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Can language prime culture in Hispanics? The differential impact of self-construals in predicting intention to use a condom

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Abstract

The highly influential theory of planned behavior suggests that norms and attitudes predict an important antecedent of behavior: intention. Cross-cultural research suggests that culturally influenced self-construals can be primed and differentially affect behaviors that are influenced by norms and attitudes. The purpose of this experiment was twofold: (1) To investigate whether language functions as a prime for culture in Hispanics, and (2) if so, if norms and attitudes differentially predict condom use intention. Fluent English–Spanish bilingual participants ($N=145$) of Mexican descent were randomly assigned to answer questionnaires in English and Spanish. Subjective norms and private evaluations towards condom use were assessed and their relative strength in predicting condom use intention was evaluated. Results suggest that language can prime culture and affect the relative accessibility of culture-relevant norms and self-construals in Hispanics. Moreover, consistent with our expectations, norms and attitudes differentially predicted condom use intention.

Keywords

Hispanic; Condom use; Norms; Prime culture

Research on the determinants of condom use has incorporated traditional behavior change theories such as the theory of planned behavior (Ajzen, 2001). This theory conceptualizes individuals as independent agents who make decisions based on a cost-benefit ratio, and suggests that intention to perform a behavior can be predicted by attitudes and subjective norms, among other variables. Attitudes refer to beliefs about the possible consequences of the behavior whereas norms refer to evaluations of our behavior by important others (Fishbein & Ajzen, 1975). Recent meta-analyses have indeed shown that norms and attitudes do predict intention to use a condom (Sheeran & Taylor, 1999; Albarracín, Fishbein, Johnson, & Muellerleile, 2001). However, there is a need to understand mediators and moderators of interventions derived from the theory (see Albarracín et al., 2005).

The purpose of the present research is to understand whether contextual determinants of condom use, such as norms, influence intention to the same extent as private evaluations in a Hispanic sample that might be more prone to normative influence as a result of cultural socialization practices. This is of particular importance since traditional Hispanic cultural scripts include the idea that sexuality is embarrassing, discussions regarding sexual

preferences or practices are considered taboo, and those who are easily embarrassed are less likely to use condoms (Marin, Gomez & Tschann, 1993; Marín & Marín, 1992). Using a bilingual/bicultural sample permits a test of the relative influence of attitudes versus norms on intention to use a condom. This goal is timely, given the wealth of research that underscores the importance of culture in defining the self-concept and what is considered of value (see Kitayama & Cohen, 2007).

IDIOCENTRISM–ALLOCENTRISM AND THE SELF

One dimension that differentiates the self-concept across cultures in a consistent manner is idiocentrism–allocentrism (Triandis, 1989). Triandis' work suggests cultural differences in the way the self is conceptualized and organized. In particular, members of collectivist cultures perceive the self as an extension of the ingroup, whereas members of individualist cultures perceive the self as unique and separate from others. Collectivist societies engender an allocentric view of self while individualist societies engender an idiocentric view (Markus & Kitayama, 1991). In short, cognitions of the allocentric individual will be organized around important others and refer to some collective, while cognitions of the idiocentric individual will be organized around the individualized self and refer to traits and attitudes pertinent to it. It is expected that individuals who engender an allocentric self will assign more weight to what important others may think (norms) when considering behavioral options, compared to individuals engendering an idiocentric self who might rely more on personal evaluations (attitudes).

EXPERIMENTAL STUDY OF CULTURE

Hong, Morris, Chiu, and Benet-Martinez (2000) called for the study of culture and cognition to be approached from an experimental standpoint. They reviewed several studies showing that exposing bicultural individuals to cultural cues (e.g., culture-related symbols) activates beliefs, attitudes, and values associated with that particular culture. Studies using this experimental manipulation have shown effects on memory (Marian & Kaushanskaya, 2004; Marian & Neisser, 2000), self-construal (Kimmelmeier & Cheng, 2004; Ross, Xun, & Wilson, 2002), behavior attribution (Benet-Martinez, Leu, Lee, & Morris, 2002), and attitudes (Verkuyten & Pouliasi, 2002). Such methodology, in contrast to traditional cross-national comparisons, permits analysis of mediating variables through which culture exerts an effect. Moreover, it allows investigators to unpack cultural dimensions (e.g., individualism/collectivism) and observe associated changes in other constructs (Oyserman & Lee, 2007). Oyserman and Lee (2007) found 67 published studies using culture priming methodology in English, German, Dutch, and Chinese.

Research suggests that language can function as a cue to activate culturally relevant views and norms (see Chiu & Chen, 2004). Ross et al. (2002) conducted a study to investigate whether randomly assigning Chinese and Canadian-born bilingual participants to answer questionnaires in either Chinese—a language associated with a collectivist culture—or English had an effect on self-construal, self-esteem, and cultural views. Results showed that participants answering in Chinese used more open-ended collective statements to define the self, reported lower self-esteem, and greater agreement with Chinese cultural views. In another study Kimmelmeier and Cheng (2004) replicated these results in another sample of bilingual participants of Chinese descent.

The present study extends previous investigations by determining whether culture can be primed through language in Mexican-American bilinguals. It also investigates whether priming culture through language influences the weight assigned to predictors of condom use intention. Thus, if language primes culture, culture-pertinent cognitions should be made salient and differentially influence intention to use a condom. Mexican culture is considered

to be collectivist (Hofstede, 1980), therefore Spanish should bring forth an allocentric self-construal, making norms stronger predictors of intention to use a condom, relative to attitudes. Conversely, English, which is associated with an individualist culture, should make an idiocentric self-construal more accessible, making attitudes stronger predictors of intention to use a condom, relative to norms.

METHOD

Participants

Participants were 182 English–Spanish bilingual students at a university in a USA–Mexico border city (88 males and 94 females), with a mean age of 20.34 years ($SD = 4.05$). Seventy-three participants (34 males and 39 females) with a mean age of 19.89 years ($SD = 4.26$) who had lived in the USA for an average of 14.18 years ($SD = 8.3$) participated in English. Seventy-two participants (31 males and 41 females) who had lived in the USA for an average of 13.07 years ($SD = 8.8$) participated in Spanish. Thirty-seven participants (23 males and 14 females) with a mean age of 20.92 ($SD = 2.24$) who had lived in the USA for an average of one year ($SD = 0.20$) and were taking an Introduction to Psychology course in Spanish served as the control group. The rationale for including a control group was that if culture primes language, then the Spanish condition group should resemble the control group.

Procedure

Participants were randomly assigned to answer questionnaires in either English or Spanish. In the control condition, measures were administered in Spanish. An English–Spanish bilingual experimenter conducted all experimental sessions. All questionnaires were translated from English to Spanish and then back-translated by independent translators (Brislin, 1980). Self-construal and ethnic identity scales were used as manipulation checks. If language primes culture, there should be associated changes in these constructs. It was expected that participants answering in English would exhibit decreased collectivism scores on the self-construal scale, and greater identification with US culture on the ethnic identity questionnaire, when compared to participants answering in Spanish. Questions assessing condom use intention and attitudes were counterbalanced to determine whether order had an effect on intention.

Measures

Demographics questionnaire—Participants provided sex, age, birthplace, length of residency, and length of education in the USA. In addition, participants in the English and Spanish conditions answered a language history questionnaire where they self-reported writing, reading, and speaking proficiencies in addition to language acquisition age. Response options were recorded on a 10-point Likert-type scale ranging from “1 = not at all” to “10 = very well.” Such self-ratings of language proficiency have demonstrated validity in bilingual Hispanic college students (Delgado, Guerrero, Goggin, & Ellis, 1999).

Condom intention and use—Intention was assessed with four items asking participants’ intentions to: (1) use a condom, (2) suggest its use to a partner, (3) insist on its use, and (4) reject the use of a condom if a partner wants one. Following the procedure used by Helweg-Larsen and Collins (1994), participants were asked to “imagine that you have just begun dating a new person and you are going to have sex for the first time. You know that you and your partner do not use birth control pills.” Responses were assessed on a seven-point Likert-type scale with options ranging from “1 = very unlikely” to “7 = very likely.” Item 4 was reverse scored. The Cronbach alphas for the intention scale were .70, .71, and .87 for the English, Spanish, and control conditions, respectively. Condom use was assessed with an

item asking participants how often they used a condom during intercourse over the past year. Responses were assessed with a seven-point Likert-type scale with options ranging from “1 = never” to “7 = always.” Moreover, a “does not apply” option was provided to participants. In the computation of a mean score for this item, participants who answered “does not apply” were excluded from the analysis.

Condom attitudes and norms—The UCLA Multidimensional Condom Attitude Scale (Helweg-Larsen & Collins, 1994) was administered to participants. The scale is composed of 25 items that assess opinions associated with condoms’ reliability as a protection and contraception method (e.g., “condoms are an effective method of birth control”), pleasure associated with condom use (e.g., “the use of condoms can make sex more stimulating”), stigma associated with condom use (e.g., “men who suggest using condoms are really boring”), embarrassment about negotiation and use (e.g., “when I suggest using a condom I am almost always embarrassed”), and embarrassment associated with purchase of condoms (e.g., “it is very embarrassing to buy condoms”). Items were assessed on a seven-point Likert-type scale with options ranging from “1 = strongly disagree” to “7 = strongly agree.” This scale was chosen because it assesses opinions derived from social norms, such as embarrassment about negotiation and use, as well as more general private evaluations, such as reliability and effectiveness of condoms as a protection method. For example, Helweg-Larsen and Collins (1994) conceptualized the construct of embarrassment about negotiation and use as resulting mainly from social impression management concerns. Thus, this factor can be considered subject to the influence of what important others might think, or norms. Attitudes about reliability, on the other hand, tap health consequences associated with use which are guided more by private evaluations rather than norms. Thus, it is expected that when an allocentric conceptualization of the self is brought to the fore norms should weigh more heavily and conversely, when an idiocentric conceptualization of the self is brought to the fore private evaluations should weigh more heavily in future intention to use a condom. In testing this prediction, we used the reliability and embarrassment factors, given that these subscales may be influenced by other contextual variables, such as previous experience with condom use and availability of condoms, to a lesser extent when compared to the pleasure, stigma, and purchase factors. We hypothesized that the reliability factor contrasted most strongly with the embarrassment factor in proneness to the influence of general private evaluations. Cronbach alphas for the Embarrassment scale were .68, .59, and .66 for the English, Spanish, and control conditions, respectively. Cronbach alphas for the Reliability scale were .76, .79, and .72 for the English, Spanish, and control conditions, respectively.

Other measures of attitudes and norms—An item assessing participants’ general attitude about condom use was included. This item asked participants to rate, using a seven-point Likert-type scale, how positively they view using a condom when having sexual relations. Response options for this item ranged from “1 = not at all positive” to “7 = very positive.” Moreover, an item assessing the view of important others, otherwise known as subjective norms, was also included. This item asked participants about the frequency with which friends and relatives recommend the use of condoms. Responses were assessed on a four-point Likert-type scale, with options that ranged from “1 = never” to “4 = very frequently.”

Self-construal—Self-construal was assessed with the allocentrism scale developed by Hui and Yee (1994). The scale contains 36 items that assess interdependent self-construals. According to the authors, the scale contains five subscales, subsumed under two higher order factors. The higher order “in-group solidarity” factor includes colleagues’ and friends’ supportive exchanges (e.g., “if a colleague offers you help, one must return the favor”), parents’ consultation and sharing (e.g., “young people should take into account their parent’s

advice about dating”), and parents’ and spouse’s distinctiveness of personal identity (e.g., “if the husband is a sport fanatic a wife should also cultivate an interest in the sport”). The higher order “social obligation” factor includes kin susceptibility to influence (e.g., “when deciding what type of education to have I would definitely pay attention to the point of view of relatives of my generation”), and neighbor susceptibility to influence (e.g., “the mood of my neighbors usually influences me”). Response options were assessed on a seven-point Likert-type scale with options ranging from “1 = completely disagree” to “7 = completely agree.” Cronbach alphas for the full scale were .60, .73, and .63 for the English, Spanish, and control conditions, respectively.

Acculturation—Acculturation was assessed with the Abbreviated Multidimensional Acculturation Scale developed by Zea, Asner-Self, Birman, and Buki (2003). This instrument assesses affiliation to heritage and host culture separately and is composed of 42 items and three subscales that measure language use (e.g., “how well do you speak English/ language of origin at work?”), ethnic identity (e.g., “I consider myself as being US American/member of culture of origin”), and cultural knowledge (e.g., “how well do you know American national heroes?”). Responses were assessed on a seven-point Likert-type scale with response options ranging from “1 = strongly disagree/not at all” and “7 = strongly agree/ extremely well.” Cronbach alphas were .88, .85, and .81 for the English, Spanish, and control conditions, respectively.

RESULTS

Language acquisition and proficiency

Participants in the English condition reported a mean English proficiency level of 9.23 ($SD = 3.44$) and a mean Spanish proficiency level of 8.36 ($SD = 1.83$). Similarly, participants in the Spanish condition reported a mean English proficiency level of 9.45 ($SD = 3.71$) and a mean Spanish proficiency level of 9.10 ($SD = 3.89$). An independent samples t -test indicated that proficiency levels in neither English, $t(124) = 0.44$, $p = ns$, nor Spanish, $t(114) = 1.33$, $p = ns$, were significantly different across experimental conditions.

Manipulation check

A multivariate analysis of variance with the ingroup and social obligation factors as dependent variables and language condition as the between-subjects variable was computed to test whether culturally relevant variables shifted as a function of language. There was a significant between-subjects effect of language on the ingroup solidarity factor, $F(1, 144) = 6.19$, $p < .05$, $\eta^2 = .04$. No significant differences were detected on the social obligation factor, $F(1, 144) = 0.003$, $p = ns$. However, the effect of the language manipulation was also observed on ethnic identity, complementing the effect observed on the ingroup subscale of the allocentrism instrument and indicating that the priming manipulation did exert an effect. In this case, a reverse priming effect was observed. Participants answering in Spanish reported higher identification with American culture, $F(1, 143) = 4.69$, $p < .05$. This result is congruent with previous work that has shown that exposure to cultural primes may exert a differential priming effect (Benet-Martinez et al., 2002). The order of presentation of materials did not have a significant effect, $F(1, 139) = 2.39$, $p = ns$. Lastly, because allocentrism has previously been shown to vary as a function of gender, an independent samples t -test was conducted to test for this effect. Results indicated that females scored a higher mean on allocentrism than males, $t(175) = 1.88$, $p = .06$.

Intention to use a condom

A series of blocked hierarchical regression analyses were computed, per subsample, to investigate the effect of the independent variables on intention to use a condom. Table 1

presents descriptive statistics across groups. Table 2 presents the correlation coefficients for condom use intention and the independent variables across groups. In each regression equation, the item assessing private evaluation of condom use was entered in the first step. The item assessing recommendation of condom use by relatives was entered in the second step. The subscale assessing attitudes about reliability of condoms as a contraceptive and protective method was entered in the third step. The subscale assessing embarrassment about negotiation and use was entered in the last step. Table 3 presents the regression weights for the last step of the regression equation before and after controlling for condom use. Before controlling for condom use, results were as follows: In the English condition, the item assessing a private evaluation of condom use significantly predicted condom use intention, but none of the subsequent variables predicted significant additional variance. In the Spanish condition, both the item assessing private evaluation of condom use and the item assessing recommendation of condom use by relatives significantly predicted condom use intention, but attitudes about condom use did not significantly predict additional variance. Lastly, as predicted, embarrassment did predict a significant proportion of additional variance. In the control condition, the item assessing private evaluation of condom use marginally predicted condom intention. The addition of the item assessing recommendation of condom use by relatives and friends and attitudes about reliability did not significantly predict additional variance. Lastly, similarly to the Spanish condition, embarrassment did predict a significant proportion of additional variance.

Past condom use was an important predictor of future intention to use a condom (see Table 3). Thus, the results of the regression equations after controlling for condom use were as follows (see Table 3): In the English condition, the item assessing private evaluation of condom use remained a significant predictor of condom use intention. As before, none of the additional variables entered in the subsequent steps of the equation predicted a significant proportion of additional variance. In the Spanish condition, the item assessing recommendation of condom use by relatives and friends remained a marginally significant predictor, along with embarrassment. In the control condition, embarrassment remained as a significant predictor after controlling for past condom use.

To formally test whether experimental condition (English versus Spanish) moderated the relationships observed between attitudes about reliability and embarrassment and intention, experimental condition was “dummy coded” to allow for comparison of the Spanish and control conditions (coded “1”) with the English condition (coded “0”). A blocked hierarchical regression analysis was conducted, entering experimental condition in the first step. In the second step, the attitude about reliability was entered. In the third step, embarrassment was entered. In the fifth and sixth steps, the product of experimental condition and attitudes about reliability and embarrassment were entered, respectively. Results were as follows: Reliability ($\beta = .62, p < .01$) emerged as a significant predictor of condom use intention. More importantly, both the products of reliability and experimental condition ($\beta = -.30, p < .05$) and embarrassment and experimental condition ($\beta = .23, p < .05$) emerged as significant predictors.

Lastly, multigroup structural equation modeling was undertaken to formally investigate path coefficient invariance across the English and Spanish groups. The analysis was conducted with reliability and embarrassment as predictors of condom use intention. The path coefficients between the reliability and embarrassment scores and condom use intention were constrained to equality across the English and Spanish groups. The χ^2 statistic yielded before and after constraining the paths for equality were compared. If the paths are in fact invariant across groups, the χ^2 difference between the constrained and unconstrained models should be non-significant (Byrne, 2001). Indices of model fit corroborated path coefficient structure variability in the intention–reliability and intention–embarrassment

links across the two groups. The unconstrained model yielded $\chi^2(109) = 242.25, p < .001$. When the path coefficients were constrained across groups, the model yielded $\chi^2(120) = 324.65, p < .001$, which yielded a difference of $\chi^2(11df) = 82.39$, significant at $p < .001$. The results of the nested χ^2 indicate that the null hypothesis that the path coefficients are invariant across groups can be rejected, lending support to our hypothesis.

Analysis of mediation

Following the same rationale as before, if culture primes cognitions one would expect that collectivism would mediate the association between norm-relevant attitudes and intention. Since the main purpose of the present study was to investigate the relative impact of norms on intention to use a condom, a mediation analysis was conducted to investigate whether, indeed, allocentrism explained the association between embarrassment and intention to use a condom in the Spanish and control conditions. Allocentrism partially mediated the influence of embarrassment of use on intention only in the Spanish condition (see Figure 1), Sobel test statistic = 1.69, $p < .05$. The bootstrapped estimate of the indirect effect (Preacher & Hayes, 2004) was significant, with a 95% confidence interval ranging from .01 to .22.

DISCUSSION

Hong et al. (2000) encouraged the field to conceptualize culture as a dynamic construct that exerts its effect depending on contextual factors rather than as a lens that colors our perception continuously. Research operationalizing culture as a dynamic construct has emerged, mostly with Asian populations (see Oyserman & Lee, 2007). Results from this study provide support for the idea that Hispanic culture exerts its effect in a dynamic fashion. Specifically, results showed that participants answering in Spanish reported greater in-group solidarity, which is associated with an allocentric self-construal. Consistent with previous empirical observations, there was a reverse priming effect (Yang & Bond, 1980; Benet-Martinez et al., 2002) on ethnic identity. Participants answering in Spanish reported higher identification with American culture. Researchers have termed this effect the “ethnic affirmation effect” and have suggested that context is an important determinant of the influence that language, as a carrier of culture, will exert (Chiu & Chen, 2004). However, in the context of the present study, the specific contextual reasons behind this effect remain elusive. Researchers have proposed that individual difference variables, such as the extent to which bicultural identities are perceived as incompatible, influence the magnitude of this reverse priming effect (see Benet-Martinez et al., 2002). Although testing this hypothesis was beyond the scope of this study, it is important to conduct future investigations documenting situation-specific reasons behind this effect.

We consider the present work of importance given that it extends previous investigations assessing the effect of self-construal on cognition and its impact on behavioral intention (see Ybarra & Trafimow, 1998) by using language as a prime. Results indicate that when an idiocentric cultural perspective was activated, attitudes predicted the greatest amount of variance in condom use intention. Conversely, when an allocentric cultural perspective was activated, cognitions related to social impression management predicted the greatest amount of variance. The outcome of the control condition was similar to that in the Spanish condition. In both, norms emerged as significant predictors when compared to the English condition.

An important limitation of the present study was the use of single items to assess attitudes and subjective norms. However, the lengthier reliability and embarrassment subscales were also included in an attempt to measure these two important constructs. Also, not all components of the theory of planned behavior were included in the present study. For

example, control perceptions are an essential part of the theory that should be investigated for differential impact on condom use intention in future studies.

One possible alternate explanation for the results observed is expectancy effects. Language priming effects may be partially explained by participants' expectations that the experimenter is from the culture associated with the language of the questionnaire (Briley, Morris, & Simonson, 2005). Thus, participants' behavior may change as a result of a desire to conform to what the experimenter expects, rather than the language used. Although this is a plausible explanation for language priming research overall, we believe that it is less plausible in the context of the present study, since the experimental sessions were language-mixed and the experimenter gave instructions both in English and Spanish at the beginning of each. Thus, participants were fully aware that the experimenter was bilingual. However, this alternate explanation might be tested more formally in a future study by manipulating the expectancy effects of participants and explicitly telling them who the audience will be.

It may be relevant to investigate the generalizability of these results by assessing the effectiveness of risk-reduction interventions that might be differentially influenced by social norms and general attitudes in bicultural–bilingual populations. For example, researchers can take advantage of the situational specificity of culture and investigate whether delivering matched culture–language interventions results in greater risk reduction. If norms and attitudes become differentially primed depending on available cues (e.g., language), then one should expect that matched treatments will increase the probability that either predictor of behavioral intention (norms versus attitudes) will be accessible, reducing the likelihood of risky behavior.

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Figure 1. Relationships between the embarrassment factor, allocentrism, and intention to use a condom. In the embarrassment subscale high scores indicate less embarrassment. * $p < .05$; ** $p < .01$.

TABLE 1

Descriptive statistics

	English		Spanish		Control	
	M	SD	M	SD	M	SD
Norm	2.44	0.98	2.08	1.02	1.81	0.89
Attitude	6.45	1.24	6.40	0.94	6.26	1.21
Reliability	5.22	1.03	5.14	1.11	5.11	0.92
Embarrassment	5.19	0.94	5.44	0.96	5.92	0.37
Allocentrism	-0.02	0.38	0.02	0.39	-0.07	1.03
Past use	6.33	2.14	5.71	2.26	5.68	2.22
Use intention	6.25	1.06	6.14	1.01	6.16	1.12

TABLE 2

Correlations between condom use intention and independent variables

	English	Spanish	Control
Attitude	.35 **	.26 *	.18
Norms	.18	.33 **	.39 *
Reliability	.26 *	.07	.13
Embarrassment	.12	.33 **	.35 *
Allocentrism	-.07	-.45 **	-.00

*
 $p < .05$;**
 $p < .01$.

TABLE 3
Regression of intention to use a condom before and after controlling for past condom use

	English			Spanish			Control		
	β	$R^2\Delta$	β	$R^2\Delta$	β	$R^2\Delta$	β	$R^2\Delta$	β
Attitude	.28*	.12**	.21§	.07*	.09	.08†			
Norms	-.09	.01	-.20	.08*	-.10	.04			
Reliability	.12	.01	-.03	.00	.04	.00			
Embarrassment	.01	.00	.23*	.04*	.43**	.15**			
<i>After controlling for past condom use</i>									
Past condom use	.47**	.22**	.42**	.17**	.39**	.15**			
Attitude	.15	.05*	.11	.02	.05	.03			
Norms	.12	.02	-.01	.00	-.02	.00			
Reliability	-.06	.00	-.18	.06*	-.05	.01			
Embarrassment	.10	.01	.20§	.03§	.40*	.12*			

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