Cultural Differences in the Cognition and Emotion of Conditional Promises and Threats – Comparing Germany and Tonga

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Abstract
When addressing conditional inducements using a multi-level approach, several cognitive components appear to be of basic character: linguistic preferences for either a promise or threat are connected to the motivational background; the concepts themselves are unilateral and complementary; and emotional responses in subsequent interactions follow appraisal-theoretic predictions. Whether these apparently essential components really are basic was examined in a cross-cultural experiment conducted in Tonga. The results support the conceptual universality; however, in practice, the Tongan participants tended to avoid threats in favor of promises and indicated less anger following broken promises.

Introduction
In pursuing their own individual goals, people occasionally feel a need to change the behavior of others accordingly. When asking to have one's intentions considered is not of much use, a strategy often chosen is to formulate a conditional promise or threat. For instance, a mother longing for silence may tell her noisy son: "If you are quiet for the next hour, I will give you an ice-cream." Or, being already unnerved, she may say instead: "If you are not quiet for the next hour, there will be no TV this afternoon!" Being intrigued by the pleasant anticipation of an ice-cream the boy might feel motivated to fulfill her request; if she then fails to keep her promise, his positive affects will turn negative.

Conditional promises and threats operate, as these introductory examples show, with goals, expectations, incentives or penalties, and obligations (cf. von Wright, 1962). They express personal motives and are formulated in a specific linguistic manner (Fillenbaum, 1978). They demand a decision whether or not to cooperate, and subsequent actions are often followed by emotional reactions. In order to efficiently work as inducements, knowledge about these components needs to be – and usually is – shared among the partners of an interaction.

But is this knowledge also shared across cultures? In other words, is the understanding of conditional inducements culture-specific or do conditional promises and threats belong to the core concepts of human thinking and acting that are universally equal? If the latter is the case, are there certain aspects of conditional inducements that vary across languages and cultures? Will the interactions subsequent to inducements universally elicit emotional reactions, and if so, are the same emotions then elicited, or will appraisals – and thus the emotional reactions – differ?

In the reasoning tradition, the analysis of people’s understanding of conditional promises and threats focuses on the conditional relation (e.g., Evans & Twyman-Musgrove, 1998; Newstead, Ellis, Evans & Dennis, 1997). By evaluating the inferences that people draw from such statements with the yardstick of propositional logic, it was possible to identify several extra-logical factors: the temporal order of the actions, the promisor’s control of the incentive, and the directionality. While this approach helps to detect effects of particular contents on reasoning, it is not sufficient to explain them. To overcome this limitation, a broader multi-level approach was recently proposed and empirically tested (Beller, 2002; Beller, Bender & Kuhnmünch, 2004; cf. Beller & Spada, 2003). It builds on a motivational analysis of why conditional inducements are used, and integrates linguistic, deontic, behavioral and emotional aspects.

So far, most of the experimental data has been gathered in “Western” cultures, leaving the question of whether consensus on conditional inducements may extend beyond cultural boundaries open. To tackle this question, we therefore replicated one of our German experiments in a culture that largely differs from our individualistic Western culture: the Polynesian Kingdom of Tonga. Before presenting the results, we will address the theoretical background and give a short description of relevant aspects of Tongan culture.

Components of Conditional Inducements
Conditional promises and threats are speech acts (Searle, 1969) that are motivated by personal goals (i.e. to obtain something with another person’s support) and expectations of this person’s behavior. The speaker (S) wants an addressee (A) to perform a certain behavior and usually is — shared among the partners of an interaction.
But the addressee is not willing to show this behavior voluntarily (S→ ¬BehaviorA); otherwise an inducement would not be necessary. Thus, the speaker has to induce a behavioral change, which can be motivated in two ways: by promising to reward the desired behavior (⇒ A+: RewardS) or by threatening...
to punish the undesired behavior (\(\Rightarrow A^{-} : \text{Punishment}_{A}^{S}\)). These consequences should be under the speaker’s control and should not occur for any other reason, as otherwise they would not be able to develop their motivational effect. The different motivational background of promises and threats are summarized in the following schemas (grey boxes depict the expected actions without the inducement):

\[
\begin{align*}
\text{Promise} \quad \{ & \quad S^{-} : \neg \text{Behavior}_{A}^{A} \quad A^{-} : \neg \text{Reward}_{S}^{S} \\
& \quad S^{+} : \text{Behavior}_{A}^{A} \quad A^{+} : \text{Reward}_{S}^{S} \\
\end{align*}
\]

\[
\begin{align*}
\text{Threat} \quad \{ & \quad S^{+} : \text{Behavior}_{A}^{A} \quad A^{+} : \text{Punishment}_{S}^{S} \\
& \quad S^{-} : \neg \text{Behavior}_{A}^{A} \quad A^{-} : \text{Punishment}_{S}^{S} \\
\end{align*}
\]

In both cases, the addressee can freely decide whether to cooperate or not; the speaker then responds to the addressee’s behavior, that is, the actions are ordered temporally. Further, the speaker may use a conditional “If P, then Q” to express the inducement. A conditional points out a necessary consequence “Q” of an antecedent possibility “P”, and that is exactly what the speaker intends to do on the motivational level. The canonical formulations are:

“If you do P \([S^{+}]\), then I will reward you with Q \([A^{+}]\)”

“If you do P \([S^{-}]\), then I will punish you by Q \([A^{-}]\)”

Due to the temporal order of the events, neither of the conditionals is reversible, and yet they are tightly interwoven. The speaker always announces (explicitly or implicitly) that he or she will react positively after the addressee has shown the desired behavior, and negatively otherwise. The threat may thus be interpreted as implying the complementary promise

“If you refrain from doing P \([S^{+}]\), then I will not punish you by Q \([A^{+}]\).”

While the addressee can freely decide whether to cooperate or not, the speaker cannot. If the addressee cooperates, the speaker is obligated to cooperate as well, and when intentionally violating this obligation, the speaker cheats the addressee.

Because the addressee is induced to change a planned behavior – and may experience a positive or negative consequence – the respective interaction will most probably elicit an emotional reaction, as the event has considerable goal relevance (Lazarus, 1991). According to appraisal theories (cf. Ellsworth & Smith, 1988; Roseman, Antoniou & Jose, 1996; Scherer, 1997), joy should be elicited when the addressee obtains what was promised to him or her, relief in the case of avoided punishment, and anger in the case of being cheated.

These linguistic and emotional predictions were confirmed in two studies with German samples (Beller, 2002; Beller, Bender & Kuhnmünch, 2004). Participants preferred the canonical conditionals as appropriate formulations for an intended promise or threat. These are understood as not reversible, but as implying the complementary threat (or promise). The emotional reactions were chosen by the participants as predicted by appraisal theories. The question remains, though, of how these components are defined by members of a completely different culture, particularly one in which individualism is not as marked as in “Western” culture. Will their linguistic preferences and emotional reactions converge with – or diverge from – those obtained in Germany?

### The Context of Social Interactions in Tonga

The Kingdom of Tonga, an island state in the Southwestern Pacific with a Polynesian culture, is inhabited by roughly 100,000 people. The island group of Ha’apai, where the data was collected, is one of its most traditional areas with approximately 10,000 people living on two main islands and fifteen outer islands.

Tongan society is hierarchically structured with older people having higher rank than younger ones, sisters higher than brothers, and nobles higher than commoners. While this rank is ascribed through birth, status can be acquired through individual efforts. However, these individual efforts need to pursue common interests, and among the most prestigious behavior is therefore engaging in social activities, keeping social ties and complying with social norms (Bernstein, 1983; Marcus, 1978). Social harmony is particularly emphasized and consequently, negative emotions such as anger (‘ita) or envy (meheka) as well as open conflicts are disapproved of. Failing to restrain one’s negative emotions is shameful and may diminish one’s social status (Morton, 1996). Cooperation and sharing with others are core values. In exchange situations, certain (though mostly implicit) rules apply, depending for instance on the object of the deal or the participants’ relative social status and rank (e.g. Bender, 2002; Evans, 2001).

Most of this contextual knowledge still does not reveal how Tongans understand and deal with conditional promises and threats. In principle, we presumed that the basic understanding of conditional inducements does not differ across cultures, but that their use may differ: depending on what is socially more accepted, either promises or threats may be preferred. With regard to appraisal processes, we further presumed a similar pattern of emotional responses. Taking into account the disapproval of socially disruptive behavior, however, we also expected a smaller proportion of both threats and indication of anger in the Tongan sample.

### Experiment

In order to investigate the impact of culture on understanding and dealing with conditional inducements, we replicated a study we had conducted on linguistic preferences and emotional reactions in Germany (Beller, Bender & Kuhnmünch, 2004, Experiment 1) in Tonga.
**Method**

**Participants.** Sixty-seven students from two classes of St. Joseph’s College in Pangai participated in the experiment. St. Joseph’s College is the second largest of four secondary schools in the district center of the Ha’apai island group. Thirty-one students were male and thirty-five female (one did not indicate his or her gender). The mean age was \( M = 15.4 \) years (SD = 0.83; range: 14–17 years). Both classes received a small gift for their participation in the form of a contribution (50 pa’anga, approximately 33 US dollars) to their class funds.

**Materials.** As in the original study, we used two pairs of questionnaires that referred to a situation in which a boy would like to obtain something from a schoolmate. Sione wants to borrow Finau’s bike, while Finau wants Sione to help him with his homework. Within each pair, the speech act was varied. In the first pair, Sione was in the role of the speaker and used either a promise to reach his goal (promise version) or a complementary threat (threat version). In the second pair, the role allocation was switched, with Finau now in the role of the speaker trying to reach his goal either by a (reversed) promise or by a complementary threat. Each questionnaire comprised four tasks.

1. **Formulation task:** The individual goals of both boys were given. For example, the promise version of Sione’s inducement reads as follows (threat version printed in square brackets): Usually, Finau doesn’t lend his bike to his schoolmates. However, Sione wants to borrow it today. Sione tries to reach this goal by promising [threatening] Finau with something. Sione knows that Finau would like his help with his homework today, but usually Sione does not help him [and usually Sione helps him]. The instructions then required the participants to choose the most appropriate conditional for the speaker’s promise [threat] from four possible formulations: the canonical, the complementary, and the two reversed statements. Each of the other three tasks first presented the speech act in canonical form, for example: Sione promised: “Finau, if you lend me your bike, then I will help you with your homework” [Sione threatened: “Finau, if you do not lend me your bike, then I will not help you with your homework.”]

2. **Sequence task** asked participants to identify the typical sequence of actions once the conditional promise or threat has been uttered: Will Finau or Sione be the first to decide to act? (3) The **inference task** asked participants to draw the most probable conclusion from the given canonical conditional: What follows – the complementary, the reversed, or the reversed-complementary conditional? (4) The **emotion task** stated that the addressee has fulfilled the speaker’s goal. The instruction then required participants to indicate first the speaker’s action when “keeping the rule” (vs. “not keeping the rule”) and second, the addressee’s feeling towards the speaker afterwards. Four critical emotions were given (Tongan translation in brackets): joy (fiefa), relief (femalite), sadness (loto-mamahi), and anger (ita). For exploratory purposes, we also included shame (mua), un-amusement (ta’eoli) and anxiety (mana-vahē), as these emotions seem to be particularly salient in the Tongan context. Participants were instructed to choose the most appropriate emotion.

All materials were presented in the participants’ native language, that is Tongan in this study and German in the original study. Both languages have close equivalents to the English terms “promise” and “threat”, and the situations described are familiar in both cultures.

**Design and procedure.** A between-subject design was used. Participants were randomly assigned to one of the four experimental conditions (\( n = 16 \) or 17 for each) corresponding to the four questionnaires. The data collection took place in the classrooms. Each participant received a booklet with a general instruction and the four tasks in the following order: formulation, sequence, inference, and emotion task. Participants were instructed to answer all questions in the given order, and they were granted as much time as they needed.

**Results**

As we found only marginal differences between the two promise versions and between the two threat versions, the data is reported in aggregated form. The comparative data of the German study is taken from Beller, Bender and Kuhnminch (2004, Experiment 1).

**Formulation task:** We expected participants to choose the canonical promise or threat. The formulation preferences are shown in Table 1. In the German sample, on average 89.2 % of the participants chose the canonical form equally for promises and threats (\( \chi^2(1, N = 65) = 1.34; p = .247 \). The Tongan results differed from this in two respects. First, the canonical conditional was chosen less frequently (52.2 % on average), and second, this difference mainly resulted from a specific formulation preference: while most Tongan participants also preferred the canonical promise, many of them indicated that, when a threat was to be made, the speaker should rather use the complementary promise instead (\( \chi^2(1, n = 52) = 6.10; p = .014 \)).

**Sequence task:** We expected both conditional promises and threats to be understood as unilateral speech acts that imply a typical action sequence: the addressee

**Table 1:** Proportions of choosing each conditional as the speaker’s adequate promise or threat.

<table>
<thead>
<tr>
<th>Conditional</th>
<th>Germany Promise</th>
<th>Germany Threat</th>
<th>Tonga Promise</th>
<th>Tonga Threat</th>
</tr>
</thead>
<tbody>
<tr>
<td>Canonical</td>
<td>.94</td>
<td>.85</td>
<td>.64</td>
<td>.41</td>
</tr>
<tr>
<td>Complementary</td>
<td>.06</td>
<td>.15</td>
<td>.12</td>
<td>.38</td>
</tr>
<tr>
<td>Reversed</td>
<td>–</td>
<td>–</td>
<td>.18</td>
<td>–</td>
</tr>
<tr>
<td>Rev.-complementary</td>
<td>–</td>
<td>–</td>
<td>.06</td>
<td>.21</td>
</tr>
</tbody>
</table>
Table 2: Proportions of choosing the most adequate implication of a given promise or threat.

<table>
<thead>
<tr>
<th>Conditional</th>
<th>Germany</th>
<th>Tonga</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Promise</td>
<td>Threat</td>
</tr>
<tr>
<td>Canonical</td>
<td>given</td>
<td>given</td>
</tr>
<tr>
<td>Complementary</td>
<td>.88</td>
<td>.84</td>
</tr>
<tr>
<td>Reversed</td>
<td>.09</td>
<td>.16</td>
</tr>
<tr>
<td>Rev.-complementary</td>
<td>.03</td>
<td>–</td>
</tr>
</tbody>
</table>

first decides whether or not to cooperate. The predicted sequence was chosen by 87.8% of the participants in the German sample (N = 66) and by 74.6% in the Tongan sample (N = 67) aggregated across all four task versions (p < 0.001 based on the binomial distribution with r = 1/2 being the probability of guessing).

**Inference task:** We expected participants to choose the complementary conditional “If not-P then not-Q” as the most appropriate inference from a given canonical promise or threat “If P then Q”. The results are shown in Table 2. In the German sample, 85.9% of the participants inferred the predicted conditional on average. There was no significant difference between promises and threats (χ²(1, n = 63) = .648; p = .421). Again, the Tongan data differed from the German data – the complementary conditional was chosen less frequently (56.7% on average) – and this difference again resulted from a specific inferential preference. While most Tongan participants also preferred the complementary conditional as the most reasonable inference from a threat, many of them – consistent with their formulation preference – avoided inferring the complementary threat from a promise in favor of the reversed promise (χ²(1, n = 60) = 3.79; p = .051).

**Emotion task:** Participants were first required to decide which action the speaker has to take in order to keep “the rule” (i.e., to cooperate given that the addressee cooperated before) or not to keep “the rule” (i.e., to react negatively even though the addressee fulfilled the speaker’s goal). Almost all participants indicated the appropriate action (all participants in the German sample and 96.3% in the Tongan sample, aggregated over both questions; n = 134 answers).

How does the addressee respond emotionally after the speaker did or did not keep “the rule”? The results of the emotion tasks are shown in Table 3. In line with appraisal theories of emotion, the addressee was said to feel a positive emotion if the speaker kept the rule (85.8% positive vs. 14.2% negative), and a negative emotion was said to result if the speaker did not keep the rule (3.0% positive vs. 97.0% negative; χ²(1, n = 267 answers) = 185.3; p < 0.001).

Separate analyses were performed for the cooperative and the non-cooperative situation in both samples. The dependent variable “emotion” was classified into three categories in both cases: relief, joy, and all other emotions in the cooperative situation, and sadness, anger, and all other emotions in the uncooperative situation.

In the German sample, keeping the promise resulted in joy (joy: 66.7%; relief: 27.3%), while in the case of an avoided threat, relief predominated (joy: 18.2%; relief: 51.5%; χ²(1, n = 54) = 10.65; p = 0.001). Interestingly, 24.2% of the participants indicated that the addressee feels angry, apparently because the addressee was “forced” to cooperate by a threat, as described by Heilmann and Garner (1975). In the Tongan sample, the addressee was quite uniformly said to feel joy (joy: 65.7%; relief: 25.4% on average), independent of the speech act (χ²(1, n = 61) = 0.604; p = 0.437).

In cases where the speaker did not keep the rule, we expected a difference between the two cultures with regard to the attribution of anger. The data supports this prediction. While the German participants predominantly ascribed anger (anger: 92.4%; sadness: 7.6%), half of the Tongan participants indicated that the addressee will feel sad in this situation (anger: 26.9%; sadness: 50.7%; χ²(1, n = 118) = 43.9; p < 0.001).

**Discussion**

The cultural comparison revealed many commonalities in the understanding of conditional promises and threats, but also some characteristic differences.

First, both German and Tongan participants chose formulations and inferences with the addressee’s action in the antecedent proposition in accordance with the typical action sequence “addressee first”. The Tongan participants, however, tended to avoid explicit threats and preferred to use promises instead.

Second, conditional inducements have a potential for emotional interactions in both cultures. Positive and
negative emotions were generally attributed in line with appraisal-theoretic predictions. Consistent with findings from another domain (Bender, 2001), indication of angry reactions is largely reduced in Tonga: in Germany, anger clearly predominated over sadness after the speaker’s defection, while the Tongan sample showed the reversed pattern, with sadness twice as frequent as anger. While we had expected a difference for the negative emotions, we had not expected any difference for the positive ones, but found that the German students distinguished between joy and relief depending on the speech act whereas the Tongan participants did not.

In general, the differences found in the Tongan sample can be explained by the cultural background.

The tendency of roughly half of the participants to avoid threats in favor of promises is in accordance with respective social rules. In addition, as cooperation and particularly sharing with others are core values in Tongan society, threats may simply be not appropriate as a means of initiating an exchange.

A conclusion from the affective differences is not as easy to draw. With regard to the emotional reaction upon the speaker’s non-cooperation, two explanations are conceivable: the lack of anger indication may either be due to the fact that anger is socially not acceptable or that it arises less often in such situations. The latter could be the case if not fulfilling one’s obligation to reciprocate is regarded as so unusual that this failure is appraised differently, thus giving rise to different emotions.

Taking together findings from other domains allows us to presume that our Tongan participants may indeed have appraised the described event differently from the German sample. Several studies have indicated that – despite the culture independence of most appraisal dimensions – cultural differences do occur with regard to goals and values and with regard to certain appraisals that involve rather complex concepts such as causation or responsibility (e.g., Mauro, Sato & Tucker, 1992; Norenzayan, Choi & Nisbett, 1999). The latter concepts are directly relevant for anger as this emotion is elicited if another person is held personally responsible for a negative event. Personal responsibility, however, is not as easily ascribed in some cultures as it is in Western ones. Particularly in cultures with an interdependent self-concept (cf. Markus & Kitayama, 1991), causal attributions are more often also made in view of the circumstances (cf. Morris, Nisbett & Peng, 1995). The ambivalent or rather open description of the experimental scenario may thus lead to two different interpretations of the speaker’s non-cooperation: in Germany, participants may interpret the scenario as involving a rather high level of personal responsibility, while the Tongan participants may also take circumstances into account. This difference would then result in diverging emotional responses: a dominance of angry reactions in Germany, but one of sad reactions in Tonga. This interpretation is supported by findings from a subsequent experiment in Germany (Beller, Bender & Kuhnmünch, 2004, Experiment 2) in which we varied personal responsibility: Anger dominated in situations with high personal responsibility and decreased in favor of sad reactions in situations with low responsibility.

The different indications of joy versus relief upon mutual cooperation after a threat also reflect cultural differences. On the one hand, this may again be due to different appraisal patterns. Focusing on the positive outcome of cooperation elicits joy (as in the Tongan sample), while focusing on the transition from an expected negative outcome to the final positive one elicits relief (as in the German sample). On the other hand, the difference may also have lexical origins. There is no Tongan word that precisely translates as “relief”. The word we chose (after discussing the content scenarios with our Tongan partners) was fiemali. This comes closest to “relief”, but also encompasses “to be easy in mind, contented, satisfied, free from pain, discomfort or sorrow”. These connotations could also be the reason why some of our Tongan participants did not choose fiemali in the particular situation.

This last point highlights a particular difficulty of language-based cross-cultural research: even if terms exist that have the same core meaning across languages, they often contain a spectrum of connotations that do not map. Although well known (e.g., Tihanyi, 2002), this problem is not easy to resolve. While a linguistic tool has been developed in recent years for identifying and describing such differences in meaning (Wierzbicka, 1993, 1999), there is no way to circumvent them. Data interpretation thus requires the differences in meaning to be noted, and may indeed even profit from this insight into different semantic fields of a concept.

As we have seen, conditional inducements are fairly complex concepts as they involve personal values and goals, a social consensus on reciprocity and obligations, the consideration of the contextual situation, and an estimation of the addressee’s goals and the appropriateness of the chosen inducement. Complex concepts by no means generally converge across cultures, as has been shown to be the case, for instance, with concepts of causality (Boyer, 1996; Morris, Menon & Ames, 2001), concepts of the self (Kanagawa, Cross & Markus, 2001), or even spatial concepts (Levinson, 1996). Our cross-cultural comparisons suggest, though, that concepts of deontic social norms (Bender & Beller, 2003) and of promises and threats comparable to ours do exist in a completely different culture. When used to induce an exchange, however, they are used somewhat differently, and subsequent interactions may result in different emotional responses.

In a certain sense, the results of the study produced more questions than they answered. For this reason, a replication of the second experiment by Beller, Bender and Kuhnmünch (2004), which addresses the ascription of responsibility more thoroughly and includes deontic aspects, is being conducted in Tonga. As it is part of an anthropological inquiry into the cultural context of promises and threats, participant observation and in-depth interviewing will provide further data that may bolster the ecological validity of our present results.
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