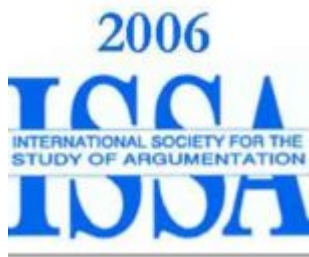


ISSA Proceedings 2006 ~ Cultural Differences In The Persuasiveness Of Normatively Strong And Normatively Weak Expert Evidence



1. *Introduction*

People sometimes use expert evidence in support of their claims in persuasive texts (Hornikx, 2004) or speeches (Levasseur & Dean, 1996). The fact that, for instance, Professor Jackson underscores that playing party games helps young criminals to become more socialized, may serve as expert evidence in support of a claim about the effects of playing games for young criminals. In such cases, an argument by authority is formed, because “a statement is defended by pointing out the fact that an authoritative person or institution subscribes to it” (Schellens, 1985, p. 179).

Walton (1997) provided a detailed discussion of the argument by authority, and distinguished two different types of authority: the administrative authority and the cognitive authority. An administrative authority has “the right to exercise command over others or to make rulings binding on others through an invested office or recognized position of power” (p. 76). Examples of this kind of authority are a minister and a mayor. When a cognitive authority is concerned, there is “a relationship between two individuals where one is an expert in a field of knowledge in such a manner that his pronouncements in the field carry a special weight of presumption for the other individual” (p. 77). When expert evidence is used as support for claims in a persuasive setting, it is related to this cognitive authority.

In Section 2, I will give an overview of studies that investigated the persuasiveness of expert evidence as well as other types of evidence. One of these studies demonstrated that the persuasiveness of expert evidence was not the same in two different cultures. Section 3 will therefore discuss the relationship between expert evidence and the cultural background of people who judge expert evidence. Special attention will be paid to the question whether people from

different cultures may vary in the persuasiveness of expert evidence that is normatively strong or normatively weak according to criteria from argumentation theory. The second part of this article will report on an experiment that investigated the persuasiveness of normatively strong or normatively weak expert evidence in France and the Netherlands.

2. The persuasiveness of expert evidence

The persuasiveness of different types of evidence has been empirically investigated for more than 60 years. Evidence has been defined as “data (facts or opinions) presented as proof for an assertion” (Reynolds & Reynolds, 2002, p. 429). Hoeken and Hustinx (2003) distinguish anecdotal, statistical, causal, and expert evidence. Anecdotal evidence consists of one case, whereas statistical evidence consists of numerical information about a large number of cases. Causal evidence, next, consists of an explanation, and expert evidence, finally, consists of a confirmation by an expert. The types of evidence appear not to be equally persuasive. In a recent review of empirical studies, which was the first to include all four types of evidence, Hornikx (2005) concluded that statistical and causal evidence are more persuasive than anecdotal evidence. For expert evidence, such conclusions are harder to make because of the limited number of empirical studies that examined the persuasiveness of expert evidence and other types of evidence: Hoeken and Hustinx (2003), and Hornikx and Hoeken (2005).

Hoeken and Hustinx (2003) were the first to investigate the persuasiveness of all four types of evidence. Expert evidence was found to be as persuasive as statistical and causal evidence, and more persuasive than anecdotal evidence. Hornikx and Hoeken (2005) also investigated these four types of evidence, but not only with Dutch participants – as in Hoeken and Hustinx (2003) – but also with French participants. Moreover, the quality of the evidence instantiations was taken into account. The instantiations of statistical and expert evidence were normatively strong according to criteria from argumentation theory. Normatively strong statistical evidence should consist of a large sample of cases that is representative for the population in the claim that it supports (Garssen, 1997; Schellens, 1985). Expert evidence is normatively strong if the expert is credible and reliable, and if the expert’s field of expertise corresponds to the field of the claim (see also Walton, 1997). For the Dutch participants in Hornikx and Hoeken (2005), expert evidence was as persuasive as causal evidence, less persuasive than statistical evidence, but more persuasive than anecdotal evidence. For the

French participants, expert evidence was as persuasive as statistical evidence, but more persuasive than causal and anecdotal evidence.

Both Hoeken and Hustinx (2003), and Hornikx and Hoeken (2005) demonstrate that expert evidence is more persuasive than anecdotal evidence. However, their results differed in how the persuasiveness of expert evidence relates to that of statistical and causal evidence. This difference may be attributed to the two studies' differences in participants (Dutch or French) and material (normatively strong instantiations or not). In the next section, therefore, I will discuss the possible influence of culture and normative criteria on the persuasiveness of expert evidence, and - in particular - the interplay between these two factors.

3. Culture and expert evidence

Some argumentation scholars have stressed the importance of possible cultural differences in the evaluation of argument types (e.g., Hollihan & Baaske, 1998; Sanders, Gass & Wiseman, 1991), and of strong and weak arguments (e.g., MacIntyre, 1988; McKerrow, 1990). Hornikx and Hoeken (2005) were particularly interested in cultural differences in the persuasiveness of expert evidence. The results of their experiment demonstrated that expert evidence was relatively more persuasive to the French participants than to the Dutch participants. This cultural difference was explained with reference to the concept of power distance (cf. Jansen, 1999; Pornpitakpan, 2004). Power distance is "the extent to which the less powerful members of institutions and organizations within a country expect and accept that power is distributed unequally" (Hofstede, 2001, p. 98). For expert evidence to be persuasive, the receiver will have to accept that the expert possesses more knowledge about the topic in question. Kruglanski et al. (2005) suggested that the influence of experts on people depends on the perceived gap between their own knowledge and that of the expert. It could be argued that such a gap in knowledge is accepted more easily in large power distance cultures such as the French than in small power distance cultures such as the Dutch. Therefore, expert evidence might be more persuasive in the French culture than in the Dutch culture.

The difference in the persuasiveness of expert evidence in both cultures in Hornikx and Hoeken (2005) was less pronounced than could be expected on the basis of the large difference in power distances in the Dutch and the French culture that Hofstede (2001) reports. In Hornikx and Hoeken (2005), the expert evidence instantiations were strong according to criteria from argumentation

theory: the experts were constructed to be credible and reliable, and their field of expertise was relevant to the field of the claim that the expert supported. Larger cultural differences could be suggested with normatively weak expert evidence, consisting of experts with an irrelevant field of expertise. In fact, the French communication scholar Breton (2003) argues that experts can influence people's opinions about an issue that is far from their own field of expertise. This suggests that - under conditions of a large power distance - expert evidence with an irrelevant field of expertise (normatively weak) may still be persuasive. People from the French culture more easily accept differences in power distance, and may therefore be less affected by the relevance of the experts' field of expertise, provided that these experts have a high status (e.g., because of titles). People from small power distance cultures such as the Dutch could be said to take into account the relevance of the field of expertise. This leads to the first research question:

RQ1 - Is there a cultural difference in the relative persuasiveness of normatively strong and normatively weak expert evidence in France and the Netherlands?

If such a cultural difference indeed occurs, normatively weak expert evidence could be more persuasive in the French culture than in the Dutch culture:

RQ2 - Is normatively weak expert evidence more persuasive in France than in the Netherlands?

4. Method

An experiment was set up to answer these two research questions. Dutch and French participants were given a number of claims supported by normatively strong and normatively weak evidence.

4.1 Material

Participants received 20 claims, taken from Hornikx and Hoeken (2005). An example of such a claim is 'Waiters that repeat the orders of customers verbatim receive a higher tip'. Ten claims were supported by causal or anecdotal evidence. These were used as fillers between the ten other claims, which were supported by normatively strong or normatively weak evidence. Normatively weak expert evidence was created by changing the relevant field of expertise into an irrelevant field of expertise. Each field of expertise in Hornikx and Hoeken (2005) was used for strong expert evidence, but also for weak expert evidence.

Statistical evidence was also included in the material because it allowed to control whether French participants were sensitive to differences in evidence quality for this type of evidence. The statistical evidence instantiations in Hornikx and Hoeken (2005) were normatively strong because they had large sample sizes, and high percentages of cases in the sample. In this experiment, two sets of normatively strong and normatively weak statistical evidence were created: '78% of 314 persons' and '74% of 381 persons' for the strong instantiations, and '35% of 46 persons' and '38% of 53 persons' for the weak instantiations.

4.2 *Participants*

The Dutch participants were mostly Arts students from universities in Amsterdam ($n = 73$; five groups), Delft ($n = 21$; two groups), Enschede ($n = 28$; three groups), Nijmegen ($n = 77$), and Tilburg ($n = 101$; three groups). The French participants were also mostly Arts students, in Besançon ($n = 49$), Paris ($n = 56$; two groups), Roubaix ($n = 58$), Strasbourg ($n = 65$; six groups), and Tours ($n = 72$). Of the French participants, 81.3% was female, whereas this percentage was only 70.0% for the Dutch participants. The age of the French participants ranged from 17 to 30, with a mean of 20.19 ($SD = 1.81$). The Dutch participants were 20.64 years old on average ($SD = 1.91$), with ages from 17 to 26[i].

4.3 *Design*

The multiple message design of Hornikx and Hoeken (2005) was used. All participants received the 20 claims in exactly the same order in each version, but the distribution of the five types of evidence over the 10 experimental claims and the five versions followed a balanced Latin square. The fifth type of evidence was the no evidence condition. This condition served as a baseline, and allowed to compute the persuasiveness of evidence: the judgment of a claim with evidence minus the judgment of the same claim without evidence.

4.4 *Instrumentation*

The booklet that participants received was titled 'Opinions on social issues'. After an instruction, 20 pairs of claims with different types of evidence followed. For each of the claims, participants judged the probability on 5-point semantic differentials (very improbable - very probable). After these 20 judgments, participants received a number of items of three context variables for which they had to indicate their agreement on a 5-point Likert scale. As a control with Hornikx and Hoeken (2005), participants were given seven items of the Need for Cognition scale (NFC; Cacioppo, Petty, & Kao, 1984). In order to better be able to

explain possible cultural differences (see Hornikx, 2006), two variables were included: four items of the Preference for Expert Information scale (PEI; Hornikx & Hoeken, 2005), and 10 items of the Right-Wing Authoritarianism scale (RWA; Altemeyer, 1988), which has proven to be related to power distance (see Rohan & Zanna, 1996). All three scales were reliable (NFC: Dutch $\alpha = .72$, French $\alpha = .78$; PEI: Dutch $\alpha = .75$, French $\alpha = .79$; RWA: Dutch $\alpha = .60$, French $\alpha = .71$).

After these items, the perceived expertise of the experts was measured as in Hornikx and Hoeken (2005). Participants indicated the degree to which they agreed with a standpoint on a 5-point Likert scale, such as: "Professor Timmermans is a researcher in the field of retail marketing at the University of Rotterdam. In that capacity, he has enough expertise to make a judgment about the relation between slow music in supermarkets and their turnover". For the perceived quality of normatively strong statistical evidence, participants were asked to indicate on a 5-point semantic differential which of the two examples they would choose as proof for the generality of the occurrence of an effect: "the effect occurs in 35% of 46 persons" or "the effect occurs in 78% of 314 persons". The questionnaire ended with questions about participants' age, sex, nationality, and current education.

4.5 Procedure

Students of several universities in the Netherlands and France filled in the questionnaire. The study was introduced as being about social issues. The students were not rewarded for their participation, which took about 13 to 18 minutes. After the questionnaires had been collected, the real research purpose was revealed, and participants were thanked for their cooperation. There were no disturbances during the experiment.

4.6 Statistical tests

The research question about cultural differences in the persuasiveness of normatively strong and normatively weak expert evidence was evaluated through a 2 (culture) x 2 (type) x 2 (quality) analysis of variance, where culture was a between-subjects factor, and type of evidence and evidence quality within-subjects factors. The research question about cultural differences in the persuasiveness of normatively weak expert evidence was investigated in two ways. The persuasiveness of normatively weak expert evidence in the two cultural groups was directly compared with an independent t-test, and indirectly by comparing it with the persuasiveness of normatively strong expert evidence. Next

to these analyses by participants, analyses by stimuli were also conducted.

A within-subjects design carries the risk of a carry over effect: the participants' judgments of claims in the second part of the booklet may be influenced by their judgments of claims in the first part. The occurrence of a carry over effect was tested with a 2 (first judgment, last judgment) x 2 (expert, statistical) analysis of variance with repeated measures, and a 2 (first judgment, last judgment) x 2 (strong, weak) analysis of variance with repeated measures. If participants had learned to perceive differences between the type and the quality of evidence, there should have been significant interaction effects. However, interaction effects were not significant for time of judgment and type of evidence ($F(1, 599) = 2.33, p = .13$), or for time of judgment and quality of evidence ($F(1, 599) = 1.63, p = .20$).

5. Results

Before I present the results relevant to the research questions (5.2), I will discuss participants' reactions to the manipulations of strong and weak evidence (5.1).

5.1 Manipulation of strong and weak evidence

Since scholars in cross-cultural methodology suggest checking whether participants with different cultural backgrounds have the same use of scale extremities (Van de Vijver & Leung, 1997), this was done for the Dutch and French participants with the Bachman and O'Malley (1984) index. Because of cultural differences in response extremity on the claims and the context variables (p 's < .01), the scores on these items were standardized. The analyses below will concern standardized data, unless indicated otherwise.

Next, it was tested whether the manipulations of strong and weak statistical and expert evidence were successful. Strong statistical evidence was indeed perceived as stronger than weak statistical evidence (t-tests with raw data). This was the case for both the French participants ($M = 3.71, SD = 1.28; t(290) = 9.52, p < .001$), and the Dutch participants ($M = 4.39, SD = 0.99; t(298) = 24.12, p < .001$), as each group of participants scored above the scale midpoint (3.00). However, the manipulation was more successful for the Dutch participants than for the French participants ($t(547.15) = 7.12, p < .001$).

Next, it was checked whether the normatively strong experts were considered as having more expertise than the normatively weak experts. The French

participants perceived the strong experts ($M = 3.02$, $SD = 0.86$) as more expert than the weak experts ($M = 2.61$, $SD = 0.92$), $F(1, 299) = 46.48$, $p < .001$, $\eta^2 = .14$. Similarly, the Dutch participants considered the strong experts ($M = 3.30$, $SD = 0.83$) had more expertise than the weak experts ($M = 2.33$, $SD = 0.85$), $F(1, 299) = 255.81$, $p < .001$, $\eta^2 = .46$. The operationalization of weak and strong expert evidence was successful, but the difference in expertise between strong and weak experts was more pronounced for the Dutch participants than for the French participants ($F(1, 598) = 43.93$, $p < .001$, $\eta^2 = .07$).

In sum, the manipulations of strong and weak evidence were successful, but to a larger extent for the Dutch participants than for the French participants. Whether these cultural differences affected the sensitivity to evidence quality will be shown below, where the results relevant to the research questions are presented.

5.2 Research questions

An experiment was conducted to investigate the persuasiveness of normatively strong and normatively weak expert evidence in the Dutch and the French culture. Table 1 shows the persuasiveness of these two types of evidence, and of normatively strong and weak statistical evidence.

Table 1. Persuasiveness of evidence in function of culture, type and quality

type of evidence	Dutch (n = 300)	French (n = 300)	total (N = 600)
expert evidence			
strong	0.73 ^b (1.73)	0.25 ^a (1.66)	0.49 ^b (1.71)
weak	0.25 ^a (1.74)	0.36 ^a (1.59)	0.31 ^a (1.67)
statistical evidence			
strong	1.04 ^a (1.77)	0.46 ^a (1.72)	0.75 ^a (1.77)
weak	0.42 ^a (1.72)	0.35 ^a (1.62)	0.39 ^a (1.67)

Note: Standardized data, SD between parentheses, different superscripts refer to significant differences within-cultures, alpha level of .05

Table 1. Persuasiveness of evidence in function of culture, type and quality

For RQ1 about cultural differences in the persuasiveness of normatively strong and weak expert evidence, the interaction effect between culture and quality on the persuasiveness of expert evidence is relevant. This interaction was significant: $F1(1, 598) = 11.43$, $p < .01$, $\eta^2 = .02$; $F2(1, 9) = 14.05$, $p < .01$, $\eta^2 = .61$. For the French participants, there was no difference in the persuasiveness of strong and weak expert evidence ($t1(299) = 0.89$, $p = .37$; $t2(9) = 1.03$, $p = .33$), whereas strong expert evidence was more persuasive than weak expert evidence

for the Dutch participants ($t_1 (299) = 3.77, p < .001; t_2 (9) = 2.37, p < .05$). It should be noted that a similar interaction effect was found for statistical evidence: $F_1 (1, 598) = 7.62, p < .01, \eta^2 = .01; F_2 (1, 9) = 20.47, p < .01, \eta^2 = .70$. For the French participants, strong statistical evidence was as persuasive as weak statistical evidence ($t_1 (299) = 0.90, p = .37; t_2 (9) = 1.65, p = .13$), but for the Dutch participants strong statistical evidence was more persuasive than weak statistical evidence ($t_1 (299) = 4.65, p < .001; t_2 (9) = 4.63, p < .01$).

The second research question focused on the persuasiveness of normatively weak expert evidence in the Dutch and the French culture (RQ2). In an absolute way, weak expert evidence was equally persuasive in both cultures ($t_1 (598) = 0.77, p = .44; t_2 (9) = 0.61, p = .56$). In a relative way, however, weak expert evidence was more persuasive in France, as it was as persuasive as strong expert evidence. Finally, context variables were selected in order to be able to explain possible cultural differences in the persuasiveness of expert evidence[**ii**]. The French and Dutch participants, however, did not differ with respect to their scores on the PEI ($t(585.51) = 1.65, p = .10$), and RWA scales ($t(581.81) = 0.61, p = .54$).

6. Conclusion and discussion

Hornikx and Hoeken (2005) demonstrated that normatively strong expert evidence was more persuasive in the French culture than in the Dutch culture, but only in a relative way. Larger cultural differences could be suggested with normatively weak expert evidence. On the basis of Breton (2003) and Hofstede (2001), I suggested that there could be cultural differences in the persuasiveness of strong and weak expert evidence in the French and the Dutch culture. An experiment was set up to investigate the persuasiveness of these two types of expert evidence. A cultural difference indeed occurred: strong expert evidence was more persuasive than weak expert evidence for the Dutch participants, but both types of expert evidence were equally convincing for the French participants.

Normatively weak expert evidence was not more persuasive in the French culture than in the Dutch culture in an absolute way. It was more persuasive, though, in a relative way, because it was as persuasive as normatively strong expert evidence for the French participants. Below, I will explore possible explanations for these cultural differences (6.1), and I will present implications of this study for argumentation theory (6.2).

6.1 *Possible explanations*

In order to be able to explain possible cultural differences, I included the PEI and the RWA scale in the questionnaire. Unfortunately, these scales were not successful in providing explanations. Other explanations for the French result that normatively strong and normatively weak evidence were equally persuasive can be explored in two directions. A first explanation may come from the Elaboration Likelihood Model (Petty & Cacioppo, 1986). According to this model, people's sensitivity to variations in argument quality (e.g., strong and weak evidence instantiations) depends on factors such as people's motivation and ability to scrutinize a message's claim and arguments. Under conditions of low motivation and/or low ability, people are predicted to use heuristics such as 'There is numerical information / an expert source, so the claim must be probable' rather than to carefully elaborate the message's arguments. It could be suggested that the French participants relied more on heuristics, whereas the Dutch participants carefully elaborated the claims with evidence. The only indicator for participants' motivation in this study is their score on the Need for Cognition scale (Cacioppo, et al., 1984). As the French and the Dutch participants did not differ in their (moderate) score on the NFC, there is no strong support for a cultural difference in the participants' elaboration.

A second, more specific explanation deals with the perceived quality of normatively strong and normatively weak evidence. French participants perceived a much smaller difference between the expertise of strong and weak experts, and between the quality of strong and weak statistical evidence than the Dutch participants. Explanations for these small French differences are not straightforward. A possible explanation for expert evidence, however, lies in the French educational system, in which teachers are considered omniscient (e.g., Gruère & Morel, 1991; Planel, 1997). In such an educational system, it is understandable that the French participants accorded the professors quite a high level of expertise on a domain that is not their field of expertise.

6.2 *Implications for argumentation theory*

Normative criteria for strong argumentation have been developed by American and European argumentation theorists. There are no research findings to date that demonstrate that norms related to the persuasiveness of evidence types (or argument types) differ or not from culture to culture. Still, if norms should be culture-independent, cultures may react differently to these norms. The

experiment presented here demonstrates that the degree to which expert and statistical evidence met the criteria of a relevant field of expertise and a large sample size respectively did not influence the persuasiveness of these evidence types for the French participants. However, it is still an open question as to whether normative criteria are universal and people's reactions to these criteria are culture-dependent, or as to whether the normative criteria are culture-dependent. Empirical research is needed to gain insight into this question. Focus groups or interviews could be used to learn what normative criteria laymen from different cultures have for evidence types such as statistical and expert evidence (cf. Timmers, Šorm & Schellens, 2006). Laymen's responses could be compared to normative criteria listed by argumentation theorists. This research approach can provide valuable insight into the conditions under which evidence can be persuasive, and into how the cultural background of people affects this persuasiveness.

Notes

i. The difference in sex distribution was significant ($X^2(1) = 10.32, p < .01$). Participants' sex, however, did not affect the relative persuasiveness of the types of evidence ($F < 1$), but it did affect the relative persuasiveness of strong and weak evidence ($F(1, 597) = 4.71, p < .05, \eta^2 = .01$). In fact, strong evidence was more persuasive to the male participants ($M = 0.42, SD = 0.73$) than to the female participants ($M = 0.27, SD = 0.68$) ($t(597) = 2.25, p < .05$). However, more importantly, for both the male participants ($t(145) = 3.41, p < .01$) and the female participants ($t(452) = 2.55, p < .05$) strong evidence was more persuasive than weak evidence. Next, the Dutch participants were significantly older than the French participants ($t(596.21) = 2.97, p < .01$). This difference did not affect the persuasiveness of evidence, as age did not interact with evidence type ($F(1, 598) = 1.35, p = .25$), or evidence quality ($F < 1$).

ii. Other main and interaction effects not mentioned in the text are listed here. There was a main effect of type of evidence on persuasiveness with an analysis by participants ($F_1(1, 598) = 8.22, p < .01, \eta^2 = .01$), but there was only a tendency for such a main effect with an analysis by stimuli ($F_2(1, 9) = 4.01, p = .08$). There was also a main effect of quality ($F_1(1, 598) = 18.53, p < .001, \eta^2 = .03$; $F_2(1, 9) = 9.26, p < .05, \eta^2 = .51$): high quality evidence was more persuasive than low quality evidence. A main effect of culture occurred with an analysis by participants ($F_1(1, 598) = 8.43, p < .01, \eta^2 = .01$), but not with an analysis by stimuli ($F_2(1, 9) = 3.29, p = .10$). There was no interaction effect between

evidence type and evidence quality ($F_1(1, 598) = 2.16, p = .14$; $F_2(1, 9) = 1.48, p = .25$), or between evidence type and culture ($F_1(1, 598) = 1.37, p = .24$; $F_2(1, 9) = 1.34, p = .28$). Another interaction effect, however, did occur, namely between culture and evidence quality ($F_1(1, 598) = 17.91, p < .001, \eta^2 = .03$; $F_2(1, 9) = 25.61, p < .01, \eta^2 = .74$). Finally, a three-way interaction effect between the three factors was not significant ($F_1 < 1$; $F_2 < 1$). The same effects were found with the raw data.

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