspapers and television news programs. The survey results indicated a much higher level of media use in Switzerland. These results are presented in Table 3.

In comparison with the Swiss, Americans were significantly less likely to read newspapers and watch national broadcast news. Of Swiss respondents, 74.3% reported "regularly reading a newspaper" (see Appendix). In sharp contrast, only 42.5% of Americans were regular newspaper readers ($Z = 8.26, p < .01$). Similarly, while only 15.9% of Americans reported watching national newscasts on a daily basis, the comparable figure was 51.1% among Swiss respondents ($Z = 13.0, p < .01$).¹⁰

Overall, it is clear that the two countries differ significantly on both the aggregate-level supply of news and the individual-level demand for news, confirming the basic premises of our theoretical framework. In the United States, soft news subjects are accorded greater visibility than hard news subjects. In contrast, the Swiss system delivers more reports bearing on hard than soft news. Accordingly, the casual

Table 3
Exposure to News in Switzerland and the United States

News Consumption	<i>H</i> ₀ : Switzerland = United States	
	<i>t</i> Statistic	<i>p</i> Value
Newspaper readership (0-2)	31.463	.000
National news viewership (0-7)	26.462	.000
News consumption index (0-2)	37.167	.000
Regular Users	<i>Z</i> Statistic	<i>p</i> Value
Newspaper readership	8.26	.000
National news viewership	12.98	.000

observer of news in Switzerland is more likely to acquire information about hard news rather than the American counterpart. This supply gap is likely to be reinforced by the generally higher level of attentiveness to news media in Switzerland.

Cross-National Differences in Knowledge

Overall, there was nearly a 30 point gap in overall knowledge—the average probability of a correct response among American respondents was 39.6% compared with 67.8% for the Swiss. Clearly, Americans lag behind the Swiss in international affairs information.

More specifically, we anticipated that the Swiss-American information gap would be especially pronounced for the hard news items. In fact, the cross-national gap on the hard news items was striking. Table 4 presents the difference in the proportion of respondents who correctly answered any given item. The average probability of a correct response on the hard news items was 74.1% in Switzerland and 30.8% in the United States. For all five hard news items, the Swiss were significantly ahead of Americans and the gap ranged from 31.5% (“Tony Blair”) to 58.3% (“Kofi Annan”).

Also as expected, Americans were more informed about soft news than hard news. But despite their greater access to soft news information, American respondents were actually slightly less informed about soft news than the Swiss (the Swiss advantage was reduced to .093).¹¹ Considering the close proximity of two of the soft news items to the United States (Michael Jackson and Tom Cruise), and the overrepresentation of hard news in Swiss media, the fact that the Swiss were just as informed as the Americans is testimony to their greater attentiveness to news.

Having documented the scale of the cross-national knowledge gap on the individual items, we turn next to a more systematic analysis in which we estimate the difficulty of the knowledge items after accounting for individual respondents’ differential “latent” abilities. We relied on a logistic item-response model, also known as the Rasch model (Molenaar, 1995; Rasch, 1980). In a typical testing situation,

Table 4
Comparison of Knowledge Level: Proportion of Correct Answers

	Percentage of Correct Answers			Difficulty Parameter				Pr($X = 1$) for Median Information Voter (%)	
	United States		p Value	United States		United States		United States	
	Switzerland	Switzerland	Switzerland	Switzerland	Switzerland	Switzerland	Switzerland	Switzerland	Switzerland
Hard news items									
Coalition	70.7	20.2	.000	-0.035	(4th)	1.228	(4th)	82.5	18.0
Kyoto Protocol	56.7	18.9	.000	0.840	(3rd)	1.290	(3rd)	66.3	17.1
Fox / Chirac	85.0	46.4	.000	-1.154	(8th)	-0.428	(5th)	93.5	53.5
Tony Blair	82.2	50.7	.000	-0.950	(7th)	-0.848	(7th)	92.2	63.7
Kofi Annan	76.1	17.8	.000	-0.426	(6th)	1.354	(2nd)	87.5	16.2
Soft news items									
Beijing and Olympics	29.6	14.2	.000	2.401	(1st)	1.836	(1st)	29.2	10.7
Cruise and Scientology	46.5	50.3	.253	1.458	(2nd)	-0.644	(6th)	51.5	58.8
Lance Armstrong	72.3	60.8	.000	-0.123	(5th)	-1.364	(8th)	83.8	74.6
Jackson and molestation	91.0	77.1	.000	-2.011	(9th)	-2.425	(9th)	97.1	89.5

Note: p values are based on the difference in proportion tests.

N persons are given a test consisting of J items, with $x_{nj} = 1$ if the response is correct. In the Rasch model framework, the (unidimensional) latent trait underlying the test scores can be considered as a set of fixed effects θ_n , $n = 1, \dots, N$. Then, the logistic model can be written as follows:

$$\Pr(X_{nj} = x_{nj} / \theta_n, \delta_j) = \frac{\exp\{x_{nj}(\theta_n - \delta_j)\}}{1 + \exp(\theta_n - \delta_j)}, j = 1, \dots, J \quad (1)$$

where θ_n is the n th person's ability parameter (in this case, political knowledge) and j is the j th item's difficulty parameter. Accordingly, the model consists of N ability parameters θ_n , ($n = 1, \dots, N$) and J difficulty parameters δ_j ($j = 1, \dots, J$).¹² Note that the probability $\Pr(X_{nj} = 1 / \theta_n, \delta_j)$ decreases for any given value of θ_n —that is, knowledge decreases as the value of the difficulty parameter increases.

The second column of Table 4 presents the difficulty parameter δ_j s for all nine knowledge items in both countries. The results generally support our expectations. Americans found many of the hard news items especially difficult, whereas they achieved higher "pass" rates on the soft news items. To illustrate this point, the average of the δ_j coefficient estimates for the five hard news stories ("Coalition," "Fox/Chirac,"

“Kofi Annan,” “Kyoto Protocol,” and “Tony Blair”) and four soft news stories (“Beijing Olympics,” “Cruise-Scientology,” “Jackson-Molestation,” and “Lance Armstrong”) were .519 and $-.649$, respectively. In stark contrast, the Swiss respondents exhibited exactly the opposite pattern of greater difficulty for soft news: the average δ_{js} for the hard and soft news items were $-.345$ and $.431$, respectively.

We can further illustrate the magnitude of these differences by computing the probability that a respondent with a median level of “ability” (i.e., $-.287$ and 1.517 in the United States and Switzerland, respectively) correctly answers any given question, or $\Pr(X_{mj} = 1)$. For the median American and Swiss respondent, $\Pr(X_{mj} = 1)$ can be computed using the logistic distribution as follows:

$$\Pr(X_{mj} = 1) = \frac{\exp(\theta_{m(j)} - \delta_{j(n)})}{1 + \exp(\theta_{m(j)} - \delta_{j(n)})}, \quad (2)$$

where $\theta_{m(j)}$ is the median American or Swiss respondent’s ability parameter and $\delta_{j(n)}$ is the j th item’s difficulty parameter. These expected probabilities capture how difficult or easy each item was relative to the abilities of a person at the median level of ability.

As shown in the last column of Table 4, when compared with the hypothetical median information American respondent, the median Swiss respondent was more than *twice* as likely to answer a hard news question correctly (33.7% vs. 84.4%). Looking across the individual items, it is especially noteworthy that although the United States has been involved in the Iraq war for more than 2 years at the time of the survey, and Switzerland is not a direct participant in the conflict, the probability that a median respondent could name two coalition countries was 18.0% in the United States and 82.5% in Switzerland.

In the case of soft news, however, the median American respondent knew almost as much as the median Swiss respondent (41.0% vs. 45.2%). Of course, as we have already acknowledged, the content of the soft news items represented a significant advantage for the U.S. sample. Notwithstanding arguments concerning the globalization of mass culture (see, for instance, Schiller, 1976, 1998; Tunstall, 2008), it can hardly be denied that American respondents would have experienced more sustained and prominent coverage of stories focusing on Michael Jackson and Tom Cruise.

Attributing the Cross-National Information Gap to Differences in Supply and Demand

Having documented the extent of the cross-national knowledge gap, our next step is to develop a multilevel model in which political knowledge is viewed as a product of differences in the *national* supply of news and differences in *individual* citizen’s demand for news. Obviously, any given citizen’s ability to recognize public figures is contingent on the frequency with these figures appear in the news; when the frequency of media reports on any particular subject increases, so too does the percentage

of citizens able to recognize the "target" of the news (see Jerit, Barabas, & Bolsen, 2006). At the same time, given some frequency of news coverage, people more inclined to monitor the news will be more likely to encounter the coverage and acquire information. In sum, we need to attribute differences in knowledge to both systemic and individual-level factors.

We pooled the data from the two countries. Instead of examining responses to each knowledge item separately, we also pooled observations across questions. Accordingly, our final data set consists of nine observations for each respondent. We observed each respondent's (indexed by n) answer to each question (indexed by j). Thus, our dependent variable is the n th respondent's answer to the j th knowledge item, where j ranges from 1 to 9 and n ranges from 1 to 1,304 (529 in the United States and 775 in Switzerland). It is scored 1 if the respondent correctly answered the given question and 0 if otherwise. Thus, each individual is the unit of analysis, and each respondent's answer to the given knowledge item constitutes a single observation.

In order to account for respondent-specific dependencies in our data, we relied on a hierarchical linear model (Bryk & Raudenbush, 1992; Goldstein, 1987; for a previous application of this approach, see Jerit et al., 2006). More specifically, we modeled the dependent variable using a random intercept model with a logit link function accounting for the differences in individual respondents' general level of knowledge. Accordingly, the intercept is allowed to vary across individuals, and in the interest of parsimony, all other Level 1 coefficients were assumed to be fixed.

Given our theoretical argument, the multilevel model first included a set of individual-level control variables such as education (1-4),¹³ gender (0 = male, 1 = female), and age. These control variables represent individual differences in social capital. Subsequently, we included a country dummy scored 0 for American and 1 for Swiss respondents.

We also included two indices capturing the demand and the supply of news, respectively. Our measure of media attentiveness (i.e., the "news demand" index) was created by first projecting the respondent's self-reported levels of exposure to newspapers (1-3)¹⁴ and national television news (1-7) onto 0 to 1 scales.¹⁵ Subsequently, we summed the scores from the two measures to create the final measure of attentiveness (0-2). For measuring the overall supply of news for each subject matter, we summed the per capita newspaper and television news scores described earlier. Finally, we included Switzerland \times News Demand and Switzerland \times News Supply interactions to assess the cross-national differences.

We estimated the model for hard and soft news subjects separately. The coefficient estimate of the country dummy tests whether the level of knowledge differed across the two countries even after accounting for all the other predictors included in the model (see Table 5). The coefficient estimates of news demand and supply show their effects among American respondents, while the coefficient estimates of the two interaction terms reveal whether the effects of supply and demand were more or less pronounced among Swiss respondents when compared with their American counterparts.

Table 5
The Effects of News Exposure and News Environment on Knowledge

	Hard News Items	Soft News Items
Constant	-2.689 (.306)**	-1.136 (.206)**
Switzerland	2.164 (.264)**	1.018 (.174)**
News demand	0.791 (.126)**	0.280 (.085)**
News supply	0.004 (.001)**	0.018 (.001)**
Switzerland × Demand	-.198 (.166)	0.048 (.110)
Switzerland × Supply	0.003 (.001)*	-0.012 (.002)**
Female	-0.781 (.098)**	-0.193 (.064)**
Education	0.645 (.056)**	0.362 (.036)**
Age	-0.001 (.003)	-0.017 (.002)**
Log likelihood	-3320	-3252
<i>N</i>	1299	1299

Note: Cell entries are fixed effects estimates from a hierarchical linear model and their standard errors in parenthesis.

* $p < .05$. ** $p < .01$.

To begin, even after accounting for the effects of individual attributes, the country dummy turned out statistically significant in both news dimensions ($p < .01$). No less importantly, however, our results show that this cross-national information gap seems substantially larger for hard news than soft news subjects ($b = 2.164$ vs. $b = 1.018$). These multivariate results controlling for other relevant predictors of social capital are consistent with our earlier findings.

We are especially interested in the effects of the supply and demand factors and their interactions with the country dummy. On average, the individual-level demand for news was significantly associated with increased knowledge in both news dimensions ($p < .01$). However, this effect was more pronounced for hard news than soft news subjects ($b = .791$ vs. $b = .280$). These results suggest that civic motivation is a powerful determinant of knowledge; the more attentive are more knowledgeable.

The supply side of the equation also proved consequential. The coefficient estimates for “news supply” were positive and statistically significant ($p < .01$) for both types of news subjects. These results suggest that even after accounting for individual differences in motivation, an increase in news supply increases knowledge. Thus, the lower level of political knowledge in the United States is at least partially attributable to the U.S. media system. It is also revealing that among Americans, the effects of news supply were substantially larger for soft news than hard news subjects ($b = .004$ vs. $b = .018$). This finding suggests that Americans find hard news more demanding to process (and hence learning requires more coverage).

Our results also point to significant cross-national differences in the effects of supply and demand. For the hard news subjects, an increase in news supply had more pronounced effects in Switzerland than in the United States. The interaction between the country dummy and News Supply was positive and statistically significant ($b = .003$,

$p < .05$) in the hard news dimension. This finding indicates that the Swiss benefited more from an increase in hard news supply when compared with their American counterparts. In contrast, the Switzerland \times News Supply interaction was negative and statistically significant ($b = -.012, p < .01$) in the soft news dimension. This pattern suggests that an increase in the supply of soft news benefited Americans more than the Swiss, and this is consistent with our prior expectations.

Turning to the effects of demand, as expected, the hard news knowledge gap between more and less attentive citizens was smaller in Switzerland (as indicated by the negative Switzerland \times News Demand interaction; $b = -.198$). However, the coefficient failed to reach the conventionally accepted level of statistical significance. In the case of soft news, the effects of demand were reversed; here, the Switzerland \times News Demand interaction obtained the positive sign but proved statistically nonsignificant. These null findings suggest that the intranation knowledge gap between the more and the less attentive was approximately equal in the two countries.

Finally, we detected several significant effects of the control variables of education, gender, and age. On average, the more educated were significantly more knowledgeable than their less educated counterparts ($b = .439, p < .01$). This result is consistent with many previous studies that treat education as a proxy for media attentiveness (see, for instance, Price & Zaller, 1993). Our results further suggest that although education-related differences were pervasive in both news dimensions, they were more pronounced for the knowledge of hard news subjects ($b = .645$ vs. $b = .362$). A similar pattern held for gender; the gender gap in favor of men was especially pronounced for hard news subjects ($b = -.781$ vs. $b = -.193$). Age proved a significant predictor only for soft news knowledge; older respondents were generally less informed ($b = -.017, p < .01$).

Conclusion

We recognize, of course, that the two countries differ in numerous respects other than their media systems. These include geographic location, strategic importance in world affairs, type of political system, length of political campaigns, and more. On the other hand, the two cases are fairly well matched on other systemic attributes *known to influence* citizens' political involvement including literacy, economic development, access to the mass media, and most notably, the importance of public opinion to the political process. In both Switzerland and California, the frequent use of referenda and initiatives means that citizens must regularly choose between competing (and often complex) policy proposals. Thus, the two cases both assign an important role to public opinion increasing the incentives for citizens to pay attention to public affairs. In these important respects, the similarity between the two cases provides a form of control (see

Collier, 1993; Lijphart, 1971), thus strengthening the inference that differences in news coverage are implicated as antecedents of the cross-national knowledge gap.

Our most striking finding is the enormity of the cross-nation knowledge gap. In the case of hard news, the gap is so large that Swiss respondents with less than a high school education performed better on three of the items (Chirac/Fox, Kofi Annan, Coalition) than American college graduates. The comparisons were not so striking when we compared the soft news questions.

The cross-national knowledge chasm is attributable in part to differences in the supply of information. The Swiss learn more about international affairs because their media are not driven entirely by considerations of profit maximization. The presence of a strong public broadcaster and the tradition of regular public affairs programming by commercial broadcasters create a more reliable supply of international news. Americans, on the other hand, must depend on commercial news outlets that are not required to deliver any minimal level of news programming. Facing intense competitive pressures, commercial outlets provide only sporadic coverage of international events. These differences at the level of the media system are only amplified by cross-cultural differences in media use. The Swiss political culture places more emphasis on monitoring news coverage, and Swiss respondents reported more extensive use of the news media than Americans. The Swiss are heavy users of newspapers and national television news. In the United States, newspaper use is much less frequent, and local television news is the information source of choice.

Although the United States is clearly an “outlier” in the distribution of public knowledge about current affairs, there has, of course, been debate over the significance of a largely uninformed electorate for democratic governance. Some observers would argue that uninformed citizens cannot exercise effective control over their elected officials and are highly vulnerable to elite manipulation (Bartels, 2005; Hacker & Pierson, 2005). In this view, making citizens more informed is tantamount to changing their policy preferences (Luskin, Fishkin, & Jowell, 2002).

Other scholars have suggested that information per se is no prerequisite to casting an “informed” vote. In fact, some go so far as to argue that the costs of acquiring vast amounts of political information far outweigh the potential benefits to the voter (Popkin, 1991). A less extreme form of the “rational ignorance” argument is that people have ready access to a variety of information substitutes or “heuristics”—rules that allow people to vote as though they were well informed (Lupia, 1992, 1994).

The debate over the ultimate significance of broad-based political awareness in an electorate, and the means by which information ultimately affects political actions, will doubtless continue. Meanwhile, our findings provide some insights into how the architecture and functioning of media systems affect knowledge. The market-based media model, which contributes to diminished public awareness of international affairs, is spreading globally. We hope that the findings of this study will encourage communications scholars to undertake further cross-national analyses of news delivery, civic motivation, and public information.

Appendix

Descriptive Statistics for Study Variables

	Switzerland	United States
Demographic attributes		
Education		
Less than high school	7.4%	18.6%
High school	52.8%	23.5%
Some college	23.4%	29.1%
College degree or higher	16.4%	28.7%
Gender		
Female	52.5%	50.9%
Mean age	46.864	44.396
	(<i>SD</i> = 17.526)	(<i>SD</i> = 16.672)
News volume		
Mean hard news	129.840	70.460
	(<i>SD</i> = 52.993)	(<i>SD</i> = 44.040)
Mean soft news	53.000	55.170
	(<i>SD</i> = 38.378)	(<i>SD</i> = 38.121)
Ratio = hard news / (hard news + soft news)	.710	.560
News consumption		
Mean newspaper readership (0–2)	1.626	1.127
	(<i>SD</i> = 0.684)	(<i>SD</i> = 0.842)
Mean national news viewership (0–7)	4.800	2.701
	(<i>SD</i> = 2.663)	(<i>SD</i> = 2.590)
Mean news consumption index (0–2)	1.499	.951
	(<i>SD</i> = .557)	(<i>SD</i> = .620)
Regular newspaper readers	74.30%	42.50%
Regular national news viewers	51.10%	15.90%

Notes

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2. There are no major Swiss commercial broadcasters. The main competitors to Swiss public broadcasting are German, Italian, and French commercial broadcasting networks. These networks, like most commercial broadcasters in Europe, are subject to regulations assuring some minimal level of public affairs programming.

3. We acknowledge that Californians might be atypical. In comparison with residents of other states, for instance, their greater proximity to the entertainment industry might make Californians relatively more informed about soft news.

4. Given our reliance on open-ended questions, it was necessary to impose a time constraint on American respondents to preclude their carrying out an online search for the appropriate answer. We informed respondents that the screen would remain active for a period of 30 seconds. Since the correct answer typically consisted of one or two words, we are confident that the time constraint did not significantly lower the observed level of information.

5. Both samples proved generally representative of their respective populations. Although not shown here, the demographic features of the sample closely matched the target populations with two exceptions.

In the U.S. sample, Whites, African Americans, and Hispanics were appropriately represented, but Asians and members of other ethnic groups tended to be underrepresented. The Swiss sample proved to be slightly better educated than the universe.

6. The reliability of online samples (including that of Knowledge Networks') has been independently verified by other researchers (e.g., Alvarez, Sherman, & VanBeselaere, 2003; Berrens, Bohara, Jenkins-Smith, Silva, & Weimer, 2003; Krosnick & Chang, 2001). Nonetheless, we acknowledge that survey modality might be a potential confounding variable in our study. Given that the composition of online panels tends to favor the more educated and politically motivated, it is likely that our California results overestimate the level of political knowledge (see Hill et al., 2007). In this sense, the magnitude of differences between two countries may in fact exceed the differences reported here.

7. It is difficult to determine how representative these items were of all soft news subjects in the news during the period under investigation. As such, we are not in a position to generalize these findings to soft news in general. Moreover, because two of the soft news items focused on American celebrities (Michael Jackson and Tom Cruise), it is possible that our findings favor the California sample in terms of soft news knowledge. As we noted earlier, however, we believe that the globalization of popular culture has reduced the importance of proximity to Hollywood as a determinant of celebrity newsworthiness thus reducing the Swiss respondents' disadvantage in the domain of soft news. The fact that the Swiss were in fact slightly better informed about soft news supports this contention.

8. In each country, we divided the total number of newspaper and television references by the number of newspapers and television channels included in the analysis. Subsequently, we summed the newspaper and television per capita measures to compute the total news volume concerning each topic matter.

9. One shortcoming of our content analysis is that we only considered the mainstream news media in the two countries. However, given the fact that mainstream media outlets in both countries are available online, we are skeptical that exclusion of online news sources skews our findings.

10. In contrast, Americans more heavily relied on local newscasts as their news source when compared with their Swiss counterparts; 27.4% of Americans reported watching local newscasts "every day" when compared with 23.8% of the Swiss ($Z = -1.47, ns$).

11. Swiss respondents were better informed about hard news than soft news (74.1% vs. 59.9%).

12. Also, an identifiability constraint is necessary, and the sum $\sum_{j=1}^J \delta_j$ is fixed to 0 (Molenaar, 1995). Individuals with a null score ($s_n = 0$) or a perfect score ($s_n = J$) are not used to estimate the difficulty parameters because they provide no added information (Molenaar, 1995).

13. Education was measured on a 4-point ordinal scale ranging from *less than high school* to *bachelor's degree or higher*.

14. This measure was scored on a 3-point scale (*regularly, only now and then, and hardly ever*).

15. This measure was initially scored in a 7-point scale ranging from *never* to *7 days a week*.

References

- Alvarez, R. M., Sherman, R. P., & VanBeselaere, C. (2003). Subject acquisition for Web-based surveys. *Political Analysis, 11*, 23-43.
- Bartels, L. M. (2005). Homer gets a tax cut: Inequality and public policy in the American mind. *Perspective on Politics, 3*, 15-32.
- Bennett, S. E. (1994). The Persian Gulf War's impact on Americans' political information. *Political Behavior, 16*, 179-201.
- Berrens, R. P., Bohara, A. K., Jenkins-Smith, H., Silva, C., & Weimer, D. L. (2003). The advent of Internet surveys for political research: A comparison of telephone and Internet samples. *Political Analysis, 11*, 1-22.
- Bryk, A. S., & Raudenbush, S. W. (1992). *Hierarchical linear models*. Thousand Oaks, CA: Sage.

- Collier, D. (1993). The comparative method. In A. W. Finifter (Ed.), *Political science: The state of the discipline II* (pp. 105-119). Washington, DC: The American Political Science Association.
- Delli Carpini, M. X., & Keeter, S. (1996). *What Americans know about politics and why it matters*. New Haven, CT: Yale University Press.
- Dimock, M., & Popkin, S. (1997). Political knowledge in comparative perspective. In S. Iyengar & R. Reeves (Eds.), *Do the media govern?* (pp. 217-224). Beverly Hills, CA: Sage.
- Emery, M. (1989). An endangered species? The international news hole. *Gannett Center Journal*, 3, 151-164.
- Goldstein, H. (1987). *Multilevel models in educational and social research*. London: Oxford University Press.
- Hacker, J. C., & Pierson, P. (2005). Abandoning the middle: The Bush tax cuts and the limits of democratic control. *Perspectives on Politics*, 3, 33-54.
- Hallin, D. C., & Mancini, P. (2004). *Comparing media systems: Three models of media and politics*. New York: Cambridge University Press.
- Hamilton, J. (2004). *All the news that's fit to sell*. Princeton, NJ: Princeton University Press.
- Hill, S. J., Lo, J., Vavreck, L., & Zaller, J. (2007, April). The opt-in Internet panel: Survey mode, sampling methodology and the implications for political research. Paper presented at the annual meeting of the Midwest Political Science Association, Chicago, Illinois.
- Holtz-Bacha, C., & Norris, P. (2001). To entertain, inform, and educate: Still the role of public television? *Political Communication*, 18, 123-140.
- Iyengar, S., & McGrady, J. (2007). *Media and politics*. New York: W. W. Norton.
- Jerit, J., Barabas, J., & Bolsen, T. (2006). Citizens, knowledge, and the information environment. *American Journal of Political Science*, 50, 1023-1024.
- Kohut, A., Toth, R., & Bowman, C. (1994). *Mixed messages about press freedom on both sides of the Atlantic*. Pew Research Center for the People and the Press.
- Kreisberg, M. (1949). Public opinion: Dark areas of ignorance. In L. Markel (Ed.), *Public opinion and foreign policy* (pp. 49-64). New York: Harper.
- Krosnick, J., & Chang, L. C. (2001, May). *A comparison of random digit dialing telephone survey methodology with Internet survey methodology as implemented by Knowledge Networks and Harris Interactive*. Paper presented at the annual conference of the American Association for Public Opinion Research, Montreal, Canada.
- Kull, S., Ramsay, C., & Lewis, E. (2004). Misperceptions, the media, and the Iraq War. *Political Science Quarterly*, 118, 569-598.
- Lijphart, A. (1971). Comparative politics and the comparative method. *American Political Science Review*, 65, 682-693.
- Lupia, A. (1992). Busy voters, agenda control, and the power of information. *American Political Science Review*, 86, 390-403.
- Lupia, A. (1994). Short cuts versus encyclopedias: Information and voting behavior in California insurance reform elections. *American Political Science Review*, 88, 63-76.
- Luskin, R., Fishkin, J. S., & Jowell, R. (2002). Considered opinions: Deliberative polling in Britain. *British Journal of Political Science*, 32, 455-487.
- Meier, W. A. (2004). Switzerland. In M. Kelly, G. Mazzoleni, & D. McQuail (Eds.), *The media in Europe* (pp. 248-260). Thousand Oaks, CA: Sage.
- Moisy, C. (1996). *The foreign news flow in the information age* (Discussion Paper D-23). Joan Shorenstein Center, Kennedy School of Government, Harvard University.
- Molenaar, I. W. (1995). Estimation of item parameters. In G. H. Fischer & I. W. Molenaar (Eds.), *Rasch models: Foundations, recent developments, and applications* (pp. 39-52). New York: Springer-Verlag.
- Norris, P. (1996). The restless searchlight: Network news framing of the post cold-war world. *Political Communication*, 12, 357-370.
- Patterson, T. E. (1993). *Out of order*. New York: Knopf.
- Popkin, S. L. (1991). *The reasoning voter: Communication and persuasion in presidential campaigns*. Chicago: University of Chicago Press.

- Price, V., & Zaller, J. (1993). Who gets the news? Alternative measures of news reception and their implications for research. *Public Opinion Quarterly*, 57, 133-164.
- Rasch, G. (1980). *Probabilistic models for some intelligence and attainment tests*. Chicago: University of Chicago Press.
- Schiller, H. (1976). *Communication and cultural domination*. White Plains, NY: International Arts and Science Press.
- Schiller, H. (1998). Striving for cultural dominance: A half-century review. In D. Thussu (Ed.), *Electronic empires* (pp. 17-26). London: Arnold.
- Smith, D. D. (1970). "Dark areas of ignorance" revisited: Current knowledge of Asian affairs. *Social Science Quarterly*, 51, 668-673.
- Sparks, C. (1998). *Communism, capitalism and the mass media*. London: Sage.
- Tunstall, J. (2008). *The media were American*. New York: Oxford University Press.

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