Highlights

International Journal of Intercultural Relations xxx (2012) xxx–xxx

Mitigating inter- and intra-group ethnocentrism: Comparing the effects of culture knowledge, exposure, and uncertainty intolerance

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► We examine potential interventions and inter- and intragroup ethnocentrism. ► Reduced ethnocentrism was engendered by uncertainty tolerance but not cultural knowledge. ► Findings support interventions that focus learner attention on intra-group and intraindividual processes.

Mitigating inter- and intra-group ethnocentrism: Comparing the effects of culture knowledge, exposure, and uncertainty intolerance

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ABSTRACT

Although there are indeed many hindrances to intercultural communication, the most frequently discussed (and perhaps most potent) is ethnocentrism. Very recently, views of ethnocentrism have refocused and the present study was consequently designed to investigate these changes in relation to both traditional and potential new pedagogical interventions. Specifically, we sought to observe how, among a sample of intercultural communication student respondents, cultural knowledge, cultural exposure, uncertainty intolerance, stress, intergroup ethnocentrism, and intragroup ethnocentrism all interrelate. Overall, these findings suggest that a staple pedagogical approach is perhaps less effective than a potential new one: reduced levels of both forms of ethnocentrism were engendered by uncertainty tolerance but not cultural knowledge.

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1. Introduction

A hindrance is defined as "a thing that provides resistance, delay, or obstruction to something or someone" (McKean, 2005, para 1). In the case of intercultural interaction, a hindrance is anything that prevents either literal or symbolic contact with someone of another culture. This may include "macro" institutional forces that minimize intergroup interaction (e.g., segregated housing), interpersonal factors that diminish connection (e.g., language barriers), or finally, "micro" intrapersonal dynamics that discourage engaging with extant cultural differences (e.g., viewing an interracial conversation exclusively from a "colorblind" perspective). Although there are indeed many hindrances to intercultural interaction, the most frequently discussed (and perhaps most potent) is ethnocentrism.

Ethnocentrism was originally defined by Sumner (1906) as "the technical name for this view of things in which one's own group is the center of everything, and all others are scaled and rated with reference to it. . . Each group nourishes its own pride and vanity, boasts itself superior, exalts its own divinities, and looks with contempt on outsiders" (p. 13). Since that time, ethnocentrism has been treated largely as "the tendency to form and maintain negative evaluations and hostility toward multiple groups that are not one's own" (Cunningham, Nezlek, & Banaji, 2004, p. 1333). As such, Bizumic, Duckitt, Popadic, Dru, and Krauss (2009, p. 872) note that ethnocentrism "is considered to be a fundamental social scientific concept". Accordingly, researchers have devoted much time and attention to studying the concept.

On its face, a tendency for negative outgroup evaluations should be a major hindrance for intercultural interaction. Indeed, textbook authors typically describe high levels of ethnocentrism as innately detrimental to intercultural communication (e.g., Gudykunst & Kim, 2003; Martin & Nakayama, 2007; Neuliep, 2006). In the words of two such authors, "ethnocentrism produces emotional reactions to cultural differences that reduce people's willingness to understand disparate cultural messages" (Lustig & Koester, 2010, p. 150).

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Of course, the negative relationship between ethnocentrism and intercultural interaction has not merely been presumed, it has also been demonstrated across a wide range of studies. For example, studies in psychology have found that among a host of variables expected to influence intercultural adjustment, ethnocentrism has consistently emerged as a leading (negative) contributor (Matsumoto, Leroux, & Yoo, 2005). According to the results of one study "ethnocentrism weakens the motivation to interact with people from other cultures" (Arasaratnam & Banerjee, 2007, p. 303). Thus it is not surprising to find elsewhere that ethnocentrism decreases the propensity to form intercultural friendships (Harrison, 2012) and increases intercultural communication apprehension (Lin & Rancer, 2003) as well as homonegativity and religious fundamentalism (Wrench, Corrigan, McCroskey, & Punyanunt-Carter, 2006). As Wrench et al. sum it up, "ethnocentrism is clearly such an important predictor of intercultural communication" (p. 26). Because of this central role, it is important for intercultural scholars and practitioners alike to keep pace with our evolving appreciation of both the form and function of ethnocentrism.

1.1. The changing face of ethnocentrism

During the early 20th century, psychologists viewed ethnocentrism as a generalized prejudice and, in turn, prejudice as an irrational and "faulty" process (Duckitt, 1992). It was thought there must be something wrong with individuals who maintain such negative evaluations and hostility toward outgroup others. However, in 1954 Allport published his seminal book "The Nature of Prejudice" and psychology began to appreciate prejudice as a "normal" process. In his words, "the human mind must think with the aid of categories... Categories are the basis of normal prejudgment. We cannot possibly avoid this process" (Allport, 1954, p. 20). With this, scholars came to understand that because human beings employ categories to order a world that is otherwise "one great blooming, buzzing confusion" (James, 1890, p. 488), ethnocentrism and prejudice naturally manifest when we rely too rigidly on these sense-making structures. As Matsumoto et al. more recently put it, "our ethnocentric and stereotypic ways of thinking, which are themselves normal, psychological functions, make it easy for us to create negative value judgments about those differences, conflicts, and misunderstandings" (Matsumoto et al., 2005, pp. 17–18). This more recent picture of ethnocentrism developed over the course of the last fifty years and is the one on which scholars rely today. Recently, though, our appreciation of the concept has begun to change yet again.

Despite its centrality, problems have arisen over the years because ethnocentrism has remained a poorly defined concept; it has been discussed in such broad terms and applied so widely that some scholars have even deemed it useless (Heaven, Rajab, & Ray, 1985). Very recently, however, Bizumic and his colleagues have helped bring much-needed clarity to the idea (Bizumic & Duckitt, 2008; Bizumic et al., 2009). After reviewing Sumner's original definition, as well as a wide range of literature, Bizumic et al. concluded that rather than continuing, in some instances, to overemphasize the prejudicial aspects of ethnocentrism (e.g., "a feeling of hostility toward outgroup members"; Hooghe and Quintelier, in press, p. 5), we should return to the more expansive view in which it is "seen as ethnic group self-centeredness" (p. 872). Consequently, "mere ingroup positivity and outgroup negativity should be seen as conceptually distinct potential correlates of [this] ethnic group self-centeredness" (p. 872). In their view then, ethnocentrism is best understood "as the group level analogue to narcissism" (p. 874), not mere group prejudice. Of course, ethnocentrism qua group narcissism still engenders both outgroup negativity and ingroup positivity, thus the approach of Bizumic et al. does not exclude many present treatments of the concept. Instead, their reformulation appears aimed at returning scholarly attention to its intragroup aspects.

The normalization of prejudice that began with Allport has led many scholars to treat ethnocentrism largely as a process of viewing one's own group as superior to others (e.g., Brewer & Campbell, 1976; Perreault & Bourhis, 1999). In contrast, this new view shifts the emphasis of ethnocentrism by framing it as a process of ingroup social categorization grounded in an individual's need for clear group norms and boundaries (i.e., entitativity; see Hamilton & Sherman, 1996). Bizumic et al. advocate that ethnocentrism is, at heart, an intragroup process that also includes many important intergroup features. Though this reconceptualization is hardly orthodox, it would be remiss for scholars to continue neglect of its intragroup attributes. Understanding ethnocentrism in both inter- and intragroup terms is important across many domains of research and practice-particularly intercultural pedagogy.

It stands to reason that If intercultural scholars teach and train to mitigate the hindrance of ethnocentrism, we must now understand how this newly distinct *intra*group formulation, grounded in entitativity, relates to the more traditional *inter*group designation, grounded in outgroup prejudice. A focus on cultural others may be appropriate when educators want to address the problem of intergroup negativity, however it may have little impact on ingroup positivity. Because intragroup ethnocentrism involves group self-centeredness and self-importance, encouraging students to explore the nature of their own ingroup identities might be a more useful intervention for this form of hindrance. Indeed, examining one's own cultural or ethnic group identity (e.g., what is the group history? What are features of the identity?) may lead individuals to amend their otherwise blinkered, reflexive responses. For example, in our experience, many white students in the U.S. do not see racial identities, their own or others, quite the same way after considering that "there were no 'white' people in Europe before 1492" (Loewen, 1995, p. 67). Although the outcome of this sort of exploration is not guaranteed, it does have the potential, on its face, to minimize intragroup ethnocentrism. Of course, as the construct is so newly deliniated, the impact of any intervention directly targeting intragroup ethnocentrism remains unexplored. Moreover, we do not know how such interventions may compare to more traditional pedagogical strategies in mitigating both inter- and intragroup forms of ethnocentrism. Research is thus needed that begins to examine these questions.

1.2. The pedagogy of ethnocentrism mitigation

It is useful to begin with a brief review of traditional pedagogical strategies. Broadly speaking, intercultural communication teachers and trainers typically employ two main approaches: didactic and experiential (Gudykunst, Guzley, & Hammer, 1996; Milhouse, 1996). The aim of any didactic approach is to provide participants with both culture-general and culture-specific information whereas experiential approaches hope to engage learners in some culture-relevant activity. Regarding didactic methods, it is believed that if cultural group members hold misinformed views, these views can be corrected (and intercultural communication subsequently improved) with provision of "the facts". As Pettijohn and Naples (2009) note, "one way to combat the limited cross-cultural knowledge and ethnocentric attitudes would be to offer specific cross-cultural content classes at colleges across the country" (p. 1). Although the assumption that intercultural relations can be improved by combating ignorance with information has been critiqued (Gudykunst & Hammer, 1983; Harrison & Hopkins, 1967), it nevertheless undergirds much of what trainers, and especially teachers, do (i.e., provide information). Fortunately, there is some limited evidence demonstrating the effectiveness of such didactic approaches. For example, Hogan and Mallott (2005) found that students who completed a diversity course reported less racism and greater intergroup tolerance than those students who did not take the course. Alongside this, Gannon and Poon (1997) observed higher levels of cultural awareness among participants after didactic training. Finally, Neto (2006) reported that an intercultural relations course did indeed improve students' overall ethnic tolerance. It is worth noting, of course, there is no evidence regarding the effect of cultural information on intragroup forms of ethnocentrism.

In addition to didactic techniques that provide information, intercultural teachers and trainers also employ experiential approaches that aim to expose learners to cultural outsiders. Such experiences may include either in-class activities (e.g., class discussions or culture simulations such as Barnga – Thiagarajan, 2006) or extra-class involvement in community organizations. The record for in-class experiences is decidedly mixed: there is indeed evidence that class participation can mitigate intergroup ethnocentrism (Pettijohn & Naples, 2009), though simply increasing classroom diversity (Dejaeghere, Hooghe, & Claes, 2012) or using culture simulations (Bruschke, Gartner, & Seiter, 1993) may not be sufficient. Regarding extra-class experiences, the record is more clear: ethnocentrism can be mitigated by service-learning experiences (Borden, 2007), participation in cultural events (Klak & Martin, 2003), and study abroad experiences (Hansel, 2008). Again, it is worth noting that these studies assessed outcomes related to intergroup, but not intragroup, ethnocentrism.

Because intragroup ethnocentrism is a newly delineated concept, teachers and trainers should now consider additional avenues for mitigation beyond the traditional didactic and experiential techniques just described. Toward this end, Uncertainty-Identity Theory (UIT, Hogg, 2009) suggests one such approach. Specifically, the theory outlines that because ethnocentrism provides a comforting sense of certainty, training people to tolerate uncertainty may lead to diminished levels of both inter- and intragroup ethnocentrism.

Though uncertainty tolerance training is newly popular in therapeutic circles (e.g., acceptance based therapies, see Roemer & Orsillo, 2009), it has not yet been applied in intercultural contexts. Even so, the role that openness toward uncertainty may play in these situations has already been considered. For example, Caligiuri, Jacobs, and Farr (2000) developed the Attitudinal and Behavioral Openness Scale (ABOS) to predict who would be most successful in multicultural settings. Similarly, Engle and Engle (2004) observed a connection between uncertainty and anxiety in intercultural contexts; in their words, "when students. . . do not wish to focus on cultural difference, the desire for comfort dominates" (p. 231). Of course, Gudykunst (1995) emphasized the importance of uncertainty and anxiety in intercultural interactions with Anxiety/Uncertainty Management (AUM) Theory. Despite this attention however, there has been no research directly tying uncertainty intolerance to ethnocentrism in intercultural contexts (cf., O'Connor, 1952).

Uncertainty intolerance and ethnocentrism are perhaps indirectly linked in a study conducted by Arasaratnam and Banerjee (2010). In a test of their model of intercultural communication competence, the researchers found that sensation seeking correlated negatively with ethnocentrism. Although sensation seeking (i.e., the need for varied experience) is not conceptually equivalent to the tolerance of uncertainty, they are nevertheless associated concepts (McLain, 1993). Thus in intercultural contexts, the desire for novelty and the capacity to cope with its inherent ambiguity may mitigate ethnocentric reactions. Interestingly, related research on one of the so-called 'Big Five' personality traits (see Soldz & Vaillant, 1999), openness, has connected all of these constructs together. Openness has been linked to both the tolerance of uncertainty (Silvia & Kashdan, 2009), sensation seeking (Rawlings & Furnham, 2000; Rawlings, Twomey, & Morris, 1998), and has been found to predict reduced levels of ethnocentrism (Harrison, 2012). Of course, any immediate link between uncertainty intolerance and ethnocentrism is only suggested by their mutual connections to both openness and sensation seeking. Thus, in order to better appreciate the potential causal nature of the link, additional consideration of Uncertainty-Identity Theory is needed.

Uncertainty-Identity Theory (Hogg, 2009) is a recent social psychological account that extends the work of both Social Identity Theory (Tajfel & Turner, 1979) and Self-Categorization Theory (Turner & Oakes, 1989). According to UIT, feelings of self-uncertainty are unpleasant and therefore motivate attempts at self-definition. Though self-uncertainty can be minimized in several ways (e.g., defining individual traits), "UIT focuses on group identification through self-categorization, which it considers perhaps the most effective way to reduce and protect from self-uncertainty" (Hogg, 2009, p. 221). In this manner, ingroup social categorization establishes a place for the individual and thereby reduces self-uncertainty.

Once the individual has achieved a reduction in self-uncertainty through self-categorization, UIT explains that the terms of the categorization must be continuously reviewed. Because the norms and boundaries defining

ingroup self-categorization also define outgroup other-categorization (e.g., there is no "white" without "black"; Roediger, 1998), social interaction with outgroup members is a potential threat to the terms of one's own self-categorization and therefore must be monitored. For example, if an individual categorizes another as an outgroup "illegal immigrant" and sees this person as metaphorically diseased (which is not uncommon, see Markel & Stern, 2002), a conversation revealing that person's healthful and helpful qualities will threaten not only the outgroup category, but the ingroup category as well (e.g., "maybe we are not so kind-hearted treating this nice person this way?"). When social interaction implicates self-categorization, and subsequently challenges self-uncertainty in this manner, UIT predicts two responses. Specifically, it claims that,

> where one believes one has sufficient resources to reduce the uncertainty, self-uncertainty is experienced as a challenge that sponsors promotive or approach behaviors; where the resources are considered insufficient, self-uncertainty is experienced as a threat that sponsors more protective or avoidant behaviors (Hogg, 2009, p. 221).

Thus, viewed through the lens of UIT, individuals who are uncomfortable with the process of self-uncertainty reduction (i.e., they view social categorization more rigidly and are unwilling to re-negotiate group boundaries) are expected to avoid outgroup others, especially when those others are seen to threaten the current terms of understanding that the individual has negotiated with the ingroup. Consequently, the degree of hindrance that ethnocentrism has on intercultural communication *should vary as a function of an individual's level of comfort with the process of self-uncertainty reduction*. In other words, ethnocentrism fully blooms and becomes more than a fleeting hindrance only with high degrees of uncertainty discomfort (Bakalis & Joiner, 2004; Kirton, 1981; McPherson, 1983). Regarding new avenues for mitigation, this suggests that training in uncertainty tolerance may be an effective technique for reducing intra-, and in turn, intergroup ethnocentrism. Considering the logic of Uncertainty-Identity Theory, the relationship among these constructs merits investigation.

Lastly, alongside the study of uncertainty tolerance and its impact on ethnocentrism, scholars should also consider its origins. If, one day, teachers and trainers hope to influence learners' levels of uncertainty tolerance, it is vital to understand why it varies in the first place. To begin, it is worth noting that uncertainty intolerance is a specific form of anxiety (Dugas, Gagnon, Ladouceur, & Freeston, 1998).

Although many forms of anxiety, including self-uncertainty discomfort, likely have their origins in traumatic experiences (Heim & Nemeroff, 2001; Roemer, Molina, Litz, & Borkovec, 1996), this may not be true in every instance. As Dugas, Buhr, and Ladouceur (2004) note, "stressful life circumstances ultimately leading to the development of GAD (Generalized Anxiety Disorder) may be chronic stressors that do not necessarily involve traumatic experiences" (p. 159). Thus because a major traumatic event is not a necessary precondition for anxiety, and also because traumatic experiences are defined by individual meaning (not merely by objective conditions), the intimately allied experience of stress is a more global and appropriate measure around which to center an initial exploration of uncertainty discomfort. Stress, whether or not traumatic in origin, is associated with higher levels of uncertainty discomfort (Greco & Roger, 2001, 2003) thus it may, in turn, indirectly fuel both intra- and intergroup ethnocentrism.

To review, ethnocentrism has recently been redefined and it is important to investigate these changes in an educational context- one that is both theoretically and pragmatically relevant to intercultural teachers and trainers. Educators have traditionally employed both didactic and experiential approaches to mitigate intergroup ethnocentrism but have not considered their impact on intragroup ethnocentrism. Similarly, educators have also not considered the potential impact of a new approach to ethnocentrism mitigation: uncertainty tolerance training. In view of these lacunae, this present study aims to map the potential interrelationships between these constructs. In particular, we seek to observe how, among a sample of intercultural communication student respondents, cultural knowledge (representative of a didactic intervention), cultural exposure (representative of an experiential intervention), uncertainty intolerance, stress, intergroup ethnocentrism, and intragroup ethnocentrism all interrelate. An initial theoretical model is displayed diagrammatically in Fig. 1.
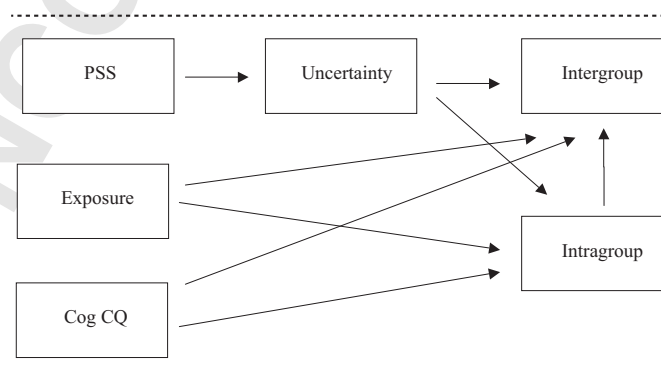

Fig. 1. Hypothesized relationships.

Table 1
Correlations among and descriptive statistics for study variables.

	M (SD)	PSS	Uncert.	Expose.	CogCQ.	Inter. Ethno.	Intra. Ethno.
PSS	2.62 (.68)		.38**	.03	.00	.10	.05
Uncert.	1.65 (.69)			.03	−.13*	.19**	.15**
Expose.	2.22 (.63)				.29**	−.38**	.15**
CogCQ.	4.02 (1.47)					−.17**	.01
Inter. Ethno.	2.99 (1.13)						.16**
Intra. Ethno.	5.17 (1.30)						

Note. N's range from 316 to 318 due to occasional missing data. PSS, perceived stress scale (range: 1–5); Uncert., intolerance of uncertainty scale (range: 1–5); Expose., cultural exposure scale (range: 1–5); CogCQ., cultural intelligence scale (range: 1–7); Inter. Ethno., intergroup ethnocentrism subscale (range: 1–9); Intra. Ethno., intragroup ethnocentrism subscale (range: 1–9).
* Coefficients are significant at $p < .05$ (2-tailed).
** Coefficients are significant at $p < .01$ (2-tailed).

Four specific hypotheses are tested here:

Hypothesis 1. That cultural knowledge and cultural exposure will have a negative effect on both types of ethnocentrism.

Hypothesis 2. That uncertainty intolerance will have a positive effect on both types of ethnocentrism.

Hypothesis 3. That stress will have a positive effect on uncertainty intolerance.

Hypothesis 4. That intragroup ethnocentrism will have a positive effect on intergroup ethnocentrism.[1]

2. Methodology

2.1. The sample of students

A sample of 318 undergraduate volunteers enrolled in an intercultural communication course at a large urban university in the western United States completed a survey comprised of 109 items, 81 of which are analyzed here. Participants consisted of 111 males and 200 females (plus 7 unreported). The average age of the sample was 22.09 years (SD = 3.41) and consisted of 148 White, 65 Hispanic, 47 Asian, 20 Black, and 37 "other" (plus 1 declined to state) respondents.

2.2. The survey instruments

Respondents completed thirty-six items of the original fifty-eight item Ethnocentrism Scale (Bizumic et al., 2009) in order to measure the two higher-order dimensions of ethnocentrism (24-item intergroup subscale, $\alpha = .89$ and 12-item intragroup subscale, $\alpha = .75$). This thirty-six item scale has been used in several studies (e.g., Bizumic & Duckitt, 2008) and has previously demonstrated good psychometric properties (B. Bizumic, personal communication, March 16, 2010). Items comprising the intergroup subscale include "I prefer not to be around people from very different cultures" and "In general, other cultures do not have the inner strength and resilience of our culture". Items comprising the intragroup subscale include "I have a total loyalty to our people and our way of life" and "It is absolutely vital that all true members of my ethnic or cultural group forget their differences and strive for greater unity and cohesion".

Additional survey instruments included a 12-item scale ($\alpha = .85$) measuring intolerance of uncertainty (e.g., "Unforeseen events upset me greatly"; Carleton, Norton, & Asmundson, 2007), a 10-item scale ($\alpha = .85$) of perceived stress (e.g., "In the last month, how often have you felt difficulties were piling up so high that you could not overcome them?"; Cohen & Williamson, 1988), a 17-item scale ($\alpha = .86$) of cultural exposure, adapted from the Exposure to Asians Scale (e.g., "Of all the jobs you have had, how many co-workers were outside your cultural/ethnic group?"; Dinh, Weinstein, Nemon, & Rondeau, 2008), and a 6-item scale ($\alpha = .90$) measuring cognitive cultural intelligence, adapted from the Cultural Intelligence Scale (e.g., "I know the cultural values and religious beliefs of other cultures or ethnic groups"; Ang et al., 2007). Respondents also completed four demographic items (i.e., age, sex, nationality, and ethnicity), as well as a 24-item Self Construal Scale (Singelis, 1994) not analyzed in the present study. Scale means, standard deviations and intercorrelations can be found listed in Table 1.

3. Results

We examined our hypotheses by conducting path analyses (LISREL 8.8, Joreskog & Sorbom, 2007). The technique was well suited to this task as it allowed for the observation of several simultaneous relationships while still accounting for the

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[1] Although Bizumic et al. (2009) found that both forms of ethnocentrism were correlated, we were particularly interested to see if uncertainty intolerance could promote intergroup ethnocentrism both directly and indirectly (i.e., could it foster ingroup entitativity that, in turn, increased intergroup ethnocentrism?), thus we specified only this unidirectional effect.
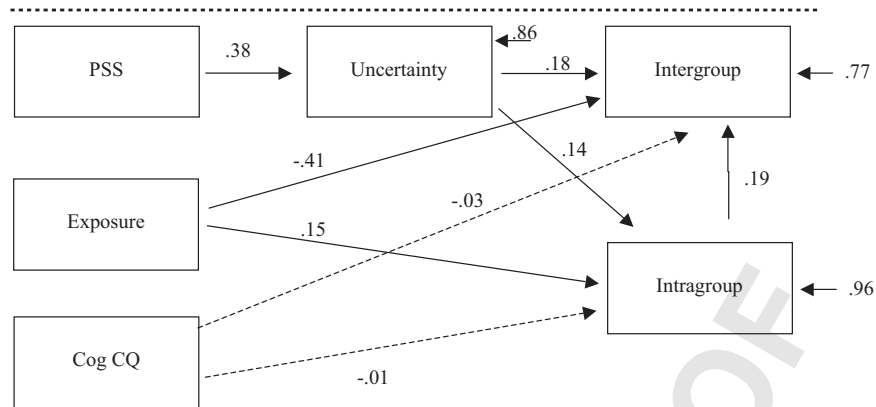
Note: Correlation between PSS and Cog CQ = -.01 (*ns*), PSS and Exposure = .03 (*ns*), Cog CQ and Exposure = .29 (*p* < .01). Dashed lines indicate nonsignificant paths. All other parameters are significant at *p* < .01. R^2 for Uncertainty = .14, Intergroup = .23, Intragroup = .04.

Fig. 2. Path analysis for total sample. *Note*: Correlation between PSS and CogCQ = −.01 (*ns*), PSS and Exposure = .03 (*ns*), CogCQ and Exposure = .29 (*p* < .01). Dashed lines indicate nonsignificant paths. All other parameters are significant at *p* < .01. R^2 for Uncertainty = .14, Intergroup = .23, Intragroup = .04.

possible independent effects of each predictor variable. Previous research has indicated that it is reasonable to regard a path model with composites as similar to a path model with latent variables (McDonald, 1996). Our models were estimated with maximum likelihood estimation and we assessed model fit using the model chi square, the CFI, the SRMR, and the RMSEA (Kline, 2011). Values for the CFI greater than .95, values of the SRMR smaller than .08, and values close to .06 for the RMSEA indicate reasonable model fit (Hu & Bentler, 1999). The model we tested examined the relationship between the specified variables for the total sample. Results indicated that the model fit the data well ($x^2 = 8.29$, $df = 4$, $p = .08$; CFI = .97; SRMR = .03; RMSEA = .06) (see Fig. 2 and Table 2).

Thus, among other things, these data suggest that developing cultural knowledge is a less effective method of mitigating intergroup ethnocentrism than increasing uncertainty tolerance and engendering cultural exposure.

4. Discussion

Provided new conceptual and methodological distinctions between inter- and intragroup ethnocentrism, this study sought to map their interrelationships with both traditional and potentially new methods of mitigation: cultural knowledge, cultural exposure, uncertainty intolerance, and stress. As hypothesized, cultural exposure was found to have a negative effect on intergroup ethnocentrism (Hypothesis 1) and uncertainty intolerance was found to have a positive effect on both inter- and intragroup ethnocentrism (Hypothesis 2). Similarly, as hypothesized, we found stress had a positive effect on uncertainty intolerance (Hypothesis 3) and intragroup ethnocentrism had a positive effect on intergroup ethnocentrism

Table 2
Maximum likelihood parameter estimates (total sample).

Parameter	Unstandardized	SE	Standardized
Total effects			
PSS → uncertainty	.39**	.05	.38
PSS → intergroup ethnocentrism	.13**	.04	.08
PSS → intragroup ethnocentrism	.10*	.04	.05
CogCQ → intergroup ethnocentrism	−.02	.04	−.03
CogCQ → intragroup ethnocentrism	−.01	.05	−.01
Exposure → intergroup ethnocentrism	−.70**	.10	−.38
Exposure → intragroup ethnocentrism	.31*	.12	.15
Uncertainty → intergroup ethnocentrism	.34**	.08	.20
Uncertainty → intragroup ethnocentrism	.27**	.10	.14
Intragroup → intergroup ethnocentrism	.17**	.04	.19
Indirect effects			
PSS → intergroup ethnocentrism	.13**	.04	.08
PSS → intragroup ethnocentrism	.10*	.04	.05
CogCQ → intergroup ethnocentrism	.00	.01	.00
Exposure → intergroup ethnocentrism	.05*	.02	.03
Uncertainty → intergroup ethnocentrism	.05*	.02	.03

* Parameters are significant at *p* < .05.
** Parameters are significant at *p* < .01.

(Hypothesis 4). In contrast, cultural exposure was unexpectedly observed to *increase* levels of intragroup ethnocentrism and cultural knowledge was found to be unrelated to both types ethnocentrism, thus most relationships predicted by Hypothesis 1 were not supported. Overall, these findings suggest that a staple pedagogical approach is perhaps less effective than a potential new one: reduced levels of both forms of ethnocentrism were engendered by uncertainty tolerance but not cultural knowledge.

A frequent practice of both intercultural teaching and training is the provision of information. Although the limits of this practice with regard to ethnocentrism mitigation have been previously pointed out (Gudykunst & Hammer, 1983; Harrison & Hopkins, 1967), the present finding that cultural intelligence had *no* effect on either inter- or intragroup ethnocentrism is nevertheless surprising; it should certainly challenge teachers and trainers to think critically about the time they allocate to various approaches and techniques. Specifically, although didactic approaches are very often used (e.g., Murphy, Wright, & Bellamy, 1995), these data suggest that they are perhaps less useful than experiential ones in mitigating both forms of ethnocentrism; indeed "students may learn more from what they experience. . . than from what they are taught didactically about cultural diversity" (Congress & Lynn, 1995, p. 84). Although these results, limited by the sample of participants and particular measures used, may not be representative of the effect that the provision of information can have on ethnocentrism (e.g., Neto, 2006), they add to the concern that didactic approaches may be more impotent than they appear.

Just as these findings point to the possible ineffectiveness of information as cultural bridge, they simultaneously suggest a small but significant role for uncertainty management interventions. The development of techniques such as those modeled after acceptance based therapy (Hofmann, Sawyer, Witt, & Oh, 2010; Roemer & Orsillo, 2009) may indeed be useful in efforts to mitigate both intergroup and intragroup ethnocentrism. In addition, stress reduction therapies (Birnie, Speca, & Carlson, 2010) may also prove effective as this study found significant indirect effects of stress on both forms of ethnocentrism (see Table 2). Together these findings point the way to a potential "third wave" (O'Brien, Larson, & Murrell, 2008) of interventions, beyond didactic and experiential, that teachers and trainers can adapt or develop in order to focus learner attention on intragroup and intraindividual processes.

Apart from both the unexpected and intriguing findings, these results also re-emphasize the importance of another, very traditional approach to mitigating ethnocentrism: cultural exposure. As the large parameter estimate suggests, opportunities that facilitate cultural exposure may have the biggest impact on reducing levels of intergroup ethnocentrism. However, heretofore unknown, they may also simultaneously increase levels of intragroup ethnocentrism. Thus, perhaps the effects of exposure include both minimizing outgroup animosity (e.g., "hey, they are not as bad as I thought!") and maximizing ingroup pride (e.g., "I never really appreciated how special we are"). Of course, study findings also indicated that intragroup ethnocentrism had a positive effect on intergroup ethnocentrism (cf. Bizumic & Duckitt, 2012) and this consequentially confounds the direct and indirect effects of cultural exposure on intergroup ethnocentrism. Despite this, these same results also point to yet another potential intervention on intergroup ethnocentrism: intragroup ethnocentrism. If teachers and trainers can minimize levels of intragroup ethnocentrism that reduction becomes, in and of itself, an intervention to mitigate intergroup ethnocentrism.

4.1. Limitations

As with any study, there are a number of limitations worth underscoring. First, the respondents were young adult college students living in a diverse metropolitan area of the United States; the extent to which these findings may generalize to other populations is unknown. Second, this study used survey data to examine pathways of association, which limits the causal interpretations of the results. Third, each construct investigated in this study was operationalized through the use of one survey instrument. Although all of the instruments indicated good reliability, it is not known whether other measures of these same constructs (e.g., the Uncertainty Response Scale; Greco & Roger, 2001) would produce results similar to those reported here.

5. Conclusion

This study was designed to investigate recent changes in the central concept of ethnocentrism in relation to both traditional and potential new pedagogical interventions. In particular, we sought to observe how, among a sample of intercultural communication student respondents, cultural knowledge, cultural exposure, uncertainty intolerance, stress, intergroup ethnocentrism, and intragroup ethnocentrism all interrelate. We found that uncertainty intolerance increased both forms of ethnocentrism and that cultural knowledge had no effect. These findings suggest that teachers and trainers should examine their use of didactic techniques as well as consider employing pedagogical interventions that focus learner attention on intragroup and intraindividual processes. In particular, we believe that training people to tolerate uncertainty may lead to diminished levels of both inter- and intragroup ethnocentrism. Although current evidence supports this belief, it is nevertheless a matter in need of further investigation. In addition, future research should continue exploring additional methods for mitigating intragroup ethnocentrism (e.g., self-awareness; Brown, 2004; Daniel, 2006; Richardson & Molinaro, 1996), substantiate the effect (or surprising lack thereof) of cultural intelligence on both forms of ethnocentrism, and disentangle the potentially contradictory influences of cultural exposure on intergroup ethnocentrism. Lastly, additional evidence, preferably in the form of field experiments, is needed to confirm the causal interpretations of this data.

Acknowledgement

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