

# The Cultural Dimension of Uncertainty Avoidance Impacts Police–Civilian Interaction

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This research examines how the cultural dimension of uncertainty avoidance—a person's (in)tolerance for uncertain or unknown situations—impacts communication alignment in crisis negotiations. We hypothesized that perpetrators high on uncertainty avoidance would respond better to negotiators who use formal language and legitimize their position with reference to law, procedures, and moral codes. Data were transcriptions of 53 negotiations from a Dutch–German police training initiative, where police negotiators interacted with a high (German) and low (Dutch) uncertainty-avoidant mock perpetrator. Consistent with accounts of cross-cultural interaction, negotiators tended to achieve more alignment in within-culture interactions compared to cross-cultural interactions. Moreover, German negotiators, who scored higher on uncertainty avoidance than the Dutch negotiators, were found to use more legitimizing messages and more formal language than their Dutch counterparts. Critically, irrespective of the negotiators' cultural background, the use of these behaviors was a significant moderator of the degree to which negotiator and perpetrator aligned their communicative frames: Using legitimizing and formal language helped with German perpetrators but had no effect on Dutch perpetrators. Our findings show the effects of cultural background on communication alignment and demonstrate the benefits of using more formal language and messages that emphasize law and regulations when interacting with perpetrators high on uncertainty avoidance.

**Keywords:** crisis negotiation, uncertainty avoidance, legitimizing, formality, sensemaking

The objective of most law enforcement interactions with civilians is to gain cooperation. The cooperation sought may take the form of information exchange, such as occurs during suspect interrogations and informant interviews (Beune, Giebels, & Taylor, 2010; Granhag, Montecinos, & Oleszkiewicz, 2015), or it may take the form of behavioral change, such as occurs during crisis negotiations and crowd riots (Giebels & Noelanders, 2004;

Schreiber & Stott, 2012). In all such contexts, officers must make sense of a civilian's behavior and its underlying motivations, because this allows them to adopt an approach that avoids misunderstandings and encourages cooperation (Kaplan, 2008; Taylor, 2014).

An important challenge to officers' sense making in these situations is the cultural diversity of the parties encountered (Goodman-Delahunty & Howes, 2016). Cultural differences can negatively influence mutual understanding and cooperation because the expectations and norms that aid sense making become incompatible and misleading (Giebels & Taylor, 2009; Vrij & Winkel, 1992; Yukl, Fu, & McDonald, 2003). Consistent with other domains (e.g., Cialdini, Wosinska, Barrett, Butner, & Gornik-Durose, 1999; Gudykunst & Mody, 2002), existing research on police–civilian interactions has largely focused on the differences between individualistic and collectivistic cultures. Individualism–collectivism refers to the extent to which a society treats individuals as autonomous beings versus embedded in social groups (Schwartz, 1994). It is well documented that actors from individualistic cultures are more direct and explicit than actors from collectivistic cultures, and this in turn significantly affects how an interaction unfolds (for an overview, see Gelfand & Brett, 2004).

In the current research, we focus on a cultural dimension that has received less attention: uncertainty avoidance. Uncertainty avoidance reflects “intolerance for uncertain or unknown situa-

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tions" (Hofstede, 2001). Research suggests that societies differ in the extent to which they are concerned with certainty and predictability and the practical consequence of this concern in terms of social manifestations (e.g., Debus, Probst, König, & Kleinmann, 2012). To examine the impact of uncertainty avoidance, we observed negotiator–perpetrator dialogues in a highly realistic cross border police training exercise with a barricaded person. Uncertainty avoidance is particularly relevant to such crisis negotiations because the interactions are often risky, complicated, and characterized by two parties trying to make sense of the other's position and intentions. Moreover, uncertainty avoidance usually manifests as a preference for structured and socially validated actions (Sully de Luque & Javidian, 2004), which is arguably imperative in crises handled by a professional police negotiator and generally what they "enact" when they exercise their legal authority (Debus et al., 2012; Eades, 2008).

We examine the impact of uncertainty avoidance on the dynamics of mixed- and same-culture crisis negotiations conducted by German (high uncertainty avoidance) and Dutch (low uncertainty avoidance) negotiators. We study these two countries because they have high geographical proximity and because their police negotiators receive similar training and depart from the same overall negotiation approach (i.e., in terms of ground rules, dos and don'ts, see Giebels, 1999). Furthermore, while their cultural profile is similar on other cultural dimensions, most notably individualism–collectivism, they sharply differ on the dimension of uncertainty avoidance. For example, Steenkamp (2001) demonstrated that Germans score higher than the Dutch on both Hofstede's uncertainty avoidance dimension and the harmony dimension of Schwartz's (2006) cultural values framework. Those who score high on harmony have a high acceptance of, or submission to, the collective norms and codes of behavior in a society, and they rarely demonstrate an inner urge to alter these (Schwartz, 2006). Another related dimension is tightness–looseness. *Tight* nations have strong norms and a low tolerance of deviant behavior, while *loose* nations are characterized by the opposite (Triandis, 2004). Gelfand et al. (2011) have shown that Germany is "tighter" than the Netherlands.

Our investigation of uncertainty avoidance considers relevant behaviors on two levels: strategy and language. At the level of strategy, we focus on influencing behaviors (e.g., Giebels & Noelanders, 2004; Giebels & Taylor, 2009) and the use of *legitimizing*. Legitimizing refers to what has been agreed on by society at large, including references to the law, procedures, and moral codes (e.g., "You know that I cannot do that. Law prohibits it" or "I am sorry, but I have to adjust to regular procedures"; Giebels & Noelanders, 2004). At the level of language, we focus on the relationship between uncertainty avoidance and the formality of the negotiators' speech. Language formality refers to the extent of structuring and predictability of discourse, which is likely to be positively associated with a speaker's uncertainty avoidance (Irvine, 2009). We examine the effect of negotiators' behavior at both of these levels as a function of the alignment in negotiator–perpetrator communicative frame. To do this, we treat the negotiation as a dynamic process within which behaviors have their effect at the microlevel of cue-response patterns which eventually impact the outcome of the negotiation.

## Uncertainty Avoidance in Negotiation

To mitigate their low tolerance for deviance, countries with high scores on uncertainty avoidance tend to be characterized by high levels of rules and structure (Triandis, 2004) as they place high value on law and regulations in organizations, institutions and relationships (Hofstede, 2001). Because conforming to these social norms, rules and procedures is expected, the behavior of others becomes more predictable (Doney, Cannon, & Mullen, 1998). This line of reasoning is corroborated by a number of studies of international business and workplace interactions. Individuals from high compared to low uncertainty cultures are more sensitive to controllability in perceiving strategic issues (Barr & Glynn, 2004), they have a higher preference for activity standardization (Newbury & Yakova, 2006), and a greater reliance on formal information sources (Hwang & Grant, 2011). Armstrong (1996) found that written rules for ethical problems at work are considered to be more important by people originating from high uncertainty avoidance than low uncertainty avoidance societies. Collectively this evidence suggests that the use of legitimizing communication by negotiators may be particularly influential in some cultures because it removes uncertainty. Legitimizing instigates structure in the conversation and provides direct instructions of, for example, what is going to happen next, or why something happened the way it did in the past. In essence, this appears to be what people who score high on uncertainty avoidance adhere to, and so they would be predicted to use legitimizing frequently within negotiation.

*Hypothesis 1a:* German police negotiators (i.e., high uncertainty avoidant) will use legitimizing messages more often than Dutch police negotiators (i.e., low uncertainty avoidant).

The structured nature of more uncertainty intolerant societies also seems to be present when assessing legitimate behavior from a linguistic perspective. In their multicountry comparison of how speakers address others (e.g., older family members, teachers), Kashima and Kashima (2005) found a positive relationship between the extent of a country's uncertainty avoidance and the number of rules governing their forms of address. Similarly, Merkin's (2006) analysis across six countries found that people scoring highly on uncertainty avoidance endorse more ritualistic behavior, including speaking the proper words, dressing decently, and performing the appropriate acts in certain situations. Collectively, these findings demonstrate how uncertainty avoidance may impact the (in)formal manner in which a negotiator addresses the other party. Formality reduces the variability in spontaneous speech (Irvine, 2009), which increases its predictability and reduces the uncertainty experienced by the listener. Thus, negotiators who score high on uncertainty avoidance would be predicted to enact a more formal style to avoid the uncertainty experienced during a negotiation.

*Hypothesis 1b:* German police negotiators will use more formal language compared to Dutch police negotiators.

## Culture and Communication Alignment

According to popular models of the communication process (e.g., communication accommodation, Coupland & Giles, 1988; interactive alignment, Garrod & Pickering, 2004), cooperation

emerges in interaction when parties develop a common understanding of how their goals might best be achieved. Over the iterative process of dialogue, people's communicative choices begin to align (i.e., they accommodate to one another's utterances) and this leads to alignment in how they make sense or frame the issues and situation at hand. When they align in this way, they are able to identify common goals and ways of achieving these through cooperation (Drake & Donohue, 1996; Taylor & Thomas, 2008). Thus, cooperation emerges from an alignment of understanding that is driven by the communicative choices of each party, from choices in words used to choices in influence tactic (Garrod & Pickering, 2004; Taylor, 2002).

A range of evidence from negotiation research supports the central role of alignment. For example, at the word level, Taylor and Thomas (2008) demonstrated that crisis negotiations were more likely to end successfully when the language style of both parties was highly matched. At the strategic level, Gudykunst, Nishida, and Chua (1987) have shown that when adaptation between dyad members increases, the difficulty and competitiveness in conversations seems to decrease. There is also indirect evidence to suggest that this alignment occurs more naturally when cultural perspectives are compatible (Adair, Taylor, & Tinsley, 2009). Lee, Adair, and Seo (2013) demonstrated that negotiators who engaged in cultural perspective taking prior to interaction claimed more value from the negotiation than those who did not. Similarly, Beune, Giebels, Adair, Fennis, and Van der Zee (2011) found that behavioral sequences accentuating rational rather than relational behavior were more effective in eliciting information from perpetrators with a cultural preference for direct communication compared to perpetrators with a preference for indirect context-orientated communication. Contextualizing these findings to the current research suggests that alignment will occur more naturally in interactions where police negotiators are interacting with perpetrators from their own culture. As the above evidence suggests, within these interactions negotiators have the advantage of a culturally defined communicative style that facilitates alignment and allows communication to "flow" more easily.

*Hypothesis 2:* There will be more alignment in negotiator and perpetrators' behavioral choices in within culture interactions (i.e., German–German and Dutch–Dutch) compared to cross-cultural interactions (i.e., German–Dutch and Dutch–German).

### Legitimizing, Formality, and Alignment

If Dutch and German parties value legitimizing behaviors and formal language differently, then it also follows that perpetrators with those cultural backgrounds will have a different sensitivity to the use of such behaviors. Specifically, because formality is important to high uncertainty avoidant individuals (Doney et al., 1998), it is likely that behaviors consistent with this preference will have a positive impact on communication alignment. Consistent with this prediction, Giebels and Taylor (2009) found that crisis negotiators who use tactics consistent with the cultural frame of the other side were more effective at securing concessions from a perpetrator. In their study, low-context (individualistic) rather than high-context (collectivistic) perpetrators were inclined to respond in a compromising way toward the use of (culturally fitting) persuasive arguments used by a police negotiator. Similar patterns

have been found in the field of police interviews. Beune et al. (2011) found that individualistic perpetrators are more cooperative when confronted with rational rather than relational strategies, with a reversed pattern for collectivistic perpetrators.

What both of these examples demonstrate is a tendency to respond positively to behaviors that have a high "cultural fit." The importance of such a fit is unsurprising when viewed from the perspective of a negotiator and perpetrator seeking to make sense of the other's intentions and motivations. Those behaviors that match one's expectations and norms are easier to interpret and accommodate to than those that do not match (Coupland & Giles, 1988; Molinsky, 2007), and they are less likely to be subject to misunderstandings (Taylor, Lerner, Conchie, & Van der Zee, 2014). The result is a smoother and less error prone alignment and determination of a "common ground" (Garrod & Pickering, 2004), and this facilitates interaction success.

*Hypothesis 3:* Negotiators' use of legitimizing and formality will lead to a higher level of synchronous sensemaking in negotiations with German perpetrators but not Dutch perpetrators.

## Method

### Participants

Participants were 29 police crisis negotiators and 58 student role-players who were recruited to take part in a 2-day training exercise at the University of Twente. The crisis negotiators were volunteers recruited by their country's negotiation coordinator. Fifteen of the crisis negotiators came from the Dutch police and 14 came from the German police. They had all completed a national hostage negotiation course, which is broadly equivalent in content across countries, and they had at least 5 years of active experience working as police negotiators. Nineteen were male (66%), and their ages ranged from 33 to 55 years.

The 58 students were recruited via campus advertising as mock perpetrators (henceforth "perpetrators"), selected from volunteers on the basis of being fluent in both German and Dutch. Of the perpetrators, 30 were male (52%), their mean age was 23.0 years ( $SD = 2.22$ ), and they were enrolled to study a variety of subjects (e.g., creative design, psychology, information sciences). All participants were enrolled in an informed consent procedure, after receiving approval of the ethical committee of the Faculty Behavioral, Management, and Social Sciences of the University of Twente and were blind to the purpose of our research.

The perpetrators participated in a preparation session under guidance of the first author and a team of research assistants. Each perpetrator received a written scenario and the opportunity to ask clarifying questions. The scenarios were close to the perception of the students (*psychological realism*; Evans, Meissner, Brandon, Russano, & Kleinman, 2010) and identification with the scenario was emphasized by asking two questions ("How would you feel in this situation?" and "Imagine yourself in this situation, how would you react if a police negotiator contacted you?") during the meeting, followed by a thinking aloud session. The students were instructed to act as closely as possible to the way they normally would behave and it was stressed that many different reactions were likely. We intentionally decided to not conduct a practice run

of the role-play because perpetrators usually have no previous experience and therefore no a priori expectations about the behavior of the police (other than, e.g., from TV series) and we wanted the same to be true of our students. They were, however, asked to further familiarize themselves with the student role during the 7-day period between their instruction and the experimental trial.

We estimated that this size of simulation would deliver experimental power of .80. Specifically, we used the main effect for individualist versus collectivist differences in cooperative responses during crisis negotiations ( $f = .577$ ), as reported by Giebels and Taylor (2009), as a best estimate of expected effect. An a priori power analysis, computed with  $\alpha = .05$ ,  $1 - \beta = .80$ , suggested that a sample size of 26 was needed to achieve a power of .806. Our use of 29 crisis negotiators was guided by this estimate and our desire to provide a small cushion for potential errors.

## Procedure

Each negotiator participated in two mock negotiations with a different barricaded perpetrator. The two negotiations were comparable except for the cultural background of the perpetrator, who was either German or Dutch. The order in which the scenarios were offered and the cultural background of the perpetrator were systematically varied across negotiators. All information was offered in German or Dutch (depending on the mother tongue of the participant) and checked for equivalence by two bilingual researchers. On arriving at the negotiation room, the session leader introduced him or herself as the incident commander. To make this as realistic as possible, the session leaders had experience with such a role. The commander introduced the negotiator to an urgent hostage/barricaded incident that had just started on campus, and they handed them background information on the perpetrator. The background information comprised a briefing that included a short scene description with the current situation (e.g., a 911 call, barricaded student on campus with possibly an explosive, preceded by an argument with a professor) and the initial instructions: make contact, stabilize the situation, build rapport, and—if possible—work toward a solution. This information was structured point by point on a piece of paper. To mimic realism, as negotiators often work in pairs, the negotiators were told that a second negotiator was on their way but had not yet arrived, and that they should contact the perpetrator as soon as possible. They were able to achieve this by making contact over a speech only Skype connection, which recorded their conversations. The conversations were conducted in the mother tongue of the negotiator.

When the negotiation reached five minutes in duration, the negotiator received supplementary information on the case, again structured point by point on a piece of paper, that included the identity of the perpetrator (i.e., their full name) and more information on the personal circumstances that may have led to the incident (e.g., father died some time ago). After 15 min, the conversations were ended. Negotiators were not previously informed of this time limit. This kind of sudden, unannounced termination is common to crisis negotiation training and practice.

After each session, both negotiators and perpetrators completed a postnegotiation questionnaire. The questionnaire included (a) two items checking assignment to the correct condition (i.e., we asked for their nationality and the language spoken in the negoti-

ation), (b) one item requiring an open-response comment on the interaction, and (c) a 30-item scale to measure “how you generally see the world” (only after the first session). Alongside filler items, this scale included seven items to measure trait-level uncertainty avoidance (Jung & Kellaris, 2004). Respondents indicated on a 5-point Likert Scale ranging from 1 (*completely disagree*) to 5 (*completely agree*) the extent to which they agree with statements such as “I prefer structured over unstructured situations.” In the current data the scale showed good internal consistency for negotiators ( $\alpha = .86$ ) and perpetrators ( $\alpha = .81$ ).

In between the first and second session, negotiators received a 1-hr assignment on the campus (i.e., an unrelated quiz) to make sure they would not discuss the exercise with each other nor could prepare for the second one. They were also guided by one of the experiment assistants who observed any discussions to ensure that they did not exchange information.

## Analyzing Communication Behavior

**Legitimizing.** All negotiations were transcribed and coded at the utterance level using a theoretical classification of influence tactics known as the Table of Ten (Beune, Giebels, & Sanders, 2009; Giebels & Noelanders, 2004). Derived specifically for use with police–civilian interactions (Giebels & Noelanders, 2004), the Table of Ten distinguishes between three relational tactics (being kind, being equal, being credible) and seven content-orientated tactics (emotional appeal, rational persuasion, intimidation, direct pressure, exchanging, imposing a restriction, and legitimizing). We coded the occurrence of these 10 tactics and additionally included two categories to provide an exhaustive coding scheme: information provision and self-disclosure (see Giebels & Noelanders, 2004; Giebels & Taylor, 2009). When behavior was identified as legitimizing, the coders also indicated in which of the following subcategories it could be placed: (a) reference to law, (b) use of procedures, and (c) mentioning of moral codes.

Two bilingual Dutch–German coders underwent 30 hr of training using unrelated example dialogues. At this point the agreement between the coders was determined to be sufficient for the coding of the transcripts (Cohen’s  $\kappa > .70$ ; Bakeman & Gottman, 1997). They coded each transcript by, first, dividing the dialogue into utterances (based on speaking turns) and, second, labeling each speech act as one of the 15-category coding scheme. One research assistant coded all the transcripts and the other one coded approximately 33% of randomly chosen transcripts. Again, their coding showed good reliability ( $M$  Cohen’s  $\kappa = .81$ , range .69–.89; Cohen’s  $\kappa$  for legitimizing was .88). Coding disagreements were examined by the first coder and discussed by the research team to determine a final code.

**Language formality.** To establish the formality of the negotiators’ dialogue, we used relevant categories from the computer-based text analysis software Linguistic Inquiry and Word Count (Niederhoffer & Pennebaker, 2002). Linguistic Inquiry and Word Count compared words within each of the negotiation transcripts to words within a series of internal dictionaries (i.e., groups of words) that provide reliable and valid measures of linguistic (e.g., negations, verb use) and psychological (e.g., emotion, social focus) dimensions. These dictionaries are available for both Dutch and German language, allowing us to analyze the original conversation



without translation. The extent to which words within the transcribed negotiation appear in these dictionaries is represented as a proportion of the total number of words within the negotiation. Consistent with Tausczik and Pennebaker (2010), we selected a subset of three categories that reflect speech on a formality–informality dimension: dictionary words, pronouns, and auxiliary verbs.<sup>1</sup>

**Communication alignment.** The transcribed negotiations were also coded at the level of utterance for alignment, using Taylor's (2002) framework for categorizing speaker's moment-by-moment communicative frame. Taylor's framework distinguishes speakers' utterances on two dimensions: their overall orientation to interaction, which it classifies as avoidant, competitive or cooperative, and their prominent motivational goal, which it classifies as either identity (face-focused), instrumental (task-focused), or relational (liking-focused). These two dimensions cross to form nine different frames that a speaker can take at any one time. As we describe below, within this framework alignment (and cooperation) occurs when both speakers adopt the same frame in consecutive utterances.

Two bilingual Dutch–German coders, different from those who coded for the Table of Ten, coded each utterance for one of the nine frames, or a 10th “other” category designed to capture utterances that did not fit the framework (e.g., incomplete sentences). After 50 hr of training the interrater differences were acceptably diminished (Cohen's  $\kappa > .70$ ) and the coding for the transcripts was initiated. Both parties coded all of the transcripts and reached sufficient agreement ( $M$  Cohen's  $\kappa = .71$ , range = .56–.88). Coding disagreements were examined by the first coder and discussed by the research team to determine a final code.

## Results

Five of the interactions had to be excluded from the analysis; three because of an allocation mistake (e.g., one German negotiator spoke to two Dutch perpetrators, instead of one Dutch and one German, so we excluded the second negotiation); one because a negotiator spoke in English rather than his first language; and one because the recording malfunctioned. Thus, in total, 53 interactions were analyzed, including 15 Dutch–negotiator–Dutch–student interactions, 13 Dutch–negotiator–German–student interactions, 12 German–negotiator–Dutch–student interactions, and 13 German–negotiator–German–student interactions. These interactions contained a total of 7,996 utterances (126,439 words), of which 4,014 were uttered by police negotiators (75,991 words) and 3,982 by the perpetrators (50,448 words). Note this number of utterances is comparable to previous research (e.g., Giebels & Taylor, 2009, coded 6,980 utterances) and continued to meet the sample size stipulated by the power analysis.

## Cultural Classification Check

Consistent with our classification, comparisons across culture on the uncertainty avoidance scale of Jung and Kellaris (2004) found that German negotiators scored significantly higher than their Dutch counterparts ( $M = 2.89$ ,  $SD = .62$  vs.  $M = 1.76$ ,  $SD = .45$ ),  $t(27) = 5.62$ ,  $p < .001$ ,  $d = 2.16$ , 95% confidence interval (CI) [1.97, 2.35], and German perpetrators scored significantly higher than Dutch perpetrators ( $M = 3.23$ ,  $SD = .58$  vs.  $M = 2.88$ ,  $SD = .69$ ),  $t(51) = 1.99$ ,  $p = .053$ ,  $d = .56$ , 95% CI [.39, .73].

## Cross-Cultural Differences in Legitimizing

The use of relative frequencies (*interval-driven approach*; Adair & Brett, 2005) ensured that our analysis was not influenced by a variation in number of speech acts across the incidents ( $M = 148.1$ ,  $SD = 43.9$ , Range: 47–247).<sup>2</sup> A mixed analysis of variance (ANOVA) with negotiator (2: Dutch vs. German) as a between-subjects factor and perpetrator (2: Dutch vs. German) as a repeated measure revealed no overall difference in the total use of legitimizing strategies across negotiators,  $F(1, 27) = 1.19$ ,  $p = .284$ . There was, however, an effect of the cultural background of the perpetrator on the overall category of legitimizing,  $F(1, 22) = 5.78$ ,  $p = .025$ ,  $d = .66$ , 95% CI [.09, 1.23], with all negotiators using legitimizing more often when confronted by a German perpetrator compared to a Dutch perpetrator. Because negotiators might prefer to use one type of legitimizing at the expense of another (cf. Giebels & Noelanders, 2004), we conducted equivalent analyses on the three subcategories of legitimizing behavior. Consistent with Hypothesis 1a, and as can be seen in Table 1, German negotiators referred more often to the law than Dutch negotiators,  $F(1, 27) = 3.50$ ,  $p = .072$ ,  $d = .51$ , 95% CI [–.05, 1.08]. No other main or interaction effects were found.

## Cross-Cultural Differences in Formality

Of the words of the negotiator, 858 (1.12%) could be classified in the three linguistic categories: dictionary words (0.93%), pronouns (0.05%) and auxiliary verbs (0.14%). A 2 (Negotiator: Dutch vs. German)  $\times$  2 (Perpetrator: Dutch vs. German) multivariate analysis of variance with perpetrator as a repeated measure and dictionary words, pronouns, and auxiliary verbs as the dependent variables revealed a significant main effect for negotiator,  $F(3, 47) = 35.49$ ,  $p < .001$ . As can be seen in Table 1, follow-up ANOVA with negotiator (2: Dutch vs. German) as a between-subjects factor and perpetrator (2: Dutch vs. German) as a repeated measure revealed that, compared to Dutch police negotiators, German police negotiators used significantly fewer dictionary words,  $F(1, 27) = 35.21$ ,  $p < .001$ ,  $d = 2.25$ , 95% CI [1.25, 3.24], pronouns,  $F(1, 27) = 52.58$ ,  $p < .001$ ,  $d = 2.75$ , 95% CI [1.66, 3.83], and auxiliary verbs,  $F(1, 27) = 6.83$ ,  $p = .015$ ,  $d = .99$ , 95% CI [.17, 1.82]. These findings are consistent with Hypothesis 1b, as the use of these words is associated with informal speech, indicating that the Dutch negotiators were less formal in their speech in comparison to the German negotiators.

<sup>1</sup> Tausczik and Pennebaker's analysis also included filler words and swear words. We excluded this first category because their occurrence could not be reliably identified from the audio files and the second because these words were used in only one interaction (once).

<sup>2</sup> The legitimizing variable data were positively skewed (skewness = 1.42,  $SE = .327$ ). To ensure this skew did not unduly influence our findings, we conducted the equivalent analysis on log transformations of the variables (cf. Giebels, De Dreu, & Van de Vliert, 2000). The pattern of results that emerged when analyzing the log-transformed scores was equivalent to those that emerged with the non-transformed data. We report the analyses of the original data for ease of interpretation.

Table 1

*Frequency of Occurrence for the Persuasive Tactics and Linguistic Features as a Function of Negotiators' and Perpetrators' Cultural Backgrounds*

Behaviors	Cultural background (negotiator–perpetrator)			
	Dutch–Dutch ( <i>n</i> = 15)	Dutch–German ( <i>n</i> = 13)	German–Dutch ( <i>n</i> = 12)	German–German ( <i>n</i> = 13)
Persuasive tactics				
Legitimizing	2.19 (2.62)	<b>3.61<sup>a</sup> (3.16)</b>	2.28 (2.39)	<b>5.39<sup>a</sup> (4.92)</b>
Law	.44 (.81)	.48 (.77)	<b>1.05<sup>b</sup> (1.71)</b>	<b>1.94<sup>b</sup> (3.78)</b>
Procedure	1.68 (2.20)	3.00 (3.19)	1.15 (1.40)	3.30 (4.13)
Moral code	.07 (.25)	.12 (.43)	.08 (.28)	.15 (.52)
Linguistic style				
Dictionary words	15.78 (2.55)	15.20 (2.87)	<b>11.01<sup>b</sup> (1.51)</b>	<b>10.98<sup>b</sup> (1.17)</b>
Pronouns	1.26 (.56)	1.15 (.60)	<b>.21<sup>b</sup> (.18)</b>	<b>.38<sup>b</sup> (.27)</b>
Auxiliary verbs	2.38 (.66)	2.23 (.69)	<b>1.73<sup>b</sup> (.85)</b>	<b>1.70<sup>b</sup> (.60)</b>

Note. *SD* in parentheses. Significant differences shown in bold.

<sup>a</sup> Differs significantly from Dutch perpetrators. <sup>b</sup> Differs significantly from Dutch negotiators.

### Cross-Cultural Differences in Interpersonal Sensemaking

Figure 1 shows the mean number of utterances on which negotiator and perpetrator communicated using the same mode of interaction from Taylor's (2002) model. A 2 (Negotiator)  $\times$  2 (Perpetrator) mixed ANOVA equivalent to those above revealed a main effect for negotiator's culture, with German negotiators ( $M = 2.70$ ,  $SD = .03$ ) showing more frame alignment than Dutch negotiators ( $M = 2.63$ ,  $SD = .02$ ),  $F(1, 27) = 21.17$ ,  $p < .001$ ,  $d = 1.74$ , 95% CI [.83, 2.66]. This was subsumed by a Negotiator  $\times$  Perpetrator interaction whereby greater alignment was found for within-culture negotiations compared to cross-cultural negotiations (see Figure 1),  $F(1, 22) = 57.68$ ,  $p < .001$ ,  $d = 2.88$ , 95% CI [1.77, 3.99]. Follow-up tests of simple effects (Boik, 1981) showed that German negotiators showed more alignment with German perpetrators compared to Dutch perpetrators,  $F(1, 10) = 19.64$ ,  $p = .001$ , and that Dutch negotiators showed more alignment with Dutch perpetrators compared to German perpetrators,  $F(1, 12) = 53.71$ ,  $p < .001$ .

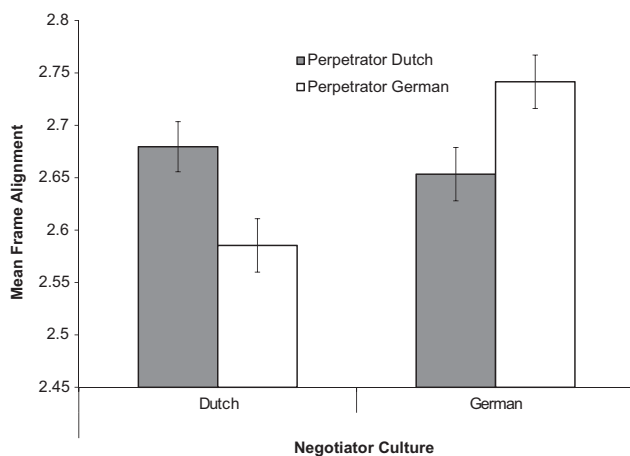


Figure 1. Mean frame alignment in negotiator–perpetrator utterance pairs as a function of negotiator and perpetrator culture.

To examine the dimension driving this effect, we computed equivalent models for the orientation and motivation dimensions of Taylor's framework. The Dutch and German negotiators did not differ in the degree to which they matched perpetrators' interpersonal orientation,  $F < 1$ , but there was marginal evidence for the equivalent Negotiator  $\times$  Perpetrator interaction,  $F(1, 22) = 3.01$ ,  $p = .097$ ,  $d = .66$ , 95% CI [−.14, 1.46]. By contrast, the German negotiators matched perpetrators' motivational frame significantly more than the Dutch negotiators,  $F(1, 27) = 166.0$ ,  $p < .001$ ,  $d = 4.88$ , 95% CI [3.33, 6.43], and this effect was subsumed by a Negotiation  $\times$  Perpetrator interaction equivalent to that found in the overall result,  $F(1, 23) = 12.90$ ,  $p = .002$ ,  $d = 1.36$ , 95% CI [.50, 2.22]. Thus, in support of Hypothesis 2, negotiators tended to achieve more alignment in within-culture interactions compared to cross-cultural interactions, and this effect is largely driven by alignment in motivational frame.

### Do Legitimizing and Formality Enhance Sensemaking?

To test our prediction that legitimizing and formal language will increase alignment in interactions with perpetrators high (but not low) on uncertainty avoidance, we examined the extent to which perpetrators' cultural background moderates the relationship between negotiators' legitimizing and formal language, and negotiator–perpetrator alignment. Specifically, we computed a standardized aggregate of the legitimizing and formal language scores to create a single index of negotiators' behavior: uncertainty reducing behavior. We added this predictor to a linear mixed effects model (lme4; Bates, Maechler, Bolker, & Walker, 2015) that tested the extent to which perpetrator category (Dutch vs. German) moderated the relationship between uncertainty reducing behavior and alignment. Consistent with Hypothesis 3, negotiators' use of uncertainty reducing behavior was significantly associated with negotiator–perpetrator alignment in mode of interaction,  $B = -.178$ ,  $SE = .154$ ,  $F(1, 21) = 8.45$ ,  $p = .008$ ,  $d = 1.13$ , 95% CI [.27, 1.98], and that this relationship was moderated by perpetrator level of uncertainty avoidance,  $B = 1.074$ ,  $SE = .224$ ,  $F(1, 21) = 23.05$ ,  $p < .001$ ,  $d = 1.86$ , 95% CI [.91, 2.81]. The use of uncertainty reducing behavior by negotiators was not associated with overall alignment in interactions with Dutch perpetrators ( $r^2 = .046$ ) but

it was strongly associated with alignment in interactions with German perpetrators ( $r^2 = .591$ ).

Again, to determine the key driver of this effect, we computed equivalent analyses for the orientation and motivational frame dimensions of Taylor's framework. The negotiators use of uncertainty reducing behavior was not significantly associated with orientation alignment,  $F < 1$ , and perpetrator culture was not a significant moderator,  $F(1, 21) = 2.17$ ,  $p = .156$ . By contrast, uncertainty reducing behavior was significantly associated with motivational frame alignment,  $B = .400$ ,  $SE = .132$ ,  $F(1, 21) = 38.57$ ,  $p < .001$ ,  $d = 2.44$ , 95% CI [1.37, 3.50], and this effect was moderated by perpetrator culture,  $B = .506$ ,  $SE = .171$ ,  $F(1, 21) = 8.79$ ,  $p = .007$ ,  $d = .116$ , 95% CI [.29, 2.04]. The use of uncertainty reducing behavior by negotiators was more strongly associated with motivational frame alignment in interactions with German perpetrators ( $r^2 = .675$ ) compared to interactions with Dutch perpetrators ( $r^2 = .296$ ).

## Discussion

Cultural differences can have a negative impact on the efforts of a negotiator to establish mutual understanding and cooperation with another party (Giebels & Taylor, 2009; Taylor et al., 2014). To date, demonstrations of this effect and explorations of why it occurs have tended to focus on the dimension of individualism-collectivism. Arguably this narrow focus has produced an incomplete picture, because research and theory suggest that other dimensions, such as uncertainty avoidance, are also relevant to such interactions (Goodman-Delahunty, O'Brien, & Gumbert-Jourjon, 2014). In this article, we tested the prediction that those high on uncertainty avoidance would show a preference for a communicative style that clarifies the purpose of an interaction and meaning of a delivered message (i.e., uncertainty reduction; Hofstede, 2001; Srite & Karahanna, 2006). Consistent with this prediction, we found that uncertainty avoidance played a significant role in shaping the communication behavior of a negotiator and perpetrator in a crisis negotiation. Specifically, and as expected, we found that German police negotiators, who score relatively high on uncertainty avoidance, tended to use more legitimizing messages and more formality in their language choices than Dutch police negotiators, who score low on uncertainty avoidance.

Interestingly, the effect for legitimizing messages was found only for messages that place high levels of authority on law and regulations, while we established no difference in the use of procedures and moral codes between Dutch and German negotiators. One reason for this might be that the communication of procedures (e.g., how are we going to ensure safety for all) is a standard approach that is embedded in training and procedures, and so it becomes standardized. This explanation is consistent with Ormerod, Barrett, and Taylor's (2008) finding that negotiators show more flexibility in their communication when the adaption is consistent with training than when it is inconsistent with training. Similarly, it may be that legitimizing messages that reference moral codes are avoided because they can be considered judgmental. This is consistent with the relative low occurrence rate of this message type across all negotiations (see Table 1).

An interesting aspect of our findings in relation to Dutch and German negotiator behavior is that both spoke to high uncertainty avoidant perpetrators (i.e., German) using different levels of legit-

imizing than when speaking to low uncertainty avoidant perpetrators (i.e., Dutch); both tended to use more legitimizing when they interacted with German compared to Dutch perpetrators. This suggests that these negotiators, perhaps as a result of experience or training, showed some flexibility toward the communicative preferences of the perpetrator. Moreover, their flexibility was culturally appropriate in that they communicated in ways that reduce uncertainty with perpetrators who scored higher on uncertainty avoidance.

Consistent with the language and strategic differences observed across negotiators, we also found that alignment across negotiators was greater on average when negotiators and perpetrators shared a common cultural background. This effect was particularly pronounced for the motivational framing dimension, and relatively absent for the orientation dimension, of Taylor's framework. A logical explanation for the absence of orientation alignment is that crisis negotiations are largely characterized by perpetrators adopting a competitive or avoidant stance as they confront the police, with police negotiators adopting a cooperative stance as they attempt to encourage cooperation from their interlocutor (Taylor & Donald, 2004). The emphasis on motivational frames is important, because it highlights the significance for negotiators to align their understanding of the purpose of messages; to seek to understand a message through the 'eyes' of the speaker rather than from their own personal frame.

Finally, as predicted by Hypothesis 3, our data suggest that legitimizing and formal language are behaviors correlated with increased alignment in interactions with high but not low uncertainty avoidant perpetrators. Specifically, the use of these uncertainty reducing behaviors was significantly correlated with the degree of alignment achieved in negotiations with German perpetrators, but had little effect on alignment with Dutch perpetrators. Thus, it appears that these behaviors are particularly appropriate for those high in uncertainty avoidance and this facilitates their sensemaking of the interaction. Of course, our findings are correlational and not causal, so we cannot assert with certainty that it is the negotiators' strategic and language choices that are leading to alignment. It remains possible that greater alignment is manifesting as more appropriate strategy and language choices by the negotiator. Indeed, it is unlikely that one or other of these single directions of causality are solely in effect. Current theories of dialogue, such as the Interactive Alignment Model (Garrod & Pickering, 2004), suggest a reciprocal relationship between communication behavior and internal sense-making, and there is no reason to expect anything different is occurring within crisis negotiations.

## Limitations and Areas for Further Research

Although our findings provide new insights into the effects of uncertainty avoidance on crisis negotiations, several limitations need to be considered. The first restriction on generalizability stems from the sample. Although we performed an a priori power analysis, content-coded all the interviews, and employed three different frameworks to analyze the data, our findings are based on a relatively small sample size of two cultural groups. Moreover, our perpetrators were German and Dutch students who were both residing in the Netherlands. As most German students will have lived in the Netherlands for some period of time, this may have



given them greater familiarity and acquaintance with the Dutch interaction style. We partly mitigated this issue by measuring individuals' level of uncertainty avoidance and demonstrating that the German and Dutch students differed at a cultural level. Nevertheless, the difference in uncertainty avoidance between the Dutch and German negotiators was larger than between the Dutch and German students, suggesting this acculturation may have had an impact. We would, therefore, expect our patterns of results to be even more pronounced when replicated within Germany and when replicated with samples not so readily exposed to different cultures. The validity of this assessment will become clear with replications using other samples from other cultural groups.

A second issue to consider is the extent to which the simulation exercise may have influenced the use of certain persuasive tactics. For example, the participants may have had a lower commitment to their identity than in an authentic crisis and there is generally less at stake. We tried to correct for this authenticity problem by using genuine police negotiators, who are used to regard and handle exercises as real incidents, and by administering a scenario close to the students' reality. This appeared to be effective, because the police negotiators indicated that they estimated the behavior of the students as highly realistic. Yet, we recommend replicating this study with real case material (e.g., field recordings) to strengthen the ecological validity of our findings.

A related point is that we ended the negotiations after 15 min. These first 15-min interactions were highly comparable (e.g., in terms of circumstances and goals) and therefore allowed for a solid examination of the cultural aspects of uncertainty avoidance in crisis negotiations. However, limiting the time meant that we could not study different negotiation phases (cf. Adair & Brett, 2005), precluding the opportunity to look at macrolevel shifts in alignment and the final outcome, because practically none of the interactions had concluded. A logical next step would be to conduct similar analyses on a dataset enclosing negotiations from the beginning to end. This would also allow for a further exploration of the relationship between cultural differences expressed through (different types of) legitimizing behavior, as the effects for legitimizing were less convincing than for speech formality. It would also allow for an examination of whether or not the negotiation context impacts negotiators' experienced state-level uncertainty avoidance. We have no indications that state-level uncertainty avoidance influenced the interactions, above and beyond more stable cultural differences. For example, if this was the case, we would expect to observe particularly large differences in the first and the second interaction of the negotiators. That is, the second interaction would then be experienced as less unpleasant, particularly by German negotiators. Nevertheless, we did not examine this directly and it would not be unexpected to find some context-dependent manifestations of uncertainty avoidant behavior.

Other interesting avenues for future research might include the relationship between uncertainty avoidance and other psychological constructs and processes. That is, an aversion of ambiguity and a need for predictability may be connected to for example, higher trust in authorities, stronger ingroup/outgroup processes, as well as stronger face saving concerns (cf. Merkin, 2006).

Finally, the scenario's used in our research are typical *expressive* crisis situations. In such situations the communication is usually intense and emotional, and the police response may be regarded as adopting a crisis counseling role (e.g., Van Hasselt et

al., 2005). These situations can be contrasted with more *instrumental* crisis negotiations, such as kidnapping for ransom or extortion, which look much like business transactions. It is thus an open question as to whether similar patterns of results will be found when the dynamics of instrumental situations are examined.

## Conclusion

Achieving a peaceful resolution of hostage crisis is challenged by the growing intercultural nature of these interactions, because negotiators are less able to "do unto others as they would have you do unto them" (p. 244, Kleinman, 2006). The present study addresses this issue by assessing communication dynamics as a function of an often-neglected cultural dimension: uncertainty avoidance. We took a unique approach of examining actual behavior in crisis negotiations from different foci (persuasion, language use and alignment) and assessed it at both the individual and dyadic level. We demonstrated that uncertainty avoidance had a coherent and distinct effect on the use of and response to messages reflecting legitimizing and formality, and that, when preferred, the use of such behavior led to higher levels of interpersonal alignment. For practitioners, our findings emphasize the need for—perhaps conscious—use of communication behavior, tailored to the cultural background of the other side. It also extends the need to merely focus on a personal connection in building rapport by establishing a more behavioral, skill-based connection (cf. Adair, 2003). Our findings also advance conflict and negotiation theory in general, because our findings can be expected to extrapolate to other domains. In particular, we expect our findings to be relevant for a broad range of police–civilian interactions, as well as for professionals working in the field (e.g., client services) where they are likely to be confronted with agitated or uncooperative others.

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