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Culture, Self and the Emergence of Reactance: Is there a "Universal" Freedom?

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Abstract

In this article we suggest that independent vs. interdependent aspects of the self yield different manifestations of psychological reactance and that this is especially relevant in a cross-cultural context. In Studies 1, 2 and 4 we showed that people from collectivistic cultural backgrounds (individuals holding more interdependent attitudes and values) were less sensitive to a threat to their individual freedom than people from individualistic cultural backgrounds (individuals holding more independent attitudes and values), but more sensitive if their collective freedom was threatened. In Study 3 we activated independent vs. interdependent attitudes and values utilizing a cognitive priming method and yielded similar results as the other studies hinting at the important causal role of self-related aspects in understanding reactance in a cross-cultural context.

Culture, Self and the Emergence of Reactance: Is there a "Universal" Freedom?

Freedom of behavior is a pervasive and important aspect of human life. On a group level this can be observed by the fact that many nations all over the world have 'freedom' or 'liberty' in their state motto, e.g., "Liberté, égalité, fraternité" (France), "Einigkeit und Recht und Freiheit" (Germany), "En Unión y Libertad" (Argentina), "Freedom and Justice" (Ghana), "Independence, liberty and happiness" (Vietnam). On the individual level it is hardly a coincidence that the restriction of personal freedom is such a pervasively used punishment in legal as well as in educational contexts. In social psychology the concept of freedom is mostly looked at in the context of the individual's control and choice. Having a free choice is highly valued and its elimination is a pervasive predictor of behavior in areas as diverse as consumption (Clee & Wicklund, 1980), health (Seibl & Dowd, 1999; Orbell & Hagger, 2006), or helping behavior (Krishnan & Carment, 1979). Reactance theory in particular emphasizes the importance of "specific" individual freedoms and defines conditions under which people react against threats to these freedoms. Herein freedom is defined as a person's belief to be able to engage in a certain behavior and to decide on the type of behavior, as well as how it is performed and when (Brehm & Brehm, 1981).

The phenomena induced by reactance are among the most genuine and universal researched in social psychology (for a recent review see Miron & Brehm, 2006). Yet, in recent decades, social psychologists' claim to provide universally valid theories has been challenged by culturally important aspects, especially the cultural self-concept. Although reactance is typically considered to be pan-cultural, there may be systematic variations based on the cultural self. In the current article we argue that culturally formed patterns of values and beliefs should contribute heavily to the specific freedoms that people within a given context perceive and value and should thus affect the emergence of reactance.

The Emergence of Reactance

Reactance theory proposes that when a person believes s/he is free to engage in a given behavior, s/he will experience psychological reactance if that freedom is eliminated

or threatened (Brehm, 1966). Reactance is defined as a motivational state directed toward the re-establishment of the threatened or eliminated freedoms, which should manifest itself in an increased desire to engage in the relevant behavior or actual attempts to engage in it (Brehm, 1966; Brehm & Brehm, 1981). Reactance theory does not hold that people will seek freedom in all situations, but rather that they perceive themselves as having specific freedoms and will reassert these under the conditions they know the freedom exists and they are able to exercise that freedom (Brehm & Brehm, 1981). The magnitude of reactance is a direct positive function of (1) the importance of the freedom, which is eliminated or threatened, and (2) the proportion of free behaviors eliminated or threatened.

Interestingly, a threat or the elimination of a free behavior will frequently be located in a social source (Brehm, 1966). When freedom is threatened by social pressure, reactance will lead one to resist that pressure and even may induce boomerang effects. In their classic study Weiner and Brehm (1966) found that consumers bought more of a certain kind of bread when influenced only moderately ("please try") compared to a stronger influence ("you are going to buy"). In a similar vein, a stronger sign on the door of a public bathroom installed to prevent people from painting graffiti on the walls ("Do not write on these walls under no circumstances") resulted in more forbidden behavior than the weaker phrasing ("Please do not write on these walls") (Pennebaker & Sander, 1976).

Although the phenomena described by reactance theory are thought to be universal in social psychology, the focus on the importance of individual freedom in reactance theory might give reason to view it as a prototypical theory that is limited to the domain of individualistic values (Worchel, 2004). As most psychological theories have been created by Western researchers and tested with Western participants, they tend to emphasize individualistic values and neglect non-Western values, such as relational and collective needs and self-definitions (Triandis, 1996). However, culturally developed self-concepts may be critical to the definition of freedom, and hence reactance.

Culture and the Self

In recent years, cross-cultural differences in the construction of the self have been highlighted by several social psychologists (e.g., Bond & Smith, 1996; Hong & Chiu, 2001; Kashima, 2002; Markus & Kitayama, 1991; Oyserman, Coon, & Kemmelmeier, 2002; Triandis, 1996). The cultural self distinguishes between independent and interdependent aspects in the human self, often referred to as culturally specific types of self-construals (Markus & Kitayama, 1991). Many studies (e.g., Kanagawa, Cross, & Markus, 2001; Singelis, 1994; Wang, 2001) show that the proportion of these aspects in the self-concept of a person stands in relation with the dimension of individualism and collectivism that was first investigated by Hofstede (1980): Individualism emphasizes individual uniqueness, personal autonomy, and independence, whereas collectivism focuses on group harmony, interpersonal relations and interdependence. People engaging in individualistic cultures tend to define their self-concept more independently than interdependently from others: the freedom to make one's own choices and express one's own desires and preferences are important. In contrast, people engaging in collectivistic cultures tend to define their identity mainly by means of the interconnection with people and relevant group-members. They are expected to give first priority to group harmony, even when this conflicts with personal desires. Individualistic/ more independent self-construals are dominant in Western cultures (e.g., North American, Western European), whereas collectivistic/more interdependent self-construals are dominant in Eastern and Southern cultures (e.g., Asia, Latin America). The individualism–collectivism dimensions[1] have been frequently used as the basis for studying cultural variability and have uncovered strikingly different sets of emotions, cognitions, motivations, and social behaviors (for overview, Oyserman et al. 2002). Whereas Markus and Kitayama (2003b) argue that independent or interdependent selves represent general ways of being or action, others

[1] Individualism and collectivism can be understood as two independent dimensions, which implies that people usually comprise both individualistic and collectivistic aspects of the self, however in different proportions (for overview, see Oyserman, et al. 2002).

have interpreted "selves" as explicit concepts that can be measured using attitude or value scales (e.g., Singelis, 1994).

How Universal are Reactance Processes?

Although culturally different facets of the self have been discussed with respect to psychological phenomena, their implications for psychological theories have largely been neglected. An exception is the work on cognitive dissonance by Hoshino-Browne, Zanna, Spencer, Zanna, and Kitayama (2005), and Kitayama, Snibbe, Markus and Suzuki (2004) who posit that the core features of dissonance are differentially configured by the cultural views of the self as independent or interdependent. With regard to reactance theory similar processes might be at work. Worchel (2004) suggests that psychological reactance "is a motivational state designed not only to restore freedom, but also to reestablish identity" (p. 111). Because in Western societies freely chosen behaviors play a critical role in defining self-identity, the freedom to control one's own outcomes helps individuals to establish their uniqueness, whereas threatening or eliminating freedom harms a person's sense of individual identity (Worchel, 2004).

This leads to the question to what extent reactance might be limited to people with individualistic attitudes. And indeed, studies show that reactance is positively correlated to personality characteristics typical for individualistic cultures, such as autonomy, dominance and independence (Buboltz, Woller & Peper, 1999; Dowd, 1999; Dowd & Wallbrown, 1993; Dowd, Wallbrown, Sanders & Yesenosky, 1994; Merz, 1983). Imajo (2002) showed among Japanese participants that reactance was positively correlated with uniqueness and negatively with collectivism. Furthermore, American students (residing and taking classes in Japan) reported having almost 50% more choices and perceived their choices as being significantly more important to them than Japanese students (Iyengar & Lepper, 1999). Moreover, Iyengar and Lepper (1999) found that Anglo American children revealed the highest levels of intrinsic motivation and performance when they were allowed to make choices for themselves. In contrast, Asian American children were more

motivated if a valued ingroup-member (mother or peer) made the decisions for them (see also Pöhlmann, Carranza, Hannover & Iyengar, 2007). This suggests that the freedom to make personal choices seems less crucial to Asians' interdependent selves. Markus and Kitayama (2003b) contrast a *disjoint* model of agency (characteristic for Western societies), in which culturally defined normatively good actions are "freely" chosen depending on people's own preferences, goals, and intentions from a *conjoint* model of agency (characteristic for Eastern societies), in which "actions are responsive to obligations and expectations of others, roles, situations; preferences, goals, intentions are interpersonally anchored" (p.7). Thus, the latter actions are not personally controlled (as in the disjoint model) but jointly determined, whereby obligations and expectations of others are seen as motivating instead of being a force or pressure. This might cause people to feel less threatened when others restrict their personal freedom. Interestingly, Savani, Markus and Conner (2008) indeed found less reactance among Indian compared to middle-class North American participants when the freedom to choose among different attractive pens was restricted.

Taken together, these findings hint at a significantly lower importance of reactance phenomena in collectivistic cultures in which a more interdependent understanding of the self makes people feel less threatened by restrictions of their freedom. However, does this generally yield a limited universality of reactance theory for people with an interdependent construction of their self? We think not. Instead of affecting their *personal* values, threats to people's freedom can also impact central *group-related* concerns of the self. Even if collectivists might be willing to give up *individual* freedoms, they might still be reluctant to give up freedoms of their *ingroup*. If this is the case, culturally specific differences in the emergence of reactance should be observable.

Independent versus Interdependent Threats to People's Freedom

The cultural specificity of constraints to important aspects of the self has been shown for the case of cognitive dissonance in the studies by Hoshino-Browne and

colleagues (2005): Here a decision for oneself led to more dissonance reduction behavior for participants from an individualistic background, whereas a decision for a friend resulted in more dissonance reduction for collectivists (for similar findings see Kitayama et al., 2004). The authors therefore suggested that different types of threats to consistency affect different culturally determined self-concepts. Based on these considerations, we hypothesize that the arousal of reactance in different cultures might also be influenced by different self-concepts: For more independent selves, freedom might derive from personal desires, whereas for more interdependent selves freedom might evolve rather from the needs of one's ingroup. Therefore, for an independent self it should be especially important not to be limited in one's individual or independent freedoms. Consequently reactance should arise if the independent self is threatened by the elimination of personal freedoms. In contrast, because people engaging in collectivistic cultures tend to define their identity mainly through the interconnection with others, they ought to experience reactance when their more interdependent self is threatened by the elimination of group or interpersonal freedoms.

We propose that relating reactance processes to culturally specific selves helps to expand the scope of reactance theory and to specify the theoretical processes. We assume that reactance is not a phenomenon specific to Western cultures but that reactance can be observed across cultures when freedom-related aspects of the self are threatened by limitations of freedom. However, culturally specific conceptions of the self have to be taken into account when predicting reactance reactions. Consequently the situations that are likely to give rise to the experience of reactance will be a function of culture.

The Present Research

To test our hypotheses, in Study 1 we utilized a reactance paradigm in which participants imagined giving up a personal vs. a collective freedom and tested whether people from a collectivistic cultural background reacted differently to the two kinds of threats to freedom compared to people from an individualistic cultural background. In

Study 2 we looked at how these cultural differences in reactance relate to people's culturally formed selves. In Study 3 we activated independent vs. interdependent attitudes and values among German participants with a cognitive priming method and predicted different reactions with respect to a threat to individual vs. collective freedom. Finally, in Study 4 we extended the previous findings by investigating whether the differential experience of reactance as a function of culture and type of threat influenced subsequent behavioral intentions, namely the intention to help.

Even though we propose the self to be the crucial variable in explaining intercultural differences in the experience of reactance, in order to stay close to how we operationalize the construct we will refer to our assessment and priming of the culturally determined self in Studies 2 to 4 as *self-related independent and interdependent attitudes and values*. These should have a direct influence on the specific freedoms that people within a given context perceive and value and thus affect the emergence of reactance.

STUDY 1

In Study 1 we examine whether threat to an individual freedom as compared to a collective freedom will lead to differences in the experience of reactance for people with a collectivistic cultural background. In other words: Will we find the sort of cultural differences for reactance that Hoshino-Browne et al. (2005) and Kitayama et al. (2004) have found for self-threat in the form of cognitive dissonance?

We propose that people from a more individualistic cultural background would feel more reactance with regard to a threat to their individual freedom than people from a more collectivistic cultural background. However, we further propose that – when their collective freedom was threatened – people from a collectivistic cultural background would experience as much reactance as people from an individualistic cultural background.

Method

Participants and design. One hundred and five (36 male, 68 female, one missing value) students of ages from 18 to 41 years from the University of Swansea and the

University of Sussex, Great Britain participated in this experiment, which was based on a 2 (*threat*: individual vs. collective) x 2 (*cultural group*: individualistic vs. collectivistic) factorial between subjects design. The sample consisted of 54 British and 51 foreign students (26 Chinese, 8 Malaysian, 7 German, 4 Japanese, 2 French, 3 Swedish, 1 Italian) who indicated they had been living in Britain for a period of one month to five years.

Procedure. Students were approached on campus[2] and asked to participate in a short psychological study. If they agreed they were given a questionnaire, which (after some general information about the study) asked participants to imagine a scenario regarding a situation in a company. In one condition the scenario focused on an individual good, a personal business car that they could use for business trips; in the other condition it focused on a common good, a pool of business cars that all employees could use for business trips. In the *individual threat condition* participants were asked to imagine that on their way from the office to their business car, a colleague they briefly knew approached them and asked for a favor: She was currently conducting negotiations with another company in a rural area that was not easily accessible by public transport. Although she did not have a business car, she would like to be able to drive to this company. Because she did not know anyone else to ask, she asked the participant to lend her his/her car for a week and offered the participant her public transport card in exchange. If the participant agreed, he/she could not use the car during that time and would have to spend more time for his/her own business trips, but would help the colleague to get to the other company faster.

In the *collective threat condition* participants were asked to imagine that on their way from their office to one of the business cars they read an announcement concerning the availability of the business cars. An external branch office in another city was planning to start an advertising offensive in their area. Many vehicles were needed to drive around and to reach less accessible rural areas for one week. To facilitate this need, the branch

[2] The Sussex-part of the sample was approached after a lecture and received course credit for the participation.

office in the other town had requested that the participant's branch designate some of their business cars to this external branch office. If their branch office agreed to provide this favor, colleagues, other employees and managers could not use the business cars for their trips in their area (instead they were offered the use of public transport cards), but would help out the other branch office with their advertising offensive.

After participants had read the scenario we assessed participants' feeling of reactance with the following items: (1) How reasonable would a favor like that appear to you?, (2) How restricted would you feel in your freedom of choice?, (3) How legitimate would a favor of lending your business car to an acquainted colleague appear to you?/How legitimate would a favor of lending the cars to an external branch that wants to do an advertising offensive appear to you?, (4) How much would you feel under pressure by being told you are the only one that can provide her this favor?/If participating in the decision-making of your branch office, how much would you feel under pressure by being told you are the only branch office that can provide them this favor?, (5) How much would a favor like that bother you?, and (6) How irritated would you probably feel by a request like that? ([1] not at all, [10] very much). Cronbach's alpha for the composite measure "experience of reactance" consisting of these six items (with the items 1 and 3 inverted) was a =.66. Finally, we asked some questions regarding participants' sex, major and nationality. In the end participants were debriefed and thanked for their participation.

Results

Following Hofstede (1991) we grouped participants coming from Western European countries (Britain, France, Germany, Sweden, and Italy) in the cultural group of Western Europeans (n = 67) and participants from East Asian countries (China, Malaysia, and Japan) in the cultural group of East Asians (n = 38). We next ran a 2 (*threat*: individual vs. collective) x 2 (*cultural background*: Western European [individualistic] vs. East Asian [collectivistic]) ANOVA on participants' experience of reactance. This analysis revealed the predicted interaction between threat and cultural background, $F(1, 101) = 6.44$, $p = .01$,

d = .51[3] (see Table 1 for the means). Simple effects analyses revealed that following the individual threat East Asian participants reported significantly less reactance than Western Europeans, $F(1, 101) = 9.49$, $p = .003$, $d = .61$. However, with the collective threat the difference between Western Europeans vs. East Asians disappeared, $F(1, 101) < 1$, $p > .60$. Thus, in accordance with our hypothesis that East Asians will experience reactance with regard to a collective threat (even though they experience less reactance with regard to an individual threat), further analyses revealed that East Asians tended to experience more reactance when their collective compared to their individual freedom was threatened, $F(1, 101) = 2.73$, $p = .10$, $d = .33$, whereas Western Europeans experienced more reactance when their individual instead of their collective freedom was threatened, $F(1, 101) = 4.09$, $p = .05$, $d = .40$.

Discussion

Study 1 showed that people from a collectivistic cultural background showed less reactance when a *personal* freedom was threatened than people from an individualistic cultural background. This is a conceptual replication of the findings by Savani et al. (2008) who also found less reactance among collectivistic participants (people from India) compared to middle-class North Americans using a different paradigm. Savani et al. (2008) explained their findings within the disjoint vs. conjoint model of agency (Markus & Kitayama, 2003b) implying that reactance theory is rooted in the disjoint model of agency. Because, in the disjoint model, people have the desire to choose as they *personally* wish, in that their decision reflects their own preferences, goals, or intentions, they should experience reactance when their personal freedom is threatened. However, people acting within the conjoint model of agency would not be expected to experience reactance if they are limited in their *personal* choices because part of being a good agent implies putting aside personal preference. Yet, this does not necessarily imply that the scope of reactance theory is limited to the disjoint model of agency. As Study 1 clearly showed, people from

[3] We checked whether gender had an effect on the dependent variable but this was not the case.

collectivistic cultures (with a conjoint understanding of agency) did experience reactance when their *group's* freedom was in danger.

Moreover, although the result that collectivists showed less reactance when giving up an individual freedom can be understood by assuming that they felt less threatened by having to put aside their personal goals, another interpretation is also possible: Maybe they experienced less reactance because they felt an obligation to do a favor for a work colleague. Although we did not describe this person as a friend, participants might have considered him or her as an ingroup member. This would be in accordance with the work of Miller and Bersoff (1998), who found that Americans indicated feeling more responsible for others they liked (implying preferences to be important for moral judgments). Indian participants, on the other hand, felt morally obligated to help everybody, regardless of their likeability, portraying agency in a more conjoint manner. Therefore, in order to generalize our results to personal threats to freedom that do not involve another person toward whom one could feel obliged, in Study 2 we chose a different kind of threat: the prohibition of a certain dental care product.

In addition, in Study 1 we operationalized cultural differences looking at people from individualistic versus collectivistic cultural groups. Viewing psychological differences from these dimensions could be described as telescoping differences that are in fact inherent in the selves (and in self-related attitudes and values) of people in all cultures. Indeed, it seems that the self is the key variable to which many cross-cultural differences can be traced back. Oyserman and Lee (2008), for example, have reviewed a myriad of studies showing that the mere priming of individualistic or collectivistic aspects of the self led to differences in cognitive style, relationality, and judgements *within* samples across cultures. This suggests that culture may be viewed as a distal influence on behavior, whilst a culturally determined self should be the more proximal factor. Therefore, the question arises of whether differences in the experience of psychological reactance can be

accounted for by differences in the culturally determined self. In the further studies we investigated this question.

STUDY 2

In Study 2 we, first, wanted to test whether we could replicate the finding that a threat to an individual freedom leads to less reactance for people with a collectivistic than for those with an individualistic cultural background by using a paradigm in which participants would not feel morally obliged to honor the request of another person. Moreover, as we have theorized that the cultural differences in reactance relate to the impact a threat to personal freedom has on a person's self, we predicted this effect would be reflected in differences in culturally determined attitudes and values, which we expected to be more interdependent in participants from a more collectivistic cultural background and more independent in participants from a more individualistic cultural background. Study 2 therefore tested two hypotheses: (1) People from a collectivistic culture should be less likely to experience reactance than people from an individualistic culture when their personal freedom was threatened; (2) Although cultural background should predict the extent of reactance experienced, the culturally determined independent vs. interdependent attitudes and values should be an even better predictor of reactance in this situation.

Method

Participants and design. Three hundred and thirty seven introductory psychology students from DePaul University in Chicago (225 female and 112 male) who took part in the prescreening at the beginning of the semester participated in this study. The study is based on a one-factorial design with two conditions (*cultural group*: individualistic vs. collectivistic). The sample consisted of 274 European Americans and 63 Asian Americans. The data of fourteen participants had to be excluded from the analyses because of missing values, three were excluded because their scores were more than 2.5 standard deviations away from the mean. This left 261 European and 59 Asian Americans in our analyses.

Procedure. Participants filled out a questionnaire, which was ostensibly concerned with self-image. First they were asked to indicate their sex and ethnic background. To measure independent and interdependent attitudes and values, participants were then presented with the Singelis scale (Singelis, 1994), which consists of 24 items with a focus either on participants' independent or interdependent self-construal (e.g., "I'd rather say No directly, than risk being misunderstood" as an example for an item with an independent focus, Cronbach's alpha a = .68, e.g., "It is important for me to maintain harmony within my group" as an example for an item with an interdependent focus, Cronbach's alpha a = .67). All responses were made on a scale from 1 = strongly disagree to 7 = strongly agree.

Next, participants were asked to imagine a scenario that addressed the following case: According to the news some months ago, in Belgium, Europe, dental care products containing fluoride were no longer being sold. The reason for the prohibition of fluoride-containing products was evidence on the potential harm to health by fluoride in higher doses. Participants were asked to imagine that in the United States dental care products containing fluoride could no longer be sold for the same reason and only dental care products without fluoride were available. To assess participants' feeling of reactance we asked the following questions: (1) How reasonable would a prohibition like that appear to you?, (2) How much would a prohibition like that bother you?, (3) How much would you feel restricted in your freedom of choice?, (4) How legitimate would a prohibition of fluoride-containing dental care products appear to you?, (5) How much would you like to decide by yourself what kind of dental care product you use? ([1] not at all, [10] very much). As in Study 1 we created a composite measure for the experience of reactance, which consisted of these 5 items (items 1 and 4 inverted). Cronbach's alpha was a = .81.[4]

Results

[4] The items on the reactance scale in Study 2 were slightly different from the ones in Study 1 for reasons of adapting them to the reactance manipulation.

Following previous research that investigated self-relevant attitudes and values using the Singelis scale (e.g., Holland, Roeder, van Baaren, Brandt, & Hannover, 2004; Pöhlmann et al., 2007), we created a difference score between the z-standardized scores on the interdependent and independent subscales. Consequently a positive value indicated relatively more interdependent attitudes and values and a negative value indicated relatively more independent attitudes and values. We then checked whether the two groups (cultural background: European Americans and Asian Americans) differed with regard to this measure: European Americans showed no significant difference score (M = 0.11, SD = 1.16; not different from zero, $t(260) = 1.52$, $p = .13$), indicating a relative balance between interdependent and independent attitudes and values, whereas Asian Americans showed a significant positive difference score (M = 0.43, SD = 1.13; different from zero, $|t(58)| = 2.94$, $p = .005$), indicating relatively higher interdependent than independent attitudes and values. The difference-scores of the two groups also differed significantly from each other, $t(318) = 1.96$, $p = .05$.

Next, after having supported the assumption that the cultural group of Asian Americans showed more interdependent attitudes and values compared to the group of European Americans, we tested whether the two ethnic groups differed with regard to the experience of reactance. A *t*-test showed that the European American participants (M = 6.27, SD = 2.05) experienced significantly more reactance than the Asian Americans (M = 5.71, SD = 1.42), $t(117,28) = 2.44$, $p = .02$, $d = .32$.[5] In addition, there was a negative correlation between the difference-score between interdependent and independent attitudes and values and reactance aggregating over *both* European and Asian Americans, $r = -.14$, $p = .01$, indicating that more independent attitudes and values were generally associated with more reactance in response to a threat to individual freedom.

Our main prediction was that self-related attitudes and values would be a better predictor of reactance than cultural background. We therefore expected that when entering

the difference score between interdependent and independent attitudes and values into the regression equation, the influence of cultural background should be reduced, while the attitudes and value measure should emerge as a better predictor of reactance. Consequently we next analyzed the data using two-step hierarchical regression analyses: Cultural background was entered in Step 1. In Step 2 the difference score was entered in the regression model. The results yield support for our hypothesis (see Table 2): The main effect of cultural background was significant at Step 1, $\beta = -.11$, $p = .05$, indicating that an Asian American cultural background was associated with less reactance. When the difference score between interdependent and independent attitudes and values was entered into the model, this relation became a bit weaker, $\beta = -.10$, $p = .09$, whereas the attitudes and values measure turned out to be a better and significant predictor of reactance, $\beta = -.13$, $p = .02$, indicating that more independent attitudes and values were associated with more reactance. The final regression model, $F(2, 317) = 4.72$, $p = .01$, $d = .24$ was significant, and the improvement of the model after entering the self-related attitudes and values as a predictor also was significant, $F(1, 317) = 5.51$, $p = .02$, $d = .26$.

Discussion

The results of Study 2 replicated the finding that individualistic (compared with collectivistic) participants experienced more reactance when their personal freedom was threatened. This time Asian Americans experienced less reactance than European Americans regarding a threat to the use of dental care products, which was a threat that did not involve a person toward whom people could feel obliged. As hypothesized, this difference appeared to be rooted in the differences in culturally determined attitudes and values as measured by the Singelis (1994) self-construal scale. This scale was associated with cultural background and was shown to be a better predictor of reactance than cultural background. In accordance with our predictions, people with relatively more interdependent attitudes and values experienced less reactance, when faced with a threat to

[5] We also checked whether gender had an effect on the dependent variable. However, this was not the case.

their personal freedom than those with more independent attitudes and values. We acknowledge that culture is a group level variable with little variance across participants, it can only take values of 0 or 1, so it may not seem surprising that the attitude and value measure explained more variance than the binary culture variable. However, the fact that the independent and interdependent attitudes and values could empirically be shown to be a better predictor of reactance in a sample comprising people with different cultural backgrounds, underlines the core of the argument made above: differences in the self (as measured here via self-related attitudes and values) seem to be the key variable underlying cross-cultural differences in the experience of reactance.

Even though differences in the self-related attitudes and values were related to cultural differences and both were associated with differences in reactance, we did not find evidence for mediation here. This might be due to the fact that we did not measure cognitions induced by a specific situation but rather more stable dispositions in form of people's attitudes and values. However, in Study 3 we will use a cognitive priming method and show that situationally activated independent vs. interdependent cognitions lead to corresponding results.

We are also aware that by measuring cultural specific attitudes and values we only capture part of the phenomena of culturally determined selves, which in addition reflect "differences in the theories of being and reality" (Markus & Kitayama, 2003a, p. 280). However, the core of our argument is that culture emerges as a distal influence on reactance, whilst the culturally determined self seems to function as a more proximal factor. Using scales that measure self-related attitudes and values we were able to capture the phenomena of collectivistic and individualistic orientations more closely to the psychological process of interest.

STUDIES 2 A AND B

What is more, even though the different cultural groups differ with regard to the extent to which their self-related attitudes and values can be characterized as being more

independent or interdependent, the self of each person usually comprises both independent and interdependent aspects and both can be activated within a person (Gardner, Gabriel, & Lee, 1999). Building on this argumentation, we should be able to show a similar pattern of associating greater reactance with a more independent self in a purely collectivistic sample – but only if the individualistic aspect of the threatened freedom is apparent. In contrast, if the collectivistic aspect of the threatened freedom is dominant, the opposite pattern should occur: the more interdependent the self, the greater the reactance.

To test these predictions we conducted two smaller studies of a similar design with college students in a relatively more collectivistic culture, namely in Taiwan (e.g., Oyserman et al., 2002). In these two studies we examined (a) how self-related attitudes and values were associated with reactance when the choice for a product with an individualistic appeal – here: pearl milk tea – was restricted (Study 2 A). And (b) how self-relevated attitudes and values were associated with reactance when the choice for a traditional product catered to family consumption, i.e., a good with a more collectivistic appeal – here the traditional green tea – was threatened (Study 2 B). Although in general tea is often consumed with friends and family, these specific teas nevertheless represent different kinds of tea, some with a more collectivistic and others with a more individualistic appeal. Green tea is usually served in a teapot that is shared with others sitting at a table at home or in a restaurant, whereas pearl milk tea is purchased in single portion plastic cups from teashops on the street. Also, it comes in an abundance of forms and flavors, providing an opportunity to express individual preferences. In contrast to green tea, which has a long tradition, pearl milk tea is a relatively new drink, which appeared around 1980 and since then has been an especially popular drink for young Taiwanese.

STUDY 2 A

Pearl milk tea paradigm. Forty-one undergraduate students (23 female and 17 male, one missing value), 34 from National Chung Cheng University at Chia Yi, Taiwan, and 7 from National Cheng Kung University at Tainan, Taiwan, completed a packet of

questionnaires after class, one of which contained the current study. Participants first responded to 20 statements from the horizontal and vertical individualism and collectivism scale (Singelis, Triandis, Bhawuk, & Gelfand, 1995; Triandis, 1995; Triandis, Chan, Bhawuk, Iwao, & Sinha, 1995), assessing self-related independent and interdependent attitudes and values (Items like "I often do my own thing", "I usually sacrifice my self-interest for the benefit of my group", responses on a scale from 1 = strongly disagree to 9 = strongly agree). We aggregated the horizontal and vertical collectivism items (a = .75) and the horizontal and vertical individualism items (a = .57) and next collapsed these items – as in Study 2 – into a difference score, with higher scores indicating more interdependent self-related attitudes and values. Participants were then asked to read the following vignette: "Imagine that an international health organization decides that pearl milk tea is no longer being sold, as was reported in the news some months ago. The reason for the prohibition of pearl milk tea is that there is evidence that some elements contained in pearl milk tea can be harmful to health when consumed in higher doses." This was followed by a measure of experienced reactance consisting of similar items as in the Study 2 adapted to the tea scenario and translated into Taiwanese (Cronbachs alpha a = .64): (1) How reasonable would a prohibition like that appear to you?, (2) How much would a prohibition like that bother you?, (3) How much would you feel restricted in your freedom of choice?, (4) How legitimate would a prohibition of pearl milk tea appear to you?, (5) How much would you like to decide by yourself what kind of tea you drink? ([1] not at all, [10] very much). A correlation analyses between the calculated difference score and reactance showed that more independent attitudes and values in the Taiwanese participants were associated with a greater experience of reactance in the case of the prohibition of an individualistic good: pearl milk tea, r = – .33, p = .04.

STUDY 2 B

Green tea paradigm. Forty undergraduate students (27 male and 12 female, 1 missing value), 16 from National Chen Chi University at Taipei, Taiwan, and 24 from

National Chung Cheng University at Chia Yi, Taiwan completed a packet of questionnaires after class, one of which contained the current study. Here, participants also first responded to statements from the horizontal and vertical individualism (Cronbach's alpha a = .76) and collectivism scale (Cronbach's alpha a = .64), assessing the independent and interdependent attitudes and values. Again we calculated the difference score. Participants were then asked to read the following vignette: "Imagine the Health Ministry would decide that green tea is no longer being sold, as was reported in the news some months ago. The reason for the prohibition of green tea is that there is evidence that some elements contained in green tea can be harmful to health when consumed in higher doses." This was followed by a composite measure of reactance which contained more items than our usual measure: (1) How much would a prohibition like that bother you?, (2) How angry would you be about a prohibition like that?, (3) How likely is it that you would protest against such a prohibition?, (4) How legitimate would a prohibition of green tea appear to you?, (5) How much would you like to decide by yourself what kind of tea you drink? (6) How likely is it that you would continue drinking green tea in spite of the prohibition? (7) How appropriate does this prohibition appear to you? (8) How much do you like green tea? (9) How important is green tea for you? (10) How important is green tea in your family? (11) How frustrated would you be about a prohibition of green tea? (Cronbach's alpha a = .71).[6] This time – as predicted and in contrast to Study 2 A using the Pearl Milk Tea paradigm – we found a positive correlation of r = .38, p = .015, indicating that in the case of a threat to a more collectivistic good relatively more inter<u></u>dependent self-related attitudes and values were associated with greater reactance.

[6] Using the usual combination of reactance items ((1) How reasonable would a prohibition like that appear to you?, (2) How much would a prohibition like that bother you?, (3) How much would you feel restricted in your freedom of choice?, (4) How legitimate would a prohibition of green tea appear to you?, (5) How much would you like to decide by yourself what kind of tea you drink?) as dependent variable, the correlation with the difference score (interdependent minus independent attitudes and values) was very similar, r = .36, p =.02, however, because the Cronbach's alpha for this measure was unacceptable low, we above reported the data for the extended reactance scale.

A significant difference between the two correlation coefficients of the Green Tea and Pearl Milk Tea study, $|z| = 3.20$, $p < .001$, underlines the opposite effects of the more individualistic vs. more collectivistic threat on the experience of reactance among our collectivistic participants. Taken together, these two studies adds to Study 2 and provide additional cross-cultural evidence for the role of self-related attitudes and values in the experience of reactance when freedom of choice is threatened. Moreover, they also match the results from Study 1: The type of freedom that is threatened (individual vs. collective) has a specific impact on the experience of reactance. The finding that this depends on the prevalence of independent or interdependent aspects of the self suggests that the self is indeed a more proximal variable than the distal dimension of cultural group.

STUDY 3

In order to provide further evidence for the crucial role of the self in understanding reactance effects in a cross-cultural context, we conducted a priming study. As the self of each person usually comprises both independent and interdependent aspects (Gardner et al., 1999), it should be possible to activate the respective parts of the self with a cognitive priming procedure (for an overview see Oyserman & Lee, 2008). Thus Study 3 tested to what extent priming of independent vs. interdependent values influenced the experience of reactance in a similar manner as shown in the previous studies, and thereby improve causal evidence with respect to the role of the self-related attitudes and values. To do this, we created a scenario, in which participants were asked to imagine booking a holiday trip and again varied whether the travel agent threatened participants' individual or collective freedom. We predicted that after an interdependent (compared to an independent) prime people would show less reactance if their individual freedom was threatened but more reactance if their collective freedom was threatened.

Method

Participants and design. Participants were sixty-two students (24 males and 38 females) who were recruited on the campus of the Ludwig-Maximilians-University in

Munich, Germany. The experiment was based on a 2 (*priming:* activation of independent vs. interdependent values) x 2 (*threat*: individual vs. collective) between-subjects design. The data of three participants had to be excluded from the analyses because they did not follow the instructions regarding the priming task.

Procedure. Participants were asked to participate in a study on personality and decision-making behavior. If they agreed they were given a questionnaire, which started with some general questions (e.g., sex, nationality). After some brief instructions on idiosyncratic self-descriptions, participants engaged in a task designed to activate independent vs. interdependent values by Trafimov, Triandis, and Goto (1991). Participants in the independent priming condition were asked to describe the ways in which they were *different* from their family and close friends. In the interdependent priming condition participants were asked to describe the ways in which they were *similar* to their family and close friends. Afterwards the decision-making scenario was presented: Participants were told to imagine that with regard to their up-coming holidays, they had spent the entire weekend comparing conceivable destinations of their next trip. For this purpose, they had been investigating countless catalogues before they decided upon spending their summer holidays in Greece. When they went to a travel agency to book their trip, a travel agent approached them by imposing his recommendations on them, thereby varying the individual vs. collective threat to participants' freedom. The agent in the *individual threat condition* attempted to talk them out of their decision to go to Greece by addressing them personally. For example, he emphasized that they *personally* would not have fun in Greece. Instead, they should book a holiday trip to Spain, because that would be the right choice to make for them *personally*. The *collective threat condition* depicted the same conversation with the travel agent, but focused on their relation to their partner. For example, he stressed that *they and their partner* would not have fun in Greece and as a consequence, *they and their partner* should book their trip to Spain.

We measured the participants' experience of reactance by asking the following questions: (1) How legitimate would a recommendation by a travel agent appear to you? (2) How much would you feel restricted in your freedom of choice? (3) How reasonable would such a recommendation appear to you?, (4) How much pressure would you feel to book the recommended trip to Spain?, (5) How much does the recommendation by the travel agent bother you?, (6) How appropriate would such a recommendation seem to you?, (7) How likely would you be to get a recommendation somewhere else first? , Participants responded to this set of questions on a scale from 1 = not at all to 10 = very much. We created a scale for participants' experienced reactance by aggregating the items listed above (a =.68[7]).

Results

We first conducted a 2 (*priming*: activation of independent vs. interdependent values) x 2 (*threat*: individual vs. collective) ANOVA. This analysis showed the predicted interaction between priming and kind of threat, $F(1, 55) = 4.51$, $p = .04$, $d = .57$ (see Table 3 for the means).[8] Simple effects analyses revealed that when participants were confronted with a threat to their individual freedom, they reported more reactance when independent compared with interdependent values had been activated, $F(1, 55) = 3.99$, $p = .05$, $d = .54$. In contrast, when they were confronted with a threat to their collective freedom, this difference disappeared, $F(1, 55) = 1.07$, $p > .30$. Looked at differently, following the interdependent prime, participants reported more reactance with regard to the collective compared to the individual threat, $F(1, 55) = 4.89$, $p = .03$, $d = .60$, however, following the independent prime participants did not significantly differ depending on whether the threat was individual or collective, $F(1, 55) < 1$, $p > .40$.

[7] The Cronbach's alpha is based on the data of $n = 167$ participants. We initially utilized two different priming methods in this study (one was taken from the literature, see above, and the other one construed in our lab). Both primings yielded very similar results on the dependent variable. However, for the reason of simplicity in the current paper we only report the data of the first method.

Discussion

The results of Study 3 are in line with our previous studies. Activating independent vs. interdependent values yielded similar effects on the experience of reactance as operationalizing self-related aspects by assessing different cultural groups or chronic measures of self-related attitudes and values. Again we found that people reacted very differently to the threat of their independent vs. interdependent freedom depending on the activation of independent vs. interdependent values.

Now, being confident about the role of self-related attitudes and values in the differential arousal of reactance, we return to our initial and more general research question: Can reactance theory be generalized across cultures? So far we have learned that we need to differentiate between different kinds of threat: Using different cultural groups (Study 1) as well as activating interdependent values (Study 3) led to the finding that collectivists showed less reactance than individualists when their individual freedom was threatened. However, collectivists reacted more strongly when their group's or their interpersonal freedom was in danger. To provide further evidence for the notion that threat to individual versus collective freedom will lead to reactance as a function of cultural background, in Study 4 we attempted to replicate the results from Study 1, manipulating whether participants were faced with a threat to their personal versus their group's freedom. In addition to assessing the experience of reactance, in Study 4 we also assessed behavioral intentions that ought to follow from reactance. We utilized a help-giving paradigm in which participants' personal freedom vs. the freedom of their group was threatened. Previous studies have illustrated that requests for help can threaten people's freedom to decide whether they want to help or not and accordingly can induce reactance (e.g., Berkowitz, 1969; for overview see Brehm & Brehm, 1981). We proposed that people from an individualistic cultural background would experience more reactance with regard

[8] We also checked whether there were any effects of gender but found no reliable effect. There was neither a main effect nor a two-way interaction. The three-way interaction, however, was significant, $F(1, 51) = 6.24$,

to a threat to their individual freedom than people from a collectivistic cultural background. However, collectivists should experience reactance when their collective freedom was threatened. Finally, we expected participants' inclination toward help-giving to be lower the greater their reactance.

STUDY 4

Method

Participants and design. The participants were ninety one (49 male and 42 female) students from the University of California, Los Angeles (UCLA). The experiment was based on a 2 (*threat*: individual vs. collective) x 2 (*cultural group*: European American vs. Asian/Latin Americans) factorial between subjects design. Our sample consisted of 51 European Americans, 22 Asian Americans, and 18 Latin Americans.

Procedure. Participants were asked to participate in a study on self-image and help-giving behavior. If they agreed they were given a questionnaire that began with some general questions regarding their sex, ethnic background and nationality. Next, participants responded to the 20 statements from the horizontal and vertical individualism and collectivism scale described in Study 2 A (Singelis et al., 1995; Triandis, 1995; Triandis et al., 1995). We aggregated the horizontal and vertical individualism items (a = .64) and the horizontal and vertical collectivism items (a = .78) and calculated the difference score.

Next, participants were asked to imagine a scenario regarding the UCLA parking lot. In the *individual threat condition* participants were asked to imagine that on their way to the parking lot, a student they recognized from one of their classes approached them and asked for a favor: She was currently conducting research that required frequent access to the Biomed Library. She did not have a parking pass for a parking lot close to the Biomed Library, but would like to park her car in this parking lot temporarily. Because she did not know anyone else to ask, she asked the participant to lend her his/her parking pass for a week and offered the participant to switch to a less accessible lot for which she owned a

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p = .02, but because of the few male participants per cell this was difficult to interprete.

permit. If the participant agreed, he/she could not use his/her parking lot for a week, but would have helped the student have faster access to the library.

In the *collective threat condition* participants imagined they read an announcement concerning a parking issue on their way to the parking lot: a tennis tournament, which was organized by an automobile firm, would be taking place on the UCLA campus at the end of the month. Consequently, parking space was needed to accommodate the cars of the tennis players, their staff and visitors for one week. To facilitate this need, the firm had requested that UCLA designate one parking lot to the tournament. If UCLA agreed to provide this favor, the UCLA students, faculty and staff could not use their parking lot for a week (instead they were offered to switch to another less accessible lot), but would have helped the tournament's players, staff and visitors have faster access to the tournament.

After participants had read the scenario they were asked to answer to the following items: (1) How reasonable would a favor like that appear to you?, (2) How restricted would you feel in your freedom of choice?, (3) How legitimate would a favor of lending your parking pass to an acquainted student appear to you?/How legitimate would the favor of lending the parking lot to the automobile firm, which organizes the tennis tournament, appear to you?; (4) How much would you feel under pressure by being told you would be the only one that can help?/How much would you feel under pressure by being told that UCLA is the only institution that can provide this favor?, (5) How much would a favor like that bother you?, and (6) How irritated would you probably feel by a request like that? These items assessed the participants' experience of reactance (α = .80). Help-giving was assessed by the following two items: How willing are you to help the student? / How willing would you be to support this request? and How likely is it that you will help the student? / How likely is it that you will support this request? (r =.89). All responses were made on a scale from 1 = not at all to 10 = very much. In the end participants were debriefed and thanked for their participation.

Results

Sample characteristics. A *t*-test for the difference score on self-related attitudes and values revealed that the European Americans indicated more independent than interdependent attitudes and values (M = -0.43, SD = 1.46; different from zero, $t(50)$ = 2.11, p = .04), whereas Asian Americans/Latinas/os indicated relatively more interdependent than independent attitudes and values (M = +0.20, SD = 1.24, though not significantly different from zero, p > .30). As expected, the difference-scores of European and Asian Americans/Latinas/os were significantly different from each other, $t(89)$ = 2.20, p = .03.[9]

Analyses for the experience of reactance. Next, we conducted a 2 (*threat*: individual vs. collective) x 2 (*cultural background*: European American vs. Asian American/Latina/o) ANOVA on the reactance measure. We found a marginally significant main effect for threat, $F(1, 87)$ = 3.03, p = .09, d = .37, which was qualified by a two-way interaction of threat and cultural background, $F(1, 87)$ = 6.78, p = .01, d = .56.[10] (See Table 4 for the means.) Simple effects analyses showed that the Asian Americans/ Latinas/os again reacted with lower reactance when confronted with an individual threat than the European Americans, $F(1, 87)$ = 4.90, p = .03, d = .47. In contrast, with regard to a collective threat the Asian Americans/ Latinas/os tended to show even more reactance than European participants, although this difference failed to be significant, $F(1, 87)$ = 2.15, p = .15, d = .31. For the Asian Americans/ Latinas/os the collective threat led to significantly more reactance than the individual threat, $F(1, 87)$ = 8.46, p = .005, d = .62, whereas for the European Americans the two kind of threats did not differ, F < 1, p > .50.

Analyses for help-giving. For help giving the 2 (*threat*: individual vs. common) x 2 (*cultural background*: European American vs. Asian American/Latina/o) ANOVA found a

[9] The Asian American vs. Latina/o group of participants did not differ significantly with regard to independent versus interdependent attitudes and values, $F(1, 38)$ < 1, p > .55.

[10] We also checked whether there were any effects of gender and found that women experienced more reactance (M = 6.60, SD = 1.96) than men (M = 5.32, SD = 1.84), $F(1, 83)$ = 13.14, p < .001. This was especially the case for the collectivistic participants, as a significant two-way interaction indicated, $F(1, 83)$ = 6.34, p = .01. However, as the above reported two-way interaction between cultural background and kind of

main effect for threat, $F(1, 87) = 10.95$, $p = .001$, $d = .71$, which was qualified by an interaction between threat and cultural background, $F(1, 87) = 4.44$, $p = .04$, $d = .45$. (See Table 5 for the means.) Simple effects analyses showed that although there was no difference in helping intentions for European Americans when they faced an individual versus a collective threat to freedom, $F < 1$, $p = .40$, there was a difference in helping intentions for Asian American/Latina/o participants: here a threat to the collective parking freedom led to significantly less helping than a threat to individual parking, $F(1, 87) = 4.93$, $p = .029$, $d = .48$.

Mediation analysis. We next tested, following Baron and Kenny (1986), whether people's willingness to help was mediated by the experience of reactance: The first regression analysis showed that the independent variable (the interaction between cultural group and kind of threat) significantly influenced the mediator (experience of reactance), $\beta = .47$, $|t(87)| = 2.60$, $p = .01$. In the second regression analysis the mediator significantly predicted a decreased willingness to help, $\beta = -.64$, $|t(89)| = 7.76$, $p < .001$. In the final step we examined whether statistical control for the mediator reduced the predictive power of the interaction between cultural group and kind of threat on help giving. Without the mediator the interaction term was significant, $\beta = -.38$, $t(87) = 2.17$, $p = .03$. When controlling for the mediator, however, the interaction was no longer significant, $\beta = -.11$, $t(86) < 1$, $p > .45$, although, importantly, the regression weight for the mediator continued to be significant, $\beta = -.59$, $|t(86)| = 7.00$, $p < .001$. Finally, the Sobel-test (Sobel, 1982) confirmed that the mediator carried the influence of the interaction between cultural group and kind of threat to help giving (the indirect effect of the interaction term on help-giving via the experience of reactance was significantly different from zero, $z = 2.44$, $p = .001$).

Discussion

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threat remained significant if gender was included in the analysis, $F(1, 83) = 8.96$, $p = .004$, and there was no significant three-way interaction, $F < 1$, $p > .80$, we did not further consider these gender effects.

The results of Study 4 replicated our previous findings: Participants with a collectivistic cultural background, again, experienced less reactance with regard to situations in which their individual freedom was threatened. Nevertheless, they experienced increased reactance when the freedom of their group, namely all people from UCLA using the parking lot, was at stake. With regard to the consequences of intercultural differences in the experience of reactance, Study 4 provided an important addition: We were able to show that the experience of reactance was linked to a behavioral intention, namely help giving. The same pattern that we found for the interaction between type of threat and cultural background in the experience of reactance was also present for helping intentions. Finally, cultural differences in people's help giving behavior were mediated by differences in the experience of reactance.

As in Study 4 we had also measured participants' self-related attitudes and values (using the vertical and horizontal individualism and collectivism items by Triandis and colleagues) we also tested whether these more proximal measures were better predictors for the experience of reactance than the more distal measure of cultural background (see Footnote 11 for the results[11]). Here, we only found an interesting result for the participants with a collectivistic cultural background: For those with even stronger interdependent attitudes and values, a threat targeted at an individual freedom was accompanied by less reactance, whereas a threat that was targeted at a collective freedom was accompanied by

[11] To further explore the difference in reactance when facing an individual versus a collective threat in relation to the self we conducted regression analyses including participants' independent vs. interdependent attitudes and values. Unfortunately, the interaction between type of threat and independent vs. interdependent attitudes and values did not reach significance, p = .15. However, looking at the two cultural groups separately, for the Asian American/Latina/o participants the regression model was significant, $F(3, 39) = 4.48$, $p = .009$. Most importantly, the interaction of type of threat and interdependent vs. independent values was marginally significant, $\beta = .48$, $p = .055$. Simple slopes analyses (Aiken & West, 1991) showed that type of threat predicted the experience of reactance when attitudes and values were more interdependent, $\beta = .61$, $p = .001$, but not when they were more independent, $\beta = .12$, $p = .60$. Looking at the simple slope graph (Figure 1), it becomes apparent that for participants with more interdependent attitudes and values (greater difference score), a collective threat led to more reactance than an individual threat, whereas this was not the case for participants with more independent attitudes and values. (For the European American participants the regression analysis was not significant, all *ps* > .50, which is in accordance with the results from the ANOVA).

more reactance. This is another piece of evidence suggesting that the type of threat and its relation to a person's self need to be considered when predicting reactance.[12]

GENERAL DISCUSSION

In the current article we aimed to embed reactance theory in a cross-cultural context. We started with the observation in the existing literature that people with a more individualistic, independent self (compared to more collectivistic people) appear to be more likely to experience reactance when an individual freedom is threatened as usually tested in reactance studies (e.g. Buboltz et al., 1999; Imajo, 2002; Savani et al., 2008). We then reasoned that people with a collectivistic cultural background, who have a more interdependent understanding of the self and who might feel less threatened by restrictions of their individual freedom, would nevertheless show reactance when faced with a threat to the freedom of their ingroup. Therefore, we asked whether the predictions derived from reactance theory could be applied to people from both individualistic and collectivistic cultural backgrounds when differentiating between the type of freedom being threatened. In accordance with this idea, Study 1 showed that although collectivists reacted to a threat addressing their individual freedom with less reactance (compared to individualists), they showed strong reactance when the threat addressed a collective freedom.

We then reasoned that a more proximal variable to understand cross-cultural differences in reactance would lie in the direct assessment of people's self-related attitudes and values. Taking into account that the experience of reactance is tightly related to the self (Solomon, Pyszczynski, & Greenberg, 2004; Worchel, 2004), we suggested that

[12] With regard to helping as dependent variable, the corresponding interaction term was not significant in the regression analyses (all *p*'s > .38). The finding that self-related attitudes and values were not involved in the relation between culture and type of threat with regard to helping might be due to the fact that help-giving was directed toward an out-group in this paradigm (the automobile firm). The interdependent self being rather positively associated with the ingroup (Triandis, Bontempo, Villareal, Asai, & Lucca, 1988) should relate strongly to reactance when the ingroup's freedom is threatened (as we have seen with regard to our measure of the experience of reactance). However, we think the refusal of help-giving to out-group members should not be associated as strongly with the self as the immediate experience of reactance. This is in line with results of Oyserman (1993), who looked at collectivism and individualism in Arabs and Jews in Israel, and found Arabs to be slightly more collectivistic than Jews in general and at the same time agreeing more

differences in the experience of reactance between people from individualistic versus collectivistic backgrounds should be rooted in differences in the culturally determined selves. In Study 2 we therefore examined the relation between the experience of reactance in the face of a threat to an individual freedom and the self, finding more independent self-related attitudes and values more predictive of reactance. Two smaller correlational studies provided equivalent and complimentary findings in samples from a relatively more collectivistic culture. Study 3 finally established causal evidence for the mediating role of the self on the emergence of reactance by activating independent vs. interdependent attitudes and values with a priming method.

Lastly, in Study 4, we looked at the relation of threats to both individual and collective freedom, cultural background and additionally taking behavioral variables into account. We replicated the previous findings and furthermore showed that behavior in the form of subsequent help-giving intentions was mediated by the experience of reactance. In addition, we found for those from a collectivistic background that threat to a collective freedom led to greater experience of reactance when the self was more interdependent. Both Studies 1 and 4 suggested that people from collectivistic cultures felt less threatened only with regard to the elimination of freedom addressing their independent self. Yet, with regard to the elimination of freedom addressing their interdependent self they yielded strong reactance effects.

We are aware that we need to interpret our results with caution, because all experiments were based on hypothetical scenarios. However, with the results showing a consistent pattern among different scenarios (helping responses to an ingroup member, i.e. business colleague or fellow student, and more traditional notions of reactance, telling someone what to do on a trip, or restricting a consumer choice) we are led to conclude they could also be replicated with real behavior in future research. Another limitation of our

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with the item “A man of character helps his group before all else.” In this sense collectivism seems to be more closely related to helping the ingroup than to not helping the out-group.

research is that the results for the collectivists pertain mainly to collectivists living in predominantly individualistic societies. However, we think that the differential response to the individual versus collective threat based on the independent vs. interdependent attitudes and values we found in our participants still raises important theoretical issues for understanding the phenomenon of cross-cultural reactance.

Theoretical Implications

The current research suggests that paying attention to culture specific features can help improve psychological theories. Although culture has increasingly been taken into account in research and textbooks in social psychology, culture has so far primarily been addressed in a diversity sense and not in the sense of basic psychological processes (Miller, 1999). Yet researchers have already noted that well-known psychological theories such as cognitive dissonance theory or reactance theory may need modification in order to be applicable to non-individualistic cultures (e.g., Iyengar & Lepper, 1999; Worchel, 2004). In this context, it is important that culturally sensitive theories do not simply reduce culture to an environmental factor but understand culture as an active ingredient in the formation of psychological processes (Miller, 1999).

In our research we aimed to integrate culture specific aspects of the self into reactance theory. Worchel (2004) suggested that reactance theory might benefit more than many other psychological theories from a program of cross-cultural research because it deals with personal freedom, an issue that often defines and separates different cultures. However, although reactance theory stands and falls with the concept of freedom, little has been said about the meaning of freedom within reactance theory. In this research we aimed to extend the understanding of reactance processes by incorporating culturally different aspects into the definition of freedom. We found that independence is linked to reactance in the presence of threat to individual freedom and interdependence is linked to reactance in the presence of threat to collective freedom. The essence of our findings is twofold: First, it increases our confidence that threats to personal freedom meet less reactance in

interdependent than in independent contexts. At the same time, it teaches us that reactance is not a phenomenon restricted to individualism or independent attitudes, as previous research might have suggested (Buboltz et al., 1999; Dowd et al., 1994; Iyengar & Lepper, 1999; Savani et al., 2008).

Finding less reactance when associating interdependence and individual threat is a conceptual replication of the research by Savani et al. (2008), who found that people from a collectivistic background (people from India) also reacted with less reactance to a personal threat. In our studies we were able to link this phenomenon even more directly to interdependent attitudes and values. What is it about interdependence that leads to less reactance following a threat to personal freedom? According to the disjoint vs. conjoint model of agency (Markus & Kitayama, 2003b), people may not experience reactance when they are limited in their personal choices and act within the conjoint understanding of action because culturally defined normatively good actions are driven by significant others who symbolically complete the self. Therefore expectations from others and obligations to them are seen as motivating instead of being a force or pressure. In this line of reasoning another interpretation of our results seems possible: People might have experienced less reactance when confronted with a threat to their independent freedom because they felt an obligation toward an ingroup member. This could have been the case in at least two of our studies, because here participants were asked to do a favor for a person they knew, either because it was a work colleague or a student colleague. This is in accordance with Brewer and Chen's (2007) observation that collectivism can in fact operate at an interpersonal relational level rather than a generalized group level. However, in Study 2 collectivistic participants were also not affected by a threat to their independent freedom, although no other person was involved whom they could have felt connected to. In Study 3 the restricting person was a travel agent and therefore unlikely to be considered a close ingroup member. These findings support our argument that the interdependent self was less bothered by infringement of personal freedom than collective freedom.

The second theoretical implication of our research is related to the fact that we *do* indeed find reactance for collectivists – but only if *collective* aspects of freedom are threatened. This poses a problem to Savani et al. (2008)'s notion that "Reactance theory is rooted in the disjoint model of agency …" (p. 870). Based on our findings we propose that reactance theory can also be applied to people acting in the context of the conjoint model. If agency is conceptualized in terms of collectives such as groups, families or organizations (e.g., Morris, Menon, & Ames, 2001), taking away a group freedom feels threatening. Also when agency is primarily conceptualized as coming from being in relationships, taking away an interpersonal freedom is experienced as threatening. Thus, restrictions to social groups or relationships induce reactance because here the conjoint agency is threatened. We confirmed this idea for the two instances, threats to groups (Studies 1 & 4) and threats to people in relationships (Study 3). However, in future research further specifications will be fruitful when looking at threats to conjoint agency. For example, it might be also important to look whether the source of a threat comes from an out- or the ingroup.

With our findings we support Markus and Kitayama (2003b)'s emphasis that in the conjoint model there is not less agency compared to the disjoint model.There is agency and there are agents, but there is a different style of personal agency that has an interpersonal source, yet is felt by the individual as affecting the world intentionally. This bears implications for reactance theory because different kinds of threat should induce reactance (those focusing on the independent freedom relevant for disjoint agency vs. those focusing on the interdependent freedom relevant for conjoint agency). If reactance is understood as "a motivational state designed not only to restore freedom, but also to reestablish identity" as suggested by Worchel (2004, p.111), the definition of people's identity becomes crucial, either in the form of disjoint or conjoint agency. Culture influences people's attitudes and values and therefore contributes to their understanding of self and identity – and this determines how and when they experience threats to their freedom.

Practical implications

Our research is especially relevant considering the development of multi-cultural societies. When people live and work together threats to freedom are often unavoidable. They may occur in legislation, politics, within organizations, at the workplace or in education. Of course in most situations these threats are experienced as unpleasant, and often they are also experienced as arbitrary and unjustified. This leads to resistance against these often inevitable changes. However, in a multi-cultural society this state of affairs might even be more complicated and it might be even more difficult to overcome resistance. Based on different understandings of the selves, misunderstandings can arise when people with different cultural backgrounds communicate with each other. Therefore, we need to improve our understanding of how resistance to change arises in a multi-cultural society and how resistance can be overcome with the help of culture specific interventions.

One could think of a variety of interventions relevant in different contexts. Preliminary data from our lab, for example, suggest that when people's freedom is threatened collectivists seem be more strongly affected if they think about collective benefits or costs instead of individual ones (Jonas, Niesta, Graupmann, & Traut-Mattausch, 2008). Another idea might be to employ a culture specific self-affirmation intervention (see Steele, 1988). Data from a pilot study indeed show that a collective self-affirmation manipulation was more effective in reducing reactance for collectivists than an independent self-affirmation manipulation (Traut-Mattausch, Jonas, & Graupmann, 2008). More research, however, is needed with regard to interventions designed to overcome resistance to change that is due to reactance.

Conclusion

In the time of globalization, internationalization and multi-cultural teams in organizations and politics, the question of how universal reactance processes are is highly relevant. Something what is considered as a threat to one's freedom in one culture might be considered to be legitimate in a different culture. Increasing our knowledge about such

different perspectives is important wherever people live in the conflict between having the privilege of freedom but at the same time facing unavoidable constraints to freedom. This is the case, for example, where intercultural teams work together and where different cultural groups are affected by new laws or educated in one school system.

Our research suggests that the concept of freedom can be better understood in a cross-cultural context if culture specific aspects of the self and related attitudes and values are considered. These play an important role for understanding reactance processes. They seem to influence the different perception of threats to people's freedom, as well as the different meaning that is attributed to these threats. This view of understanding reactance in a cross-cultural context can be embedded in the framework recently suggested by Oyserman and Lee (2008), to understand culture producing situated cognition on the one hand, and on the other hand leading to the internalization of certain values and thinking styles, which are chronically available as a result.

The findings reported in this article underline the importance of cross-cultural research regarding reactance theory. Although reactance processes seem to be cross-culturally variable on the surface, they seem to have similar underlying mechanisms. In our research we have discovered both similarities and variations in the experience of reactance that can be understood by incorporating culture specific aspects of the self in reactance theory. We believe that in conducting cross-cultural research, it is important to identify the underlying mechanism on which cultural differences are based. This way cross-cultural implications for different psychological theories might be better understood and psychological theories can be improved.

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Figure captions

Figure 1. *Simple slopes for high versus low difference score interdependent – independent attitudes and values for Asian American/Latina/o participants in Study 4.*

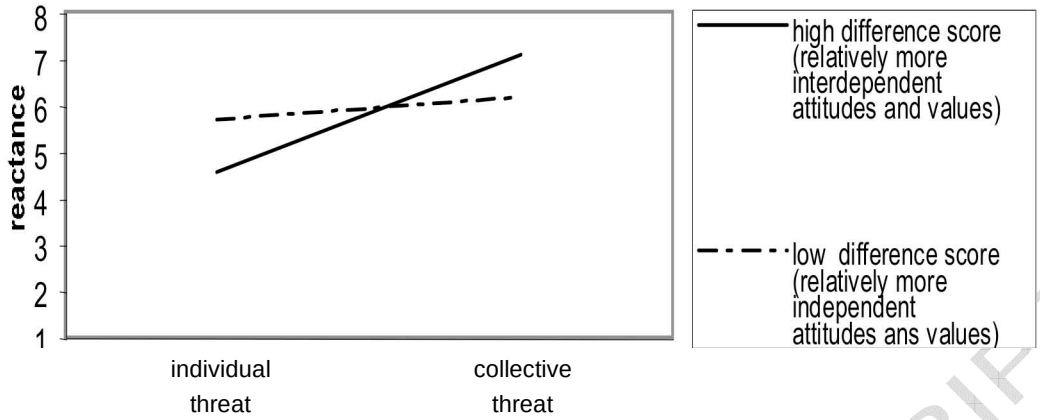

Table 1:

Means and standard deviations for the experience of reactance in Study 1

	threat			
	individual		collective	
cultural background	*M*	*SD*	*M*	*SD*
Western Europeans	6.54	1.43	5.89	0.95
	(*n* = 33)		(*n* = 34)	
East Asians	5.38	1.84	6.08	0.90
	(*n* = 19)		(*n* = 19)	

Table 2*:*

Regression analysis for the experience of reactance in Study 2

		Beta					
Step	*Variable entered*	*Step 1*	*Step 2*	R^2	*Model F*	ΔR^2	ΔF
1.	Cultural background	– .11*	– .10	.01	3.88		
2.	Difference score interdependent – independent attitudes and values		– .13**	.03	4.72	.02	5.51

* p = .05; ** p = .02

Table 3:

Means and standard deviations for the experience of reactance in Study 3

	threat			
	individual		collective	
Activation of attitudes and values	*M*	*SD*	*M*	*SD*
independent self prime	6.73 (*n* = 11)	1.55	6.32 (*n* = 18)	1.11
interdependent self prime	5.67 (*n* = 13)	1.50	6.72 (*n* = 17)	1.04

Table 4:

Means and standard deviations for the experience of reactance in Study 4

	threat			
	individual		collective	
cultural background	*M*	*SD*	*M*	*SD*
individualistic participants	6.11 (*n* = 30)	1.87	5.75 (*n* = 21)	2.09
collectivistic participants	4.81 (*n* = 17)	2.07	6.61 (*n* = 23)	1.74

Table 5:

Means and standard deviations for help-giving in Study 4

	threat			
	individual		collective	
cultural background	*M*	*SD*	*M*	*SD*
individualistic participants	5.60 (*n* = 30)	2.54	4.98 (*n* = 21)	2.82
collectivistic participants	7.32 (*n* = 17)	2.19	4.33 (*n* = 23)	2.58