When the wind changes direction:
The impact of content shift on the cultivation effect

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Abstract
This study examines how the cultivation effect is impacted by a sudden change in the content of news media reports. A content analysis of newspaper articles about Iceland published in Israel before and after the outbreak of the 2008 economic crisis (N = 708) was used to detect changes in the theme and tone of news reports regarding this country. It was followed by a survey (N = 304) that asked Israelis to give their estimates and views concerning the economic aspects of life in Iceland. Both first order and second order cultivation effects, which correlated media consumption with a positive view of Iceland’s economy and corresponded to the pre-crisis image of Iceland in the Israeli media, were noticed. These findings are supportive of the thesis that the long term frequency of media messages is more significant than their recency in establishing a cultivation effect.

Keywords: cultivation; Israel; Iceland; content analysis; economy; news; newspaper; heuristics

Introduction
What impact does a sudden change in the content and tone of the media coverage of a certain topic have on people’s estimates and views of the topic? This question, on which the current study focuses, challenges a profound axiom of cultivation theory — that media content is largely homogeneous and repetitive, and that therefore heavy media consumption carries with it greater exposure to recurring storylines, and leads to an internalizing of the worldview they present (Gerbner, Gross, Morgan, Signorielli and Shanahan, 2002).

Since cultivation theory was introduced in the late 1960s, it has become the subject of a heated public debate and a shrill academic discourse (see Potter, 1994 for a balanced review of arguments and
counterarguments). The most consistent conclusion that stems from a meta-analysis of over 80 studies confirms Gerbner’s proposition that heavy television viewing is connected with a line of distorted estimates and views in matters that are disproportionately represented on the screen compared to their presence in daily life, as was summed up by two of the theory’s proponents:

“Messages of power, dominance, segregation and victimization cultivate relatively restrictive and intolerant views regarding personal morality and freedoms, women’s roles and minority rights… Cultivation theory contends that heavy exposure to television cultivates insecurity, mistrust and alienation.” (Shanahan and Morgan, 1999, p. 40).

Evidence of cultivation was found in different cultures ranging from North America and Europe to South America, the Middle East and South East Asia (Weimann, 2000), and in a wide range of topics from the prevalence of crime (Gerbner and Gross, 1976; Potter, 1991; Hetsroni and Tukachinsky, 2006), through the popularity of certain occupations (Pfau, Mullen, Dietrich, and Garrow, 1995), beliefs about the demographic makeup of society (Fox and Philliber, 1978), and economic evaluations (Frey, Benesch, and Stutzer, 2007), to views about life in distant countries (Hetsroni, Elphariach, Kapuza, and Tsfoni, 2007). Even though the cultivation effect is small in magnitude (around one percent of the explained variance), it is cross-culturally consistent and robust across different demographic sectors (Potter, 1994; Shanahan and Morgan, 1999). Although Gerbner’s original proposition had related solely to television, and particularly to the entertainment segment of the programming (Gerbner, 1972), latter studies were able to attribute significant cultivation effects to other types of media such as internet (Peter and Valkenburg, 2006) and to non-fictional content like newspapers’ news section (Vergeer, Lubbers, and Schepers, 2000).

While proving that cultivation occurs is relatively easy, exposing its mechanism is a difficult task, partly because this mechanism is probably unconscious to the individual (Shrum, 2009), and partly because the cultivation phenomenon itself consists of at least two types of effect: the positive relationship between extended media consumption and a distorted estimation of the world e.g. erroneous assessment of the prevalence of certain occupations in direct correspondence with these occupations’ media presence, which is known as a first order effect; and the correlation between extended media consumption and attitudes that can be directly derived from media messages e.g. supporting severe punishment for crimes that are often depicted in the media as causing severe
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damage, which is termed a second order effect (Hawkins and Pingree, 1982).

The most often cited model for first order effects is heuristic processing (Shrum, 1995). This model sees reality estimates as memory based judgments. When asked to give such estimates people recall information from memory. Unconsciously, they turn to the media, which provide them with a bank of exemplars that were encoded in a much unelaborated manner whilst viewing television, playing a video game, or browsing the internet. Media exemplars are prompted in retrieval because they are vivid, salient, frequent and recent (particularly when we speak about heavy media consumers). In other words — first order effects result from resorting to heuristics aids (Shrum, Burroughs and Rindfleisch, 2004). In contrast, second order cultivation effects are the outcome of online persuasion. These judgments are typically beliefs and values that follow the direction of media messages but are not memory based (Shrum, Burroughs and Rindfleisch, 2005). They can be enhanced by media consumption that helps to activate and rehearse attitudes which can be assumed from the media content, and later become more accessible to the individual (Fazio, Chen, McDonel and Sherman, 1982). In the case of second order effects, it is a rather thoughtful attention to the messages and not some superficial processing of the content that is responsible for expanding their size (Shrum et al., 2005). However, Shrum (2009) adds that not all the second order attitudes that are impacted by the media are formed in this fashion. When the attitude objects are not common, individuals may be motivated to search their memory for information to compute their attitude. In such cases, the mechanism of second order cultivation effects may be similar to that of first order effects i.e. be (at least partly) the result of heuristic processing of media information.

Cultivation studies are composed of four phases: First, a content analysis quantifies the world of media content to which the public is exposed. Second, the findings of the content analysis are used as benchmarks to formulate statements about the frequency of phenomena whose likelihood to occur in typical media content is substantially different from their likelihood to occur in the real world (in order to measure first order effects) and about views that can be directly derived from the media (that are used to measure second order effects). Third, a survey that asks people for their estimates and views is conducted. Fourth and finally, heavy media consumers and light media consumers are compared for their responses to the survey questions (Morgan and Signorielli, 1990). Cultivation is deemed to occur when under multiple controls, such as demographics and personality traits, heavy media consumers still give “cultivated answers” which represent the world of media content but are not representative of the real world, and hold views that can be
directly derived from media content more frequently than light media consumers do, while light media consumers give real world answers which accurately reflect social circumstances, and hold views that are not typical of media content more often than heavy media consumers do (Shanahan and Morgan, 1999).

The function of media content in cultivation research and the case of Iceland’s economy

There is no doubt that the homogeneity and the consistency of mass media content have a role in establishing the cultivation effect (Shanahan and Morgan, 1999, pp. 191–197). This is so because the mass media are the most popular storytellers of our time and a source of socialization and knowledge about the world (Gerbner et al., 2002). Typical media content consists of stories that are coherent in details and comprise just a handful of frequently recurring narratives such as “crime does not pay off” and “justice wins.” These narratives are characterized by a high level of integrity and realism, which are key qualities for accepting stories as a true reflection of reality (Fisher, 1999). The public lacks the motivation and tools to appraise the truthfulness of media content (Shanahan and Morgan, 1999). This particularly applies to the mass media description of foreign countries, which often turns into a string of monothematic stories that repeat themselves and portray remote cultures as “single adjective nations” e.g. “peaceful New Zealand”, “exotic Hawaii” and “industrial Japan” (McNelly and Izcaray, 1986).

Against this background, it is not a coincidence that questions about a foreign land yield a stronger cultivation effect compared to questions about the home country (Hetsroni et al., 2007). The respondents’ direct experience of foreign countries is limited and they rarely have access to reliable non-media sources of information on the topic in question. Therefore, they tend to rely more often on the media as a source of knowledge (Ball-Rokeach, 1985), and are more likely to accept the media representation as an accurate reflection of the real world (Adoni and Mane, 1984). When people are asked questions about their close surroundings, they are in a condition of experiential closeness, which facilitates a systematic “recount and count” that may decrease the size of the cultivation effect. However, when the questions pertain to a distant culture about which the respondents have very little prior knowledge and with which they have no first hand acquaintance, they undergo experiential remoteness, which facilitates the activation of cognitive shortcuts, the retrieval of media exemplars without reference to their source, and eventually a stronger cultivation effect (Bilandzic, 2006). But what happens when the content that sets the background to this stronger effect,
changes all of a sudden? A deeply rooted axiom within cultivation re-
search postulates that media content is homogeneous and repetitive,
thereby exposing the public, particularly heavy media consumers, to a
long line of similar narratives that basically teach an identical lesson
(Shanahan and Morgan, 1999).

The international image of Iceland’s economy supplies us with an ex-
ceptional case wherein the leading media narrative has dramatically
changed overnight. During the 1990s and the 2000s, Iceland was known
as the “Nordic tiger”. From a small economy based mostly on fishing,
Iceland developed into a financial stronghold and one of the fastest
growing markets for consumer goods. However, the heavy share of loans
(compared to a low value of personal assets) and the lack of sufficient
foreign currency reserves caused a major banking crisis, soaring infla-
tion, the devaluation of the local currency and a sharp increase in unem-
ployment. Within a few short weeks in mid 2008, one of the richest
countries in the world (in terms of its standard of living) found itself on
the verge of bankruptcy. At the time this study was conducted, the crisis
was about to enter its second year.

This work will examine the correlation between media consumption
and estimates and beliefs about the economic condition of Iceland
among Israelis. Since Iceland is geographically and culturally remote
from Israel, Israelis are prone to undergo experiential remoteness, which
facilitates the emergence of a cultivation effect with regards to estimates
and views about this country (Bilandzic, 2006). Because the economic
condition of Iceland is a not hot topic in the Israeli public agenda, beliefs
about it — which in cultivation terms are regarded as second order mea-
sures — are expected to follow the origination path of first order esti-
mates i.e. stem from heuristic processing (Shrum, 2009).

Research questions

Will the cultivation effect conform to the longstanding pre-crisis media
presentation of Iceland as a thriving economy, or will it corroborate the
current negative image of Iceland’s economy? Cultivation-wise, this is a
contest between two heuristics — frequency and recency — which predict
contradicting effects: If the influence of frequency is stronger than the
influence of recency, there will be a positive correlation between media
consumption and a positive evaluation of the Icelandic economy (be-
cause for many years Iceland was portrayed in the media as a thriving
economy). However, if the influence of recency is stronger than the influ-
ence of frequency, there will be a positive correlation between media
consumption and a negative evaluation of the Icelandic economy (be-
cause the most recent media reports portray the Icelandic economy nega-
tively). Of course, we will have to demonstrate, first, beyond doubt, that since the outbreak of the economic crisis in 2008 the image of Iceland, and particularly the way that the Israeli media represents the Icelandic economy has changed significantly from positive to neutral or even negative.

Since the impact of a shift in media content on the cultivation effect has not been heretofore examined, we will ask research questions rather than posit directional hypotheses. The first research question (RQ1) examines changes in media content. The second research question (RQ2) is concerned with first order cultivation effects. The third research question (RQ3) asks about second order cultivation effects.

RQ1: Has there been a lasting change in the presentation of Iceland in the Israeli media since the outbreak of the economic crisis in 2008 manifested in more extensive coverage of the economy and a more negative tone of the stories?

RQ2: Is there a significant correlation (and if there is in what direction) between media consumption and a positive assessment of Iceland’s economy (estimates of the average salary level in Iceland and estimates of the condition of the Icelandic economy)?

RQ3: Is there a significant correlation (and if there is in what direction) between media consumption and the willingness to consider immigrating to Iceland because of its economic appeal and the belief that the person’s standard of living would improve as a result of such immigration?

Method
Taking place in Israel, the study consisted of a content analysis of local newspaper articles to determine the theme and tone of reports concerning Iceland before and after the outbreak of the economic crisis in 2008 and a survey that asked the respondents to provide their estimates (first order cultivation measures) and views (second order cultivation measures) regarding the current state of the Icelandic economy and the economic aspects of immigrating to and living in Iceland.

Content Analysis

Sample
The data were obtained from a systematic coding of items about Iceland that appeared in the online editions of Israel’s most highly circulated general newspapers — Maariv and Yedioth Ahronot and in the country’s
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leading economic newspaper Haaretz-The Marker between May 2003
(five years before the crisis started) and May 2009 (one year after the
 crisis started). Approximately 80% of the stories that appear in the newspa-
 pers’ printed edition can also be found in their internet editions, which
 regularly rank among the 20 most highly browsed websites in Israel (Co-
 hen, 2009). Thus, our sample provides an ample representation of news
 items – both for the printed press and for online news. Seven hundred
 and fifty seven stories were retrieved when using the words “Iceland”
 and “Icelandic” as search-terms in search engines placed at the newspa-
 pers’ homepages. This number includes 49 items in which one of the
 words – “Iceland” or “Icelandic” – was mentioned, even though the
 article did not relate to Iceland. These items were not coded. The remain-
 ing 708 items which were analyzed consisted of 418 items from the two
 general newspapers (Maariv, Yedioth Ahronot) and 290 items from the
 economic newspaper (Haaretz-The Marker). The breakdown of items by
 year was as follows: 93 items from 2003, 78 items from 2004, 76 items
 from 2005; 96 items from 2006, 69 items from 2007 (altogether 412 items
dating to before the outbreak of the economic crisis); 182 items from
2008 and 114 items from 2009 (altogether 309 items dating to the time
of the crisis).

Using newspaper articles as raw material in message system analysis
is less common in cultivation research than using television program-
ing, but such articles have been used before in a reliable manner (see
Vergeer et al., 2000). Moreover, in our case, newspaper articles constitute
the more ample source of media content to analyze since television news
reports in Israel contain only a meager portion of items about distant
countries such as Iceland (Avraham, First, and Elephant-Lepler, 2004).

Content categories

The unit of analysis was the article in its entirety. The coding book in-
cluded 37 topics (adapted from previous analyses of foreign news – see
Markham, 1961; Donohew, 1967; Gans, 2005). Since the minute distinc-
tion between several of the topics, many of which do not appear even
once in the sample, has no significance to the study, we have grouped
together bunches of topics into five themes. These were (in parenthesis —
the complete list of topics): politics (internal politics, foreign affairs and
security, crime and terror, immigration and inter-racial relations, demon-
strations and rallies); economy (real estate, fishing and agriculture, stock
exchange, banking, currency, finances and inflation, heavy industry, high
tech, services, marketing, economic globalization, welfare and unem-
ployment); sport; Israel and Iceland (stories about Israelis who live in
Iceland, Israel-Iceland bilateral relations); lifestyle and good life (land-
scape and environment, tourism, folklore, food, education, science and medicine). When the theme was the economy, we further coded the tone of the report as positive (i.e. as conveying the message that the country’s economy — or a particular sector — was thriving or improving), negative (i.e. as conveying the message that the country’s economy — or a particular sector — was experiencing a crisis), or unknown/neutral (when the economic condition of the country — or a particular sector — could not be inferred from the text, or when the article was conveying the message that the economy was neither thriving nor was it in a state of crisis).

Coding reliability

The coding was performed by two students, who separately coded all the items without being privy to the goals of the research. Inter-coder reliability was computed for the overall sample and was measured through Krippendorff’s Alpha coefficient. The values of this coefficient for theme (α = 0.929) and tone (α = 0.813) indicate an adequate level of reliability.

Survey

Sample

The respondents were MBA students attending an Israeli public university, who filled the questionnaire to receive extra credit in one of their courses (response rate = 91%). This group of respondents was intentionally picked because MBA students are likely to have some interest in economic matters, which could assist in detecting small effects (which are typical of cultivation) among consumers of less than popular economic media. Of the total of 304 respondents (all of them Jews), 144 (47.5%) were males and 160 (52.5%) were females. Their age ranged from 21 to 57 with a median of 27. With respect to religion, half of the respondents defined themselves as secular, while the other half was divided between those who considered themselves traditional (22%), and those who saw themselves as religious (28%).

Instrument and Procedure

The survey was conducted in May 2009. The questionnaire asked the respondents to give estimates regarding the current economic conditions in Iceland and the average monthly salary in Iceland (first order cultivation measures), to express their view as to whether or not the economic appeal of Iceland may persuade them to consider immigrating there, and
to decide whether such immigration would have positively affected their standard of living (second order cultivation measures).

We also asked the respondents to assess the daily time they devote to newspaper reading and to provide demographic details (sex, religiosity, age, family status, whether or not they have any family members or close friends living in Iceland, and whether or not they had ever visited the country), which would serve as control factors. In order to avoid an answering order bias, the items concerning Iceland had all been presented before the questions about media consumption were asked (see Shanahan and Morgan, 1999).

Measures

Media consumption (newspaper reading)

The questionnaire asked open-ended questions “how much time do you read [general newspapers/economic newspapers] on an average day?” Answers were given in hours and minutes. Examples of each kind of newspaper were provided as aides. Open-ended questions such as these were used previously in cultivation studies to measure media consumption (Gerbner, Gross, Jackson-Beeck, Jeffries-Fox and Signorielli, 1978; Morgan, 1983; Signorielli, 1989; Hetsroni and Tukachnisky, 2006).

Cultivation measures

Following the technique developed by Gerbner and his associates and used intensively in cultivation research (Gerbner et al. 1978; Gerbner et al., 1980; Signorielli, 1990; Hetsroni et al., 2007), each of the items that asked for an estimate of the economic reality in Iceland (first order cultivation measures) presented two optional answers (with random re-ordering of the options to prevent a response set effect):

1. A non-cultivated answer, which is a close approximation of the economic reality in Iceland as deemed from official statistics (Statistics Iceland, 2009). This answer corresponds to what Gerbner and his colleagues call “a real world answer.” A few of the numbers have been rounded to look more reasonable in the eyes of “suspicious” respondents (for an extended discussion of this rationale — see Shanahan and Morgan, 1999, pp. 53–54).

2. A cultivated answer, which is an exaggeration of the economic reality in Iceland in the direction pointed to by the media’s presentation of this country before the outbreak of the crisis. This answer corresponds to what Gerbner and his colleagues call “a TV answer” (Shanahan and Morgan, 1999, p. 24)
The first order cultivation items that appeared in our questionnaire were:

What do you think is the average monthly salary of a full-time time worker in Iceland?

(a) 3,500 € (non-cultivated answer) (b) 7,000 € (cultivated answer)

What do you think is the current economic condition in Iceland?

(a) Negative (non-cultivated answer) (b) Positive (cultivated answer)

Second order cultivation items offered the respondents the opportunity to choose between two optional answers — one of which expressed a negative view of Iceland’s economy, whereas the second expressed a positive view of the island’s economy (in line with the media representation of Iceland prior to the crisis). The items, which appeared with random re-ordering of the answers throughout the questionnaires, were:

Would you consider immigrating to Iceland because of this country’s economic appeal?

(a) Surely no, or likely no (b) Surely yes, or likely yes

Let’s say that you have just immigrated to Iceland. What, in your opinion, would happen to your standard of living?

(a) It would not improve (b) It would improve

Results

RQ1

RQ1 asked how the economic crisis has affected the portrayal of Iceland in the Israeli media. To answer this question, let us look at Table 1 which shows the theme distribution for items that appeared in Israeli general and economic newspapers before and after the outbreak of the economic crisis in 2008.

Both newspaper categories show a considerable increase in the share of articles devoted to Iceland’s economy during the crisis, compared to the share of this theme prior to outbreak of the crisis. In the general newspapers the share of stories about the economy increased from null before the outbreak of the crisis to nearly 37% after the crisis had started. In the economic newspaper, the share of stories about the econ-
Table 1. Themes in articles about Iceland published in Israeli general and economic newspapers before the outbreak of the economic crisis and during the crisis.

<table>
<thead>
<tr>
<th>Theme</th>
<th>General newspapers (N=418)</th>
<th>Economic newspapers (N=290)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Before the crisis (N=248)</td>
<td>During the crisis (N=170)</td>
</tr>
<tr>
<td>Politics</td>
<td>30.3%</td>
<td>57.1%</td>
</tr>
<tr>
<td>Economy</td>
<td>0.0%</td>
<td>36.7%</td>
</tr>
<tr>
<td>Lifestyle and good life</td>
<td>30.3%</td>
<td>6.1%</td>
</tr>
<tr>
<td>Sport</td>
<td>0.0%</td>
<td>0.0%</td>
</tr>
<tr>
<td>Israel and Iceland</td>
<td>9.1%</td>
<td>0.0%</td>
</tr>
</tbody>
</table>
Table 2. Tone of articles about Iceland's economy published in Israeli newspapers before the outbreak of the economic crisis and during the crisis.

<table>
<thead>
<tr>
<th>Article tone</th>
<th>Period of publication</th>
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<tbody>
<tr>
<td></td>
<td>Before the crisis (N = 74)</td>
</tr>
<tr>
<td>Positive</td>
<td>0.0%</td>
</tr>
<tr>
<td>Negative</td>
<td>12.5%</td>
</tr>
<tr>
<td>Neutral/Unknown</td>
<td>87.5%</td>
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</tbody>
</table>

The sharp increase in the share of negative stories (from 12.5% before the outbreak of the crisis to 92% during the crisis) is statistically significant ($\chi^2(2) = 81.7 P < .001 \lambda = .580$).

To sum up, the answer to RQ1 is that the makeup of stories regarding Iceland in the Israeli press changed significantly after the beginning of the economic crisis – exhibiting an increase in the share of stories about the economy which portray the economic condition in Iceland since 2008 negatively.

RQ2

RQ2 dealt with first order cultivation effects. To demonstrate the existence of these effects, we first look at the percent of cultivated exaggerated answers among light and heavy media consumers. This is a common
Table 3. The percent of cultivated answers given by heavy media consumers and light media consumers.

<table>
<thead>
<tr>
<th>Cultivation measures</th>
<th>Media consumption (newspaper reading)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>General newspapers</td>
</tr>
<tr>
<td></td>
<td>Light readers</td>
</tr>
<tr>
<td>First order cultivation measures</td>
<td>Estimation of average salary level in Iceland</td>
</tr>
<tr>
<td></td>
<td>Estimation of economic condition in Iceland</td>
</tr>
<tr>
<td>Second order cultivation measures</td>
<td>Willingness to consider immigration to Iceland due to its economic appeal</td>
</tr>
<tr>
<td></td>
<td>Believing that the personal standard of living would improve as a result of immigration to Iceland</td>
</tr>
</tbody>
</table>
Amir Hetsroni

mode of data presentation in cultivation research (see, for example, Gerbner et al. 1978; Morgan, 1983; Hetsroni et al., 2007). The borderline between light media consumption and heavy media consumption was drawn at the sample’s median — which was 30 minutes per day for general newspapers and 15 minutes per day for economic newspapers. Table 3 shows, for all the items, the percent of exaggerated (cultivated) answers elicited by heavy media consumers vs. light media consumers.

When responding to the first order items, heavy newspaper readers give exaggerated cultivated answers which correspond to the pre-crisis media image of Iceland more frequently than light newspaper readers give. This pattern of cultivation differentials, i.e. consisted differences in the share of cultivated answers between heavy media consumers and light media consumers, holds for both types of newspapers.

To validate the significance of the relationship between media consumption and first order cultivation measures and to assess the size of this effect, we built hierarchical logistic regression models, where the predicted variable was the cultivation measure (first or second order). The eight predictors were composed of the following groups: four socio-demographic indicators (age, sex, religiosity, family status) — all inserted in block 1; two indicators of first-hand acquaintance with Iceland (previous visits to Iceland and whether or not the person has family members or friends living in Iceland) that were inserted in block 2; and finally, two measures of media consumption (daily reading of general newspapers, daily reading of economic newspapers) that were inserted in block 3. Logistic regression was chosen, since this procedure is ample to examine the combined and discrete impact of multiple interval measures on a binary nominal variable, and because it can accept a limited number of categorical predictors (like some of the demographic indicators) into the equation (Hosmer and Lemeshow, 2000). Table 4 displays the results of the logistic regression for all the cultivation items. This table includes a notation of statistical significance for specific predictors (the regression coefficients), for the blocks and for the complete model and lists the values of Nagelkerke R square that point out the strength of the overall effect and block effects.

The influence of newspaper reading on estimating the level of the average salary in Iceland and on estimating the current economic condition in Iceland is statistically significant for economic newspapers but not for general newspapers (see the significance level of the regression coefficients in the newspaper reading block). Of all the control variables, the only significant predictor is sex, which predicts estimation of the economic condition in Iceland (women estimate it more positively than men do).
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Table 4. Logistic regression results for estimation of average salary level in Iceland – first-order cultivation measure (N = 304).

<table>
<thead>
<tr>
<th>Block 1</th>
<th>Block 2</th>
<th>Block 3</th>
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<tbody>
<tr>
<td>B</td>
<td>SE</td>
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Block 1: Demographics

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<tbody>
<tr>
<td>Age</td>
<td>.004</td>
<td>.033</td>
<td>-.012</td>
<td>.033</td>
<td>-.013</td>
<td>.036</td>
</tr>
<tr>
<td>Sex</td>
<td>-.360</td>
<td>.438</td>
<td>-.291</td>
<td>.446</td>
<td>.149</td>
<td>.480</td>
</tr>
<tr>
<td>Religiosity</td>
<td>-.065</td>
<td>.259</td>
<td>-.124</td>
<td>.283</td>
<td>-.410</td>
<td>.316</td>
</tr>
<tr>
<td>Family status</td>
<td>.403</td>
<td>.476</td>
<td>.251</td>
<td>.482</td>
<td>.888</td>
<td>.565</td>
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</tbody>
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Block 2: First-hand acquaintance with Iceland

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<tbody>
<tr>
<td>Previous visits to Iceland</td>
<td>.438</td>
<td>.217</td>
<td>.934</td>
<td>.525</td>
<td>.363</td>
<td>.228</td>
</tr>
<tr>
<td>Family members or friends in Iceland</td>
<td>.363</td>
<td>.228</td>
<td>.355</td>
<td>.269</td>
<td></td>
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Block 3: Newspaper reading

<table>
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<th>SE</th>
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<tbody>
<tr>
<td>Economic newspapers</td>
<td>2.450</td>
<td>1.112</td>
<td></td>
<td></td>
</tr>
<tr>
<td>General newspapers</td>
<td>.345</td>
<td>.221</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Economic newspapers</td>
<td>4.160</td>
<td>1.033</td>
<td></td>
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</tbody>
</table>

Note: % correctly predicted = 71.4

* p < .05 ** p < .01 *** p < .005 **** p < .001


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<tr>
<th>Block 1</th>
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<th>Block 3</th>
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Block 1: Demographics

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<tr>
<th></th>
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<th>B</th>
<th>SE</th>
<th>B</th>
<th>SE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>-.046</td>
<td>.034</td>
<td>-.042</td>
<td>.035</td>
<td>-.042</td>
<td>.036</td>
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<td>Sex</td>
<td>1.362****</td>
<td>.437</td>
<td>1.381****</td>
<td>.441</td>
<td>2.573****</td>
<td>.634</td>
</tr>
<tr>
<td>Religiosity</td>
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<td>-.232</td>
<td>.103</td>
<td>.248</td>
<td>-.262</td>
<td>.322</td>
</tr>
<tr>
<td>Family status</td>
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<td>.448</td>
<td>-.317</td>
<td>.456</td>
<td>-.290</td>
<td>.540</td>
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Block 2: First-hand acquaintance with Iceland

<table>
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<tr>
<td>Previous visits to Iceland</td>
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<td>Family members or friends in Iceland</td>
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Block 3: Newspaper reading

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<thead>
<tr>
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<tr>
<td>Economic newspapers</td>
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<td>.221</td>
</tr>
<tr>
<td>General newspapers</td>
<td>4.160****</td>
<td>1.033</td>
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</tbody>
</table>

Note: % correctly predicted = 64.6

* p < .05 ** p < .01 *** p < .005 **** p < .001
### Logistic regression results for willingness to consider immigration to Iceland due to its economic appeal — second-order cultivation measure (N = 304).

<table>
<thead>
<tr>
<th>Block 1: Demographics</th>
<th>Block 2</th>
<th>Block 3</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>B</strong></td>
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<td><strong>B</strong></td>
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<td>Sex</td>
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<td>Religiosity</td>
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**Block 2: First-hand acquaintance with Iceland**

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<th><strong>B</strong></th>
<th><strong>SE</strong></th>
<th><strong>B</strong></th>
<th><strong>SE</strong></th>
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</thead>
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<td>.936</td>
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<td>.818</td>
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<td>Family members or friends in Iceland</td>
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<td>.166</td>
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<td>.169</td>
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</table>

**Block 3: Newspaper reading**

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<th><strong>B</strong></th>
<th><strong>SE</strong></th>
<th><strong>B</strong></th>
<th><strong>SE</strong></th>
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</thead>
<tbody>
<tr>
<td>General newspapers</td>
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<td>.308</td>
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<tr>
<td>Economic newspapers</td>
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<tr>
<td>Nagelkerke $R^2$</td>
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<td>.116</td>
<td>.135</td>
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<td>Nagelkerke $R^2$ change per block</td>
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<td>$\chi^2$ value for block</td>
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<td>6.422*</td>
<td>4.991*</td>
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<td>$\chi^2$ value for model</td>
<td>23.153****</td>
<td>29.575****</td>
<td>34.566****</td>
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</table>

**Note:** % correctly predicted = 86.4 * p < .05 ** p < .01 *** p < .005 * *** p < .001

### Logistic regression results for believing that the personal standard of living would improve as a result of immigration to Iceland — second-order cultivation measure (N = 304).

<table>
<thead>
<tr>
<th>Block 1: Demographics</th>
<th>Block 2</th>
<th>Block 3</th>
</tr>
</thead>
<tbody>
<tr>
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<td><strong>B</strong></td>
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<tr>
<td>Age</td>
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<td>.034</td>
</tr>
<tr>
<td>Sex</td>
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<td>.440</td>
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<tr>
<td>Religiosity</td>
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<td>Family status</td>
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<td>.486</td>
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**Block 2: First-hand acquaintance with Iceland**

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<th><strong>SE</strong></th>
<th><strong>B</strong></th>
<th><strong>SE</strong></th>
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</thead>
<tbody>
<tr>
<td>Previous visits to Iceland</td>
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<td>.294</td>
<td>.696</td>
<td>.418</td>
<td></td>
</tr>
<tr>
<td>Family members or friends in Iceland</td>
<td>1.133****</td>
<td>.324</td>
<td>.875**</td>
<td>.318</td>
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**Block 3: Newspaper reading**

<table>
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<th><strong>B</strong></th>
<th><strong>SE</strong></th>
<th><strong>B</strong></th>
<th><strong>SE</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>General newspapers</td>
<td>1.340*</td>
<td>.532</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Economic newspapers</td>
<td>1.951*</td>
<td>.816</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Nagelkerke $R^2$</td>
<td>.111</td>
<td>.288</td>
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<td>Nagelkerke $R^2$ change per block</td>
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</tr>
<tr>
<td>$\chi^2$ value for block</td>
<td>10.507</td>
<td>18.27****</td>
<td>24.402****</td>
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<tr>
<td>$\chi^2$ value for model</td>
<td>10.507</td>
<td>29.334****</td>
<td>53.736****</td>
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<td></td>
</tr>
</tbody>
</table>

**Note:** % correctly predicted = 69.0 * p < .05 ** p < .01 *** p < .005 **** p < .001
When the wind changes direction

To sum up, our answer to RQ2 is that there is a pattern of first order cultivation effects in the dataset for economic newspapers. The state of the economy in Iceland is estimated more positively, in line with the media image of Iceland before the outbreak of the economic crisis, by Israelis who devote more time to reading economic newspapers. A similar trend exists for general newspapers, but it falls short of statistical significance.

RQ3

Finally, we examine RQ3, which was concerned with second order cultivation effects. To demonstrate the existence of these effects, we look at the lower part of Table 3 and see the differences in the share of cultivated answers between heavy media consumers and light media consumers. Heavy readers of general newspapers, who make up the upper half of the sample in the amount of time they devote to newspaper reading, give cultivated answers to second order questions more frequently than light readers, who make the lower half of the sample in the amount of time devoted to newspaper reading. This pattern of cultivation differentials does not hold completely for economic newspapers: Heavy readers of economic newspapers do give a cultivated answer to the question about believing in improvement in the standard of living as a result of immigration to Iceland more frequently than light readers of economic newspapers give, but they do not give a cultivated answer to the question about willingness to consider such immigration more often than light readers give.

To validate the significance of the relationship between media consumption and second order cultivation measures and to assess the size of this effect, we turn to the last two logistic regression models on Table 4. The regression coefficients of general newspaper reading on willingness to consider immigration to Iceland and on believing that such immigration would bring about improvement in the immigrant’s standard of living are statistically significant. However, economic newspaper reading reaches significance only in one of the second order cultivation items (believing that the standard of living would improve after immigration to Iceland). In other words, the second-order cultivation effect is fully significant for general newspapers and partly significant for economic newspapers. This finding leads to the conclusion that there is a significant positive relationship between media consumption and an affirmative view of immigration to Iceland because of the country’s economic appeal, but this relationship does not apply to all the measures of media consumption. Of all the control variables, the only significant predictions are noted for family status (secular respondents are more likely to con-
sider immigration to Iceland due to the country’s economic appeal) and having family members or friends who live in Iceland, which positively predicts believing that immigration to Iceland would bring about improvement in their standard of living.

Our results suggest the existence of partly significant first and second order cultivation effects, correlating Israelis’ newspaper reading with a positive estimation and an optimistic view of the current condition of the Icelandic economy. This outlook is not in line with the presentation of Iceland in Israeli newspapers at the time of the study, but it has affinity with the presentation of this country in local newspapers in previous years.

Discussion

In the main part, our findings confirm the cultivation prediction by demonstrating that heavy media consumers see a portion of the world (in this case: the economy of a small foreign country) in a way that is similar to the way this portion of the world was presented in the local media for years. The effect is observed at the first order level (since the positive estimation of the condition of the Icelandic economy is more common among heavy readers of local newspapers) and at the second order level (because Israelis are more willing to consider immigration to Iceland due to its economic appeal and are more likely to believe that their standard of living would improve if they immigrated — as their newspaper reading increases).

While we are not pioneers in demonstrating the cultivation effect of newspaper reading (see Vergeer et al., 2000) by showing an effect on beliefs about distant countries (see Hetsroni et al., 2007), and not even by pointing at economic evaluations as a cultivation indicator (see — Frey et al., 2007) — the combination of all of the above pushes cultivation beyond the realms ordinarily covered. Furthermore, the conventional view of cultivation takes the unaltered homogeneous nature of media content as an axiom and uses it to explain why people unconsciously accept this content as a true reflection of reality. we were able to show that when the content and tone of media messages suddenly change, the cultivation effect continues to respond to the former image. The news about the severe economic crisis in Iceland was more recent for Israelis when they took part in the study, yet they adhered to old news about Iceland’s affluence, when determining their view of the country’s economy.

This finding has implications at more than one level. First, from a cultivation standpoint, it indicates that frequency (the positive reports about Iceland stretched for a longer period than the recent negative re-
ports and outnumbered them) is more potent than recency in predicting
the direction of the cultivation effect. In other words — when there is
content incongruence between recent media messages and frequent me-
dia messages, the frequent messages are more likely to carry the cultiva-
tion effect in their direction. A similar trend was also noted in memory
studies that are not media-related (Higgins, Bargh, and Lombardi, 1985;
Wyer and Radvansky, 1999). Second, from a political point of view, our
results suggest that using the media to rapidly change the image of lesser
known countries is not an easy task. Third and last, from the viewpoint
of content analysts and media content researchers, our results indicate that
media stories leave lasting traces that impact judgments for years.

Even though a few of the media consumption measures that we used
in this study failed to reach significance, something that might have been
expected in light of the small cultivation effect (Shanahan and Morgan,
1999), none of the control variables performed better. In fact, newspaper
reading was the only block that consistently predicted evaluation of the
Icelandic economy. Interestingly, Israelis’ first-hand acquaintance with
Iceland had very little influence here — perhaps because of the small
variance in the predicting variables (only 10 of the 304 respondents had
ever visited Iceland and only 4 of them had close friends or family rela-
tives who live on the island).

Study limitations and suggestions for further research

To avoid overly-comprehensive conclusions we should not forget the
weaker aspects of this work. We were given a unique opportunity to
examine the effect of a sudden change in the content and tone of news
media reports on the direction of the cultivation effect, but the topic that
we used as a case study is not necessarily representative of news media
and certainly not representative of the gamut of media contents. Specifi-
cally, the geographical and cultural remoteness of Iceland from Israel
made the Israeli public more prone to cultivation when asked questions
about Iceland, but this remoteness might also make the response to sec-
ond order cultivation items more memory based and less an online judg-
ment — unlike the common mechanism that sets the reaction to second
order cultivation items (Shrum, 2009).

As for the data analysis, we had statistical control over several poten-
tially intervening factors. However, this is still a cross-sectional study, in
which any claim about causation remains in doubt. In addition to this
weakness, the non-representative composition of the respondents — al-
though appropriately serving the purpose of detecting cultivation effects
among consumers of economic media — still puts limitations on the
capability to generalize the findings into more diverse populations.
Therefore, the trends that were detected in this work should be further tested in other topics and in other populations before we can safely declare that the cultivation effect is shaped by frequent media representation from the past more than it responds to the most recent media images.

Bionote

Amir Hetsroni is Senior Lecturer at the School of Communication, Ariel University Center, Israel.

References


When the wind changes direction


Amir Hetsroni


