

Debate in Science: The Case of Acculturation

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Society for the Psychological Study of Social Issues (SPSSI)

**THE 2004-2005 OTTO KLINEBERG INTERCULTURAL AND
INTERNATIONAL RELATIONS AWARD**

This year SPSSI's Otto Klineberg Intercultural & International Relations Award Committee read 19 papers published across a wide array of topic areas including policy, political science, experimental social psychology, developmental and clinical psychology. After careful review, the committee selected as first place winner, **Floyd Rudmin's** paper *Debate in Science: The Case of Acculturation*. It is "an exceptionally sophisticated and provocative paper, and we anticipate it will be highly influential." Also of high merit and worthy of honorable mentions were **Viorica Marian & Margarita Kaushanskaya's**, *Self-Construal and Emotion in Bicultural Bilinguals*, published in *Journal of Memory and Language*, 2004, 51, pp. 190-201, and **Jonathan Mercer's**, *Rationality and Psychology in International Politics*, in press, with *International Organization*. This year, the Klineberg Committee consisted of Drs. Daphna Oyserman (chair), Tracy McLaughlin-Volpe, and Donald Taylor.

The Society for the Psychological Study of Social Issues (SPSSI) was founded in 1936 and became Division 9 of the American Psychological Association (APA) in 1945. This award commemorates Otto Klineberg (1899-1992), a founding member of SPSSI and a life-long advocate of psychological science in the service of international peace and human justice. For example, SPSSI, Dr. Klineberg, and psychological evidence were all active in the 1954 US Supreme Court case *Brown vs. Board of Education* ending racially segregated schools.

ABSTRACT

The acculturation paradigm of measuring assimilation, separation, integration and marginalization confuses dimensional and categorical conceptions of its constructs, fails to produce ipsative data from mutually exclusive scales, misoperationalizes marginalization as distress, mismeasures biculturalism using double-barreled questions instead of computing it from unicultural measures, and then tends to misinterpret and miscite this faulty science. Extensive published but widely uncited data cast doubt on claims that integration is preferred by minority groups or is beneficial for them. Such salient but unseen problems suggest that the community of acculturation researchers is biased and blinded by an ideology, probably the commendable ideology of liberalism, which advocates freedom of choice, tolerance, plurality, and redress of harm. Phenomenological observations that challenge the paradigm include the absence of studies of majority group acculturation, the well-replicated fact that minorities never prefer pure uniculturalism, the indistinctiveness of cultures, and the predominance of researchers, theory and data from similar Anglo-Saxon settler societies (USA, Australia, Canada).

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But with far more subtlety does this mischief insinuate itself into philosophy and the sciences; in which the first conclusion colors and brings into conformity with itself all that come after though far sounder and better. Besides, independently of that delight and vanity which I have described, it is the peculiar and perpetual error of the human intellect to be more moved and excited by affirmatives than by negatives; whereas it ought properly to hold itself indifferently disposed toward both alike. Indeed, in the establishment of any true axiom, the negative instance is the more forcible of the two.

- - - Francis Bacon, *New Organon*, XLVI, 1620

Science advances by creating theories, then criticizing those theories, and then correcting or discarding them. This is a normal, necessary and inevitable aspect of science. Applied topics, like the psychology of intercultural contact, may influence public policy and thus effect the lives of millions of people. Those of us criticizing this kind of acculturation research have professional and ethical obligations to effectively inform the research community, especially considering that acculturation is a serious experience for many people, and that acculturation contexts can cause conflict, oppression, ethnic war, and genocide. Our contemporary world is in an acculturative crisis. Aboriginal peoples, migrants and other minorities suffer difficulties in almost all economically developed nations, and many millions have suffered or died in acculturative conflicts in Aceh, Afghanistan, Ambon, Angola, Armenia, Bosnia, Brazil, Cambodia, Cameroon, Chechnya, Chiapas, Congo, Corsica, Croatia, Cyprus, East Timor, Eritrea, Euskadi, Fiji, Georgia, Guatemala, Gujarat, Iraq, Israel, Ivory Coast, Kalimantan, Kashmir, Kazakhstan, Kosovo, Kurdistan, Lebanon, Liberia, Macedonia, Mali, Myanmar,

Nagorno-Karabakh, Niger, Nigeria, Northern Ireland, Palestine, Peru, Philippines, Rwanda, Sri Lanka, Sudan, Tibet, Thailand, Tonga, Uzbekistan, West Papua, Xinjiang, Zambia, and Zimbabwe, plus the events of our current "clash of civilizations." It is thus imperative that doubts about acculturation theories, methods, or findings be allowed into our discourse forum, even if that discomforts us.

For the past century, the predominant conception of acculturation has presumed that minorities react to prolonged intercultural contact by assimilating to the dominant society, by separating from it, or by becoming bicultural, either successfully as bicultural integration or unsuccessfully as bicultural marginalization (Rudmin, 2003a; b). John Berry has been the most prolific and high profile contemporary scholar promoting this kind of conceptualization and has been a leader in developing a corresponding quantitative research paradigm, often referred to as "the Berry model." This paradigm, though popular, is not without faults. In 1997, the journal *Applied Psychology* arranged a keynote article by Berry (1997a) followed by critical commentaries (Horenczyk, 1997; Kagitçibasi, 1997; Lazarus, 1997; Peck, 1997; Schönflug, 1997; Triandis, 1997; Ward, 1997). For example, Triandis (1997, p. 56) argued that "*the model is so complex that it is not testable*," and others criticized the paradigm for lack of useful application. In 1998, the International Association for Cross-Cultural Psychology arranged a symposium on "A Critical Appreciation of Berry's Model" (Boski & Kwast-Welfeld, 1998; Schmitz, 1998; Weinreich, 1998). These critiques thus far focused on macro-model issues, and avoided problems of methodology, including constructs, confounds, and mistaken conclusions.

In 2001, Rudmin and Ahmadzadeh criticized the psychometrics of the paradigm and raised ethical issues about faulty science on applied topics. In 2003, Berry and Sam replied and tried to justify the constructs, methods and findings. The present paper continues these critical discussions about faults in acculturation research and is written as a reply to Berry and Sam (2003). They are to be lauded for well articulating the fourfold acculturation theory, for developing a research paradigm which has produced a very large volume of data-driven literature which invites critical examination, and for now engaging in discussions with critics of their research. The present paper replies to their arguments in the spirit of scientific debate. Hopefully the outcome will be clearer understanding of the research issues that surround the topic of acculturation, to the ultimate end that our science will improve. Responses to personalized comments that deflect attention from essential matters of acculturation theory are presented as end notes.¹ Acculturation research that has not used the fourfold paradigm is omitted from the present discussion, though much of this has been critically examined elsewhere. For example, the large literature on Latino-USA acculturation has been criticized by Rogler, Cortes and Malgady (1991), by Negy and Woods (1992b) and by Hunt, Schneider and Comer (2004).

The intent here is to broaden the debate by explaining the sequential observations and reasoning that led to the discovery of the faults and by showing how these lead to issues of ideology, research design, and perhaps new research paradigms. The goals are to promote better psychometrics, to provoke new thinking about acculturation, and to excite critical responses.

As Kuhn (1962) would have predicted, a strong critique of a popular paradigm's methods and conclusions has had trouble passing peer review processes and coming to press. Researchers and editors experience such critique as personal criticism and may dislike that decades of research might need to be dismissed. But the faults in acculturation research are many, and once pointed out, are obvious and undeniable. The line of argument here, that these failings arise from ideological biases that blind the entire research community, is the most plausible explanation and the most exculpatory, compared to alternative explanations that question the competence or integrity of individual researchers and editors.

Origins of the Psychometric Critique

Rudmin's entry into acculturation research began as a late, stand-in supervisor for Merametdjian's (1995) thesis study of Somali refugees in Norway. She had used measures of acculturation developed by Sam under advisement by Berry (Sam & Berry, 1995) in which **YES, NO** answers to the issue of maintaining heritage culture and **YES, NO** answers to the issue of participating in the larger society define, respectively, the constructs of integration (**YES, YES**), assimilation (**NO, YES**), separation (**YES, NO**), and marginalization (**NO, NO**). Because the four constructs are mutually exclusive, agreement to items about one construct should impede agreement to the corresponding items about the other three. However, many of Merametdjian's respondents agreed to two or more scales about these mutually exclusive constructs, which is evidence of psychometric problems.

This anomaly in a student's data led to the search and discovery of similar problems in other studies (Rudmin, 1996). For example, Kim (1988, p. 97) tabled mean scale scores for an acculturating group and two non-acculturating control

groups. The three matched samples were: 1) Korean immigrants experiencing acculturation in Canada, 2) Koreans in Korea who had self-selected to emigrate to Canada but not yet done so, and 3) Koreans in Korea who had not sought emigration to Canada. Rudmin (1996) gave the English version of Kim's scales to another control group: 4) Norwegian students instructed to guess how they imagine Koreans in Canada might answer. On a five-point Likert scale, all four samples had similar mean scores: integration 4.1 ± 0.2 , separation 2.8 ± 0.2 , marginalization 2.7 ± 0.3 , and assimilation 2.1 ± 0.1 . The correlations between mean scale scores for each pairing of samples were .98, .96, .98, .99, .94 and .91, which average to $r = +.97$ ($n = 6$, $p < .05$), showing nearly perfect concordance among these four samples in their collective answers about Koreans acculturating in Canada. The scale standard deviations were also very similar, again showing concordance of $r = +.97$. When an acculturating group answers like non-acculturating control groups and like far away students with little knowledge and no experience of the two cultures in question, that is evidence of serious psychometric problems.

Another unnoticed psychometric problem was evident in four studies reported in *Applied Psychology* by Berry, Kim, Power, Young and Bujaki (1989, p.199). Each study showed significant positive correlations between measures of mutually exclusive constructs, for example, between assimilation and separation for the Portuguese-Canadians ($r = +.33$, $n = 117$, $p < .001$). That is, when asked if they have positive attitudes towards Portuguese and Canadian cultures, respectively, respondents agreeing to the **NO, YES** construct also tended to agree to the **YES, NO** construct. This kind of problem was most dramatically displayed in the *Journal of Cross-Cultural Psychology* by Montreuil and Bourhis (2001, p. 709) who

reported that measures of assimilationism (**NO, YES**) and segregationism (**YES, NO**) were correlated at $r = +.60$ ($n = 637$, $p < .001$). These five studies were all student thesis projects, each approved by a supervisor, a research committee, an examination committee, and then by a team of journal review readers and an editor. Thus, each study was critically appraised by 7 or 8 or more senior scholars, apparently none of whom noticed that significant positive correlations between measures of contrary constructs are evidence of psychometric problems.

To have divergent validity, such measures should show strong negative correlations. But Berry *et al.* (1989, p.199) reported in *Applied Psychology* that assimilation (**NO, YES**) and separation (**YES, NO**) were almost perfectly uncorrelated at $r = -.01$ ($n = 150$, $p > .05$) for Koreans in Canada. Using acculturation scales modeled on this study, Safdar, Lay and Struthers (2003, p. 570) reported 14 years later, also in *Applied Psychology*, that assimilation (**NO, YES**) and separation (**YES, NO**) were again perfectly uncorrelated $r = -.01$ ($n = 166$, $p > .05$) for Iranians in Canada. Two studies reported in the *International Journal of Intercultural Relations* that used the same type of scales again found assimilation (**NO, YES**) and separation (**YES, NO**) to have near-zero correlations: Jasinskaja-Lahti and Liebkind's (2000, p. 510) study of Russo-Finnish adolescents reported $r = -.06$ ($n = 170$, $p > .05$), and Pham and Harris's (2001, p. 289) study of Vietnamese-Americans reported $r = -.01$ ($n = 138$, $p > .05$). In a large study of 42 samples from 13 countries, Phinney, Berry, Vedder and Liebkind (2006, p. 98) again found assimilation and separation to have near-zero correlations ($r = +.06$, $n = 5366$, $p < .05$). Such well replicated lack of divergent validity for acculturation scales is evidence of systematic psychometric problems.

The research community had not noticed in 30 years of using these acculturation constructs that they are mutually exclusive such that the resulting data should be ipsative rather than independent. This means that the scores generated by these scales should be negatively intercorrelated because agreement to one scale should reduce agreement to the other scales. It is not plausible that a respondent could validly give maximum agreement to all four scales, as would be possible if the constructs and the scales were independent, i.e., not mutually exclusive. Hicks' (1970) calculated that four ipsative measures have null intercorrelations of $r = -.33$ rather than $r = .00$ as happens with independent scales, and this was to be empirically demonstrated by Rudmin and Ahmadzadeh (2001). One consequence of ipsativeness is that it is invalid to analyze fourfold acculturation measures using multivariate methods such as factor analysis (Cornwell & Dunlap, 1994; Guilford, 1952; Johnson, Wood & Blinkhorn, 1988).

Comparing Acculturation Measures

The psychometric problems discovered and reported by Rudmin (1996) motivated the design of a new study proposed by Ahmadzadeh on the acculturation of Iranians in Norway (Rudmin & Ahmadzadeh, 2001). Four methods of measuring acculturation attitudes were used: 1) the established fourfold scales measuring a respondent's Likert agreement to double-barreled items that simultaneously ask about attitudes toward minority culture and majority culture, as exemplified by this integration item, "*It is important to continue using my mother tongue even though I am learning Norwegian;*" 2) standardized scoring of these scales, using each respondent's mean answer and standard deviation to transform item responses before scale summation such that acquiescence effects are neutralized and the

scales become fully ipsative; 3) independent Likert measures of attitude toward the minority culture and attitude toward the dominant culture, as illustrated by the two items, "*To know Iranian literature is part of my identity*" and "*Reading Norwegian literature gives me a new identity*;" and 4) forced-choice measures of cultural preference which yield acquiescence-free and fully ipsative scale scores and which allow a multicultural option, as exemplified by an item about food, "*I prefer: a) Iranian, b) Norwegian, c) both, d) from the whole world*" (Rudmin & Ahmadzadeh, 2001, p. 48).

These four methods of measuring the same acculturation attitudes of the same respondents produced very different results. Only one finding was replicated, namely, the uncorrected and the standardized marginalization scores both showed significant negative correlation with the Satisfaction With Life Scale (Diener, Emmons, Larsen & Griffin, 1985) and significant positive correlation with the Zung Self-Rating Depression Scale (Zung, 1965). However, a closer look at the marginalization items shows they had not been operationalized as the construct of rejecting both cultures (**NO, NO**). This conclusion was based on four observations. First, the literal meanings of the items were about social distress and indecision, not about a decided dislike of two cultures (Rudmin & Ahmadzadeh, 2001, p. 51):

"Norwegians make us responsible for most of this country's problems."

"It is difficult at present to find a friend you can trust."

"I have difficulties in deciding whether to live like a Norwegian or like my co-nationals."

"It is difficult to choose between my traditional way of living and the Norwegian way of living."

Second, all 13 respondents who gave Likert agreement to this marginalization scale also gave Likert agreement to the integration scale, which is antithetical to

marginalization. This should not be possible if marginalization were operationalized as saying **NO, NO** to minority culture maintenance and dominant culture participation and if integration were operationalized as saying **YES, YES**. Third, to show divergent validity, each of the marginalization items should have been negatively correlated with the integration, assimilation and separation scales. They were not. Fourth, if the marginalization items expressed rejection of the two cultures in question, then each should have been negatively correlated with the independent measures of attitudes toward the minority Iranian culture and toward the majority Norwegian culture. They were not.

Presumptions, Constructs and Ideology

These doubts about the marginalization items led to a closer examination of the origins and the historical evolution of the acculturation constructs and their operationalization. An explanation of why the marginalization items inquire about distress rather than about decisions to reject two cultures cannot be found by statistical methods. It was found in a 1989 footnote in *Applied Psychology* stating that the marginalization scale "*was approximated by the scale of Marginality constructed by Mann (1958)*" (Berry *et al.*, 1989, p. 187). An explanation of that decision requires a search into the history of the paradigm. Thus, the critical force of Rudmin and Ahmadzadeh (2001) follows from trying to track the psychometric problems from the data, to the items, to the constructs, to the theory, to the history of the paradigm.

Rudmin and Ahmadzadeh (2001) tried to articulate and criticize some of the presumptions of the paradigm. For example, to operationalize the marginalization construct (**NO, NO**) as distress caused by loss of cultural contact, it is necessary to

impose three doubtful presumptions: 1) loss of cultural attachment followed from the respondents' decisions to reject the two cultures in question; 2) rejection of these two cultures implies rejection of all cultures; and 3) loss of cultural attachment is necessarily distressing. The misoperationalization of marginalization also requires an undeclared shift of perspective from the respondents' points of view to the points of view of the two cultural groups. Respondents, from their own perspective, cannot be marginalized from groups they decided they do not want to belong to. It is only from the perspective of the groups that such people seem deprived of a cultural community and thus must suffer marginality.

The **NO, NO** construct should not be conceived as "I am distressed because I decided to have no cultural community," but rather as "I prefer something other than those two cultures." Whether or not that is distressing should be determined empirically. Distress is not a necessary aspect of disliking two cultures or of preferring something else. For example, Cohen (1956) presented theory and evidence that people who reject the minority and majority cultures are relatively free of the pathological traits that accompany ethnocentrism. Nash and Schaw (1963) argued that such people have secure self-identities in changing contexts and do not waste energy on psychological defense mechanisms. Mol (1963, p. 176) wrote that "*rationality, objective observation, efficient management, [and] logical calculation require marginal attitudes.*" Kim (1988, p. 170) found that Korean-Canadians who rejected both cultures were often successful, educated professionals who expressed multicultural attachment "*to all humanity, regardless of culture and race.*" Accordingly, Rudmin and Ahmadzadeh (2001, pp. 42-44) argued that the rejection of both cultural communities should be called "multiculturalism" or "cultural autonomy"

since it implies a preference for a sub-culture, a third culture, self-actualization, or assertion of oneself as an autonomous individual in a liberal society.

This kind of critical examination leads in sequence to the whole paradigm unraveling. If a preference for something other than the two cultures in question is "multiculturalism" or "cultural autonomy," then what is "marginalization?" It is failure to be accepted into the preferred cultural reference groups (Rudmin & Ahmadzadeh, 2001, pp. 43-44). Others have come to a similar conclusion (e.g., Campisi, 1947; Lewin, 1948; Marden & Meyer, 1968; Rothman, 1960; Slotkin, 1940; Taft, 1957; Voget, 1951). Berry has been engaged in a continuous scholarly effort, from 1972 to the present, trying to come to a satisfactory construct and scale for the **NO, NO** option (Rudmin, 2003b, pp. 36-37). Most recently, Berry (2003, p. 24) has himself come part way to accepting that marginalization is failure to enter the preferred reference group: "*Although marginalization can be a strategy that people choose as a way of dealing with their acculturation situation, it can also result from failed attempts at assimilation.*"

If marginalization is failure to enter preferred reference groups, then the person pursuing bicultural integration is most at risk of becoming marginalized because acceptance by two groups is more complicated and more doubtful than by one group. If so, then perhaps integration can be a stressful acculturation option. For example, Merametdjian (1995) and Rudmin and Ahmadzadeh (2001) found that all respondents reporting themselves to suffer marginalization also reported preference for integration. Sam (2000) found that immigrant adolescents in Norway who preferred integration suffered increased acculturative stress. Zajonc (1952) argued that the bicultural condition is distressing because the deep layers of the

super-ego are threatened by the incompatibility of cultural norms, an argument echoed by Bochner (1982). Ichheiser (1949) argued that biculturalism is distressing because it sometimes requires inhibiting one's core cultural traits and because that can be misperceived by others as deception.

Acculturation researchers have rarely noticed that biculturalism entails incompatibilities because the psychometric items usually ask only about surface behaviors which are amenable to code-switching, e.g., cuisine, language, and music (Berry & Sam, 2003). But many of the most important and defining aspects of culture, for example, religion, sexual norms, cleanliness, child-rearing, etc., are not open to code-switching because the norms of one culture preclude the practices of the other culture (Rudmin & Ahmadzadeh, 2001, p. 43). For example, it is not possible to integrate punitive child-rearing with non-punitive child-rearing, nor premarital virginity with premarital sexual license. Also, many aspects of culture are regulated by civil laws that criminalize cultural practices pertaining, for example, to dress, foods, child discipline, marriages, sexual behavior, drug use, weapons, gambling, etc. Biculturalism, in fact, is a very constrained concept and cannot be realistically practiced or promoted as a universal panacea for acculturation problems.

Faulty acculturation theory is not limited to the community of contemporary researchers. Rudmin and Ahmadzadeh (2001) discovered several fourfold acculturation taxonomies developed prior to, or independently of, the contemporary fourfold paradigm. This led to the hypothesis that the faults in the contemporary paradigm might also be found in the work of earlier scholars. This led to the research and writing of a critical history of acculturation encompassing 68 taxonomies (Rudmin, 2003b), now expanded to 126 (Rudmin, 2003a). This

historical research found that, yes, many of the faults in the contemporary paradigm are common to the extended, historic community of scholars, including such scholars of renown as Thomas and Znaniecki (1918), Robert Park (1928), and Kurt Lewin (1948).

Thus the question arises of why the most prominent and competent scholars of acculturation, both past and present, have so many faults in their research, faults that violate well known norms of psychological science but that have nevertheless gone for decades unnoticed by a very large community of researchers, editors, teachers, and students. Such a situation would seem to have its explanation in a shared ideology that biases and blinds the entire community (Myrdal, 1969). Thus, the next step in this critical sequence is to see if the faults in acculturation research suggest an underlying ideological bias.

Construct Universality

Ideologies entail over-generalizations. That seems to be the case in the claim that all acculturating people experience themselves reacting to issues of 1) cultural maintenance and 2) positive intergroup relations. These two issues and the subsequent four constructs seem to have been imposed by researchers on to the phenomena of acculturation as argued by Bhatia (2003). But Berry (2003, p. 28) has argued that they arise universally from the phenomena: *"During the course of this research, these two issues have moved from being an emic for only one group to being an emic for other groups and eventually to being a derived etic (perhaps a universal concept) for many groups during their intercultural contact."*

The claim of universality, that these are *"two general issues facing all acculturating peoples,"* first appeared in 1989 in a summary of results from

3 Australian Aboriginal samples, 9 Canadian Native samples, 3 Euro-Canadian samples, and 3 Canadian immigrant samples (Berry *et al.*, 1989, p. 185). A total of 18 samples, mostly aboriginal people, in two similar Anglo-Saxon societies, is not a basis for claiming human universality. Furthermore, the origin of the two issues that define the four constructs was not reported as an emic discovery, but was declared as an etic assertion:

*"The model is based on the observation that in plural societies, individuals and groups **must** confront two important issues. One pertains to the maintenance and development of one's ethnic distinctiveness in society . . . The other issue involves the desirability of inter-ethnic contact"* (Berry *et al.*, 1989, pp. 186-187, bolding and underlining added).

Second, acculturation research routinely generates data demonstrating that one or both of the defining issues are not fundamentally important to the people under study. As argued by Rudmin and Ahmadzadeh (2001, p. 46), positive correlations between any two of the acculturation scales are evidence that one of the fundamental issues is being disregarded by the respondents. For example, Berry *et al.* (1989, p. 199) reported in *Applied Psychology* that there were strong, positive correlations between integration (**YES, YES**) and separation (**YES, NO**) for the French-Canadian sample ($r = +.48, n = 49, p < .001$) and the Hungarian-Canadian sample ($r = +.58, n = 50, p < .001$). That means that respondents saying **YES** to intergroup relations also tended to say **NO** to intergroup relations, thus contradicting themselves on the defining issue of intergroup relations. Such self-contradiction implies that intergroup relations are not an important or fundamental issue for these respondents.

Third, the paradigm does not fit the socio-historical context of the Black minority in the USA, as argued by Pettigrew (1988). Black acculturation is constrained by the historic racism of US society:

"Save for West Indian migrants, blacks do not experience the traditional pull between another nation's culture and American culture, for which the assimilation and pluralism concepts were specifically fashioned. Nor do they face charges of being 'un-American' and not belonging. Their marginal position is more complex, and the use of theory and concepts developed for the immigrant experience obscures more than it enlightens. Blacks' marginalization is created by their being a long-term, integral component of American society, while, at the same time, being denied the privileges that otherwise accrue to such a central position" (Pettigrew, 1988, p. 24).

Berry, Poortinga, Segall and Dasen (1992, p. 279) have cited this argument but apparently did not notice that it discounts claims that the fourfold acculturation constructs are universal.

Finally, the presumption of universality cannot be correct if one considers people in the majority groups, which is most people, adopting foreign behaviors, for example, Russians playing ice hockey, Japanese eating curry rice, or Americans surfing the World Wide Web. For culturally secure majority groups, maintenance of cultural identity and participation in society are not issues when they acculturate.

Although minority group acculturation has long been studied, the processes of majority group acculturation have only recently been studied psychometrically, e.g., Geschke & Mummendey (2005). Such a strong asymmetry in acculturation research is remarkable because it stands juxtaposed to often quoted definitions that acculturation is a two-way process of change (e.g., Redfield, Linton & Herskovits,

1936, p.149) and juxtaposed to everyday evidence that the dominant majority do adopt practices from minorities and from foreign cultures. Consider such acculturatively acquired aspects of US culture as peanut butter, pizza, bagels, French fries, ketchup, tabasco, tacos, tobacco, wine, jazz, rock-n-roll, salsa, yoga, lacrosse, hockey, skiing, Boy Scouts, cars, autobahns, jet planes, Easter eggs, Thanksgiving turkey, Christmas trees, "Massachusetts," "Chicago," and "Los Angeles." In the history of psychology, only Alexander Chamberlain in the 1890s had a research focus on majority group acculturation, documenting the impact of Native American and Black cultures on mainstream US society (Rudmin, 1990a; b; 1999).

In addition to adopting foreign foods, words, technologies and recreations, there are many other types of majority group acculturation worthy of study: a) Mixed marriage entails individuals from the majority population taking spouses from a minority group or foreign country and adopting aspects of the spouses' cultures. b) Conversion entails individuals from the majority population adopting the religion of a minority group or foreign society. c) Foreign posting entails majority group individuals serving as overseas representatives for their company, government, or church, which may require them to learn new cultural skills even if they dislike the culture they are acquiring. d) Going-native entails individuals from the dominant group adopting minority culture behaviors and values, contrary to colonial expectations arising from cultural dominance and racism. e) The "-ophile" phenomena entail individuals becoming enchanted by often distant foreign cultures for their interesting qualities, as exemplified by Sinophiles, Francophiles, Russophiles, etc. f) Re-minoritization entails individuals from the majority group deciding to identify with, learn, and practice the forgotten minority heritage culture of

their ancestors. g) Sub-culture creation entails individuals from the majority population rejecting their conventional culture and trying to create a new culture, as exemplified by utopians, communitarians, hippies, or punkers. That so many acculturative phenomena have been unnoticed and unstudied by psychologists suggests an unseen shadow of ideology controlling the entire research community.

Mismeasure of Marginalism

Ideology may also explain why the misconceptualization and the misoperationalization of marginalism has been so systematically unnoticed. Historically, the fourfold paradigm began with the concept of the Marginal Man first proposed by the American sociologist Park (1928) and further developed by Stonequist (1935) and Glaser (1958), all claiming that marginality describes the bicultural condition of minorities (Berry, 1970, pp. 239-241; Sommerlad & Berry, 1970, p. 24). For example, Glaser (1958, p. 34) wrote that bicultural competence results in a marginal person who *"favors a pluralistic society in which he can feel identified with several ethnic groups."*

Berry explained in 1970 (pp. 240-241) that socio-cultural marginality arises from *"a set of conditions characteristic of culture contact between two groups, one dominant over the other"* and that psychological marginality is *"characteristic of persons in the marginal situation. . . Traits thought to be included in this pattern are: aggression, suspicion, uncertainty, victimization-rejection, anxiety, and a lack of solidarity."* The four types of acculturation follow from this marginalizing bicultural situation:

"Attitudes to modes of relating to the dominant society also enter into the complex set of traits claimed to characterize the Marginal Man. According to marginality theory, retention of a marginal relationship [now called

marginalization], a *'passing' into the dominant society* [now called assimilation], and a *rejection of it (while reaffirming one's own society)* [now called separation] *are the three alternatives available as long-term adjustments to the marginal situation*" (Berry, 1970, p. 241).

Berry (1970, p. 242) added a fourth alternative: *"moving, as a group, into the dominant society, while retaining a separate group identity"* [now called integration].

Thus, questions about cultural identity and positive group relations are presumed to begin with, and to be caused by, the distressing state of minority group marginality. This causal chain is nicely illustrated in the *Handbook of Cross-Cultural Psychology* (Berry, 1980, p. 260), showing minority people of traditional culture coming into acculturative contact with the dominant culture, causing the minority to experience marginality, causing a crisis of choice between conflicting cultural identities and attitudes, causing the minority to choose between acculturation options of assimilation, rejection, or integration. Marginalization as the **NO, NO** mode of acculturation was not mentioned in 1970 and 1980 because it had not yet been conceived as an option arising from a decision, but instead marginality was conceived as the default consequence of continuing in the original situation of bicultural marginality. The American anthropologist Born (1970) had independently theorized that four modes of acculturation are adaptive responses to the acculturative stress of bicultural marginality.

The measure of marginality is yet more complicated. In 1958, Mann proposed a measure of the marginal type of personality presumed to be caused by the bicultural context of minority individuals. None of Mann's marginality items has acculturative content, e.g., *"Life is a strain for me,"* or *"I regret the decisions I have*

made" (Berry, 1976, p. 178). This measure became one of two dependent measures of acculturative stress to be predicted by modes of acculturation (Berry, 1976, pp. 177-178). Thus, Mann's measure of marginality should not be confused with marginalization conceived as the **NO, NO** mode of acculturation. But these two constructs have been confused, as will be shown.

In 1972, Berry, Evans and Rawlinson logically deduced that there should be a type of acculturation defined by minorities choosing to reject minority culture and to reject the dominant society, but it was called "*inherently contradictory*" (p. 29) for a cultural group to so choose its own demise. In 1976, this type of acculturation was called deculturation (**NO, NO**), but a proviso said: "*Common sense and pilot work indicated that such an outcome was not chosen by anyone*" (Berry, 1976, p. 180). In other words, "*It should be noted that attitude items suitable for the 'deculturation' response are almost never accepted in a population; thus no scale has been developed to assess it*" (Berry, Kalin & Taylor, 1977, p. 132). In 1983, the deculturation (**NO, NO**) construct was confounded by blending it with acculturative stress:

" . . . it is accompanied by a good deal of collective and individual confusion and anxiety [and] is characterized by striking out against the larger society and by feelings of alienation, loss of identity, and what has been termed acculturative stress. This option is Deculturation, in which groups are out of cultural and psychological contact with either their traditional culture or the larger society. . . . When stabilized in a non-dominant group, it constitutes the classical situation of 'marginality' (Stonequist, 1935)" (Berry, 1983, p. 69).

In 1989 in *Applied Psychology*, this confounded deculturation construct was renamed "marginalization" and a Likert scale was devised to measure it (Berry *et al.*, 1989, p. 188). A footnote explained that this marginalization scale was

"approximated by the scale of Marginality constructed by Mann (1958)" (Berry et al., 1989, p. 187). Two example items for the new scale were presented, 1) "*These days it is hard to find someone you can really relate to and share your inner feelings and thoughts;*" 2) "*Politicians use national pride to exploit and to deceive the public,*" showing that marginalization was not operationalized as a decision to reject both cultures but was instead operationalized like Mann's measure of marginal personality (Berry et al., 1989, p. 193).

During this devolution of marginalization into a confounded construct, passive voice began to be used to describe the decision processes that are presumed to define the modes of acculturation. Passive voice creates ambiguity and thus serves ideological functions of keeping researchers unaware of confusions in their constructs. For example, passive voice was used in 1977: "*(1) Is it of value to retain one's traditional culture? and (2) It is of value to work with the larger society in pursuit of common goals?*" (Berry et al., 1977, p. 31). Twenty years later, the two defining issues were still presented in the passive voice: "*Issue 1: Is it considered to be of value to maintain one's identity and characteristics? Issue two: Is it considered to be of value to maintain relationships with the larger society?*" (Berry, 1997a, p. 10). If the two issues defining the acculturation constructs were written in the active voice, they would indicate who is choosing the acculturation modes. If active voice were used, researchers might have noticed the oxymoron of supposing that cultural minorities could prefer that their cultural preferences be denied or could prefer to become cultureless and marginalized.

In sum, marginalization (**NO, NO**) is defined as a decision to reject both cultures, even though logic, common sense, and pilot studies had shown that minorities would not make such a decision. The use of passive voice leaves it

unclear who, if anyone, decided both cultures should be rejected, and then the measure is not about rejection of both cultures but about the distress that is tautologically presumed to follow from culturelessness. Thus, marginalization is a confounded construct, and many citations, as will be shown, mistakenly claim that positive correlations between marginalization and acculturative stress are evidence that the marginalization (**NO, NO**) causes maladaptation. Such correlations should be interpreted as convergent validity for similarly operationalized measures.

Faulty Psychometrics

Another systematic bias in acculturation research is the wide spread use of survey questions that violate well known norms of psychometrics. The two founders of modern psychometrics, Thurstone (1928, p. 545) and Likert (1932, p. 45), both argued against double-barreled questions, as have virtually all subsequent psychometric textbooks. Rudmin and Ahmadzadeh (2001, pp. 44-45) focused criticism on the use of double-barreled questions. Asking about two cultures in one question results in items that are long, linguistically complex, and often requiring words of negation. These problems are well illustrated with Kim's (1984, pp.157-167) acculturation items, which were recommended as model items by Berry *et al.* (1989, p. 193) and which have been widely copied by others (e.g., Abouguendia & Noels, 2001; Almyroudis, 1991; Ataca, 1998; Aycan & Kanungo, 1998; Benet-Martínez & Haritatos, 2005; Berry, Phinney, Sam & Vedder, 2006; Bonifero, 1994; Eschel & Rosenthal-Sokolov, 2000; Fang, 1998; Hocoy, 1999; Inoue & Ito, 1997; Jasinskaja-Lahti & Liebkind, 2000; Jasinskaja-Lahti, Liebkind, Horenczyk & Schmitz, 2003; Krishnan & Berry, 1992; Kwak & Berry, 2001; Neto, 2002; Orr, Mana & Mana, 2003; Patridge, 1988; Pham & Harris, 2001; Roccas, Horenczyk & Schwartz, 2000;

Safdar, 2002; Safdar *et al.*, 2003; Sam, 2000; Sands & Berry, 1993; Schmitz, 1992; Tartakovsky, 2002; Virta, Sam & Westin, 2004; Young, 1984; Ziabakhsh, 2000).

The worst of Kim's (1984, pp. 157-167) items are about history, here presented with one proposition per line and with negation words underlined:

1) Integration (**YES, YES**):

*For students who were raised in Canada,
I would encourage them to take both Korean and Canadian history
because it's important for them to know the history of both countries.*

2) Assimilation (**NO, YES**):

*For students who were raised in Canada,
I would encourage them to take a course in Canadian history,
but not in Korean history
since it has no utility
or value in Canada.*

3) Separation (**YES, NO**):

*For students who were raised in Canada,
I would encourage them to take a course in Korean history,
but not in Canadian history
since there isn't much worth learning about.*

4) Marginalization (**NO, NO**):

*Taking a course in history is a waste of time
since it does not help you to learn anything practical
or to get a job.*

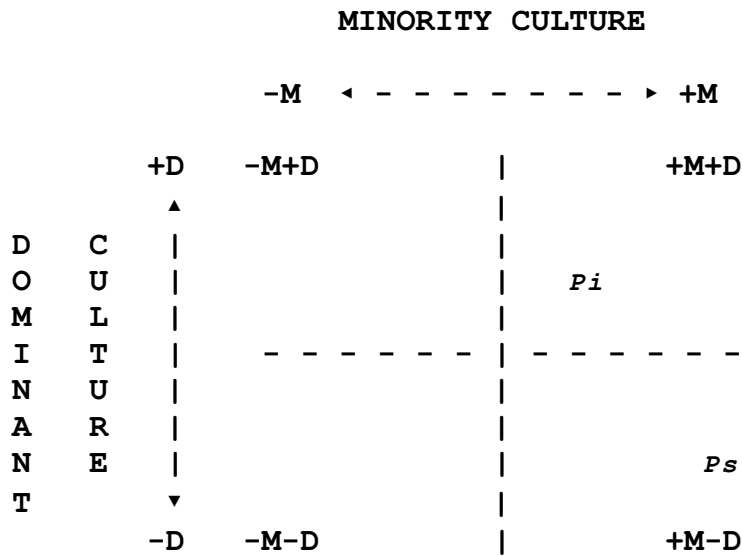
These four items have a mean of 29 words and a mean of 3.75 barrels. In comparison, Angleitner, John and Löhr (1986, p. 83) examined 1624 items from 10 multi-scale personality inventories and found the worst sub-scales to have a mean of 16 words and 2.5 barrels.

Berry and Sam (2003, p. 66) now acknowledge that fourfold acculturation items are double-barreled, but assert that that is necessary in order to capture the double-barreled aspect of acculturation. However, many acculturation studies have demonstrated that double-barreled items are not necessary (e.g., in chronological order, Campisi, 1947; Szapocznik, Kurtines & Fernandez, 1980; Oetting & Beauvais, 1990; Hutnik, 1991; Ward & Kennedy, 1992; Sayegh & Lasry, 1993; Birman, 1994; Donà & Berry, 1994; Ryder, Alden & Paulhus, 2000; Rudmin & Ahmadzadeh, 2001).

One of the consequences of using double-barreled items is that respondents may focus on only one of the propositions, resulting in excessive agreement and in self-contradiction. Berry *et al.* (1989, p. 195) have explained that for each cultural topic, like history, the corresponding questions for the four scales should be presented together: *"To reduce acquiescence tendencies, the four items were presented in a single group where their contrasting meanings would be readily apparent, as it would obviously be contradictory to agree to all four."* Rudmin and Ahmadzadeh (2001) demonstrated several different ways that four-fold acculturation measures nevertheless show respondent self-contradiction and excessive acquiescent agreement.

Berry and Sam (2003, pp. 65-66) now argue that concerns about such problems are unjustified because *"acculturation involves complexity, uncertainty, ambivalence, and many other psychological qualities that make such a Cartesian view of human behavior too simplistic for its proper study."* However, the fourfold acculturation constructs are defined by a 2X2 Cartesian view of human behavior as has been frequently illustrated in 2X2 figures defining the constructs. Furthermore, many phenomena measured in psychology are complex, uncertain, and ambivalent, and it is exactly those kinds of phenomena that require psychometrics to be most

Figure 1: Dimensional depiction of the fourfold acculturation constructs based on positive or negative attitudes towards minority (M) and dominant (D) cultures: +M+D (biculturalism or integration), -M+D (assimilation), +M-D (separation) and -M-D ("marginalization" or multiculturalism). Hypothetical data show person *Pi* as an integrationist and person *Ps* as a separationist.



rigorous and careful. It is not usual in psychology to claim that phenomena require the creation of faulty items or that respondents are expected to give contradictory answers. Contradictory answers, by psychometric definition, are unreliable answers.

One cause of the faulty psychometrics is the mixed representation of the constructs. As explained by Rudmin (2003b, pp. 23-28), the usual depiction of the constructs confounds a dimensional representation and a categorical representation. For example, Berry and Sam (2003, p. 65) assert that their Cartesian constructs are based on "a space defined by the intersection of two issues, cultural maintenance and contact." But this space is then overlain with a YES and NO categorical representation of the constructs, and then the constructs are operationalized as

double-barreled questions in accord with the categorical representation, resulting in data that do not fit the space defined by the two intersecting dimensions.

Figure 1 illustrates the space defined by attitude to minority culture on the horizontal axis and attitude to dominant culture on the vertical. Thus, research should inquire about minority culture and independently about dominant culture so that responses can be located in the intersecting space. For example, if a Korean person (P_i) in Japan were a mild integrationist, then on a Likert scale, she might answer mild agreement to the item, "I like Korean food," and mild agreement to the item, "I like Japanese food." In two-dimensional acculturative space, her attitude would be located in the upper right quadrant, where P_i marks the spot. However, it would be difficult for this hypothetical respondent to accurately answer all of the corresponding double-barreled questions:

- 1) Integration: "I like Korean food, and I like Japanese food."
- 2) Assimilation: "I dislike Korean food, but I like Japanese food."
- 3) Separation: "I like Korean food, but I dislike Japanese food."
- 4) Marginalization: "I dislike Korean food, and I dislike Japanese food."

P_i is integrationist, so she would probably answer mild agreement to the integration item and would thus be constrained to answer mild disagreement to the marginalization item since it is essentially a reverse-keyed question about integration. However, the assimilation and separation items would be problematic because one of the two propositions in each item is true and the other is false, such that a single Likert answer must necessarily misrepresent her attitude.

Consider another person, P_s , who is separationist. On the independent scales, he might answer maximum agreement to the item, "I like Korean food," and strong disagreement to the item, "I like Japanese food," which in two-dimensional acculturative space, would locate his attitude in the lower right quadrant. On the

double-barreled items, he would answer strong agreement to the separation item and corresponding disagreement to the assimilation item, since it is essentially a reverse-keyed question about separation. But the integration and the marginalization items would be problematic because one of the double-barreled propositions is true for this respondent and one is false. Thus, the measurement instrument requires him to give a single Likert answer which must necessarily misrepresent his attitude.

Research might determine how respondents resolve this dilemma. They may focus on only one proposition, for example, the one which is mentioned first in the double-barreled item, or the one which is positively worded, or the one with the most acquiescence cues, or the one about the culture that is most important to the respondent. But double-barreled items will necessarily force respondents to misrepresent themselves on at least two of the fourfold items, except in the rare cases when respondents express perfect cultural indifference as shown by answering every item on the Likert scale midpoint.

Whatever answers are given to the four double-barreled questions, it is then difficult or impossible to locate the four answers in the two-dimensional space defining the constructs. Clearly, there is no advantage to asking four faulty, long, linguistically complex, double-barreled, ipsative questions, the answers to which necessarily misrepresent respondents. Clearly, it is better to ask two, simple, independent, psychometrically ordinary questions that have none of these problems.

One further consequence of requiring respondents to answer double-barreled, ipsative questions is that factor analysis is faulty. Berry and Sam (2003, p. 67) have presented a brief tutorial explaining the use of factor analytic methods to evaluate psychometric items based on a causal model instead of an effect model. However,

because fourfold constructs are mutually exclusive, the results of factor analysis will always be faulty: On one hand, if the measures are valid, then the data will be ipsative, and the factor analysis will therefore be faulty (Cornwell & Dunlap, 1994; Guilford, 1952; Johnson *et al.*, 1988). On the other hand, if the data are not ipsative, then that is evidence that the measures are not valid, and the factor analysis will therefore be faulty.

Measuring Biculturalism and Multiculturalism

It is thus perplexing that so many acculturation researchers use double-barreled questions to measure ipsative constructs, especially considering that psychometrics textbooks universally warn researchers not to use double-barreled questions. Berry and Sam (2003, p. 66) have defended the double-barreled format, saying they seek to have a single measure that captures the double-barreled aspect of biculturalism. If it is important to have such a measure, there are at least six ways biculturalism can be computed from two independent measures that ask about each of the two cultures independently. Three of these are arithmetic transformations based on adding, subtracting, or multiplying the two independent measures. Three of these require centralizing the Likert measures by re-scaling them around the sample mean or around the scale midpoint such that low Likert scores become negative numbers.

These six measures are illustrated in Table 1 with hypothetical data for five Korean subjects in Japan, giving Likert responses on a 7-point scale to items asking about attitudes toward Korean culture and independently toward Japanese culture. These data have been contrived such that the first person, *P_i*, favors integration; *P_a* favors assimilation; *P_s* favors separation; *P_n* has no cultural preferences; and

Table 1: Data from five hypothetical Korean subjects in Japan illustrating biculturalism measures computed from two independent measures of Korean (KR) culture and Japanese (JN) culture. P_i prefers integration; P_a prefers assimilation; P_s prefers separation; P_n has no preference; P_m prefers some other culture, e.g. US culture. Mn^{KR} is the mean of the Korean Scale; Mpt^{JN} is the midpoint of the Japanese Scale. Square range brackets [] indicate inclusive range; curved brackets () indicate exclusive range.

	P_i	P_s	P_s	P_n	P_m	RANGE
<u>MEASURES OF UNICULTURALISM</u>						
Attitude to Korean Scale (KR)	7	2	7	4	1	[+1 , +7]
Attitude to Japan Scale (JN)	7	7	2	4	1	[+1 , +7]
<u>ARITHMETIC TRANSFORMATIONS</u>						
Summation Biculturalism: KR + JN =	14	9	9	8	2	[+2 , +14]
Subtraction Biculturalism: KR - JN =	0	-5	5	0	0	[-6 , +6]
Integration Biculturalism: KR x JN =	49	14	14	16	1	[+1 , +49]
<u>CENTRALIZED TRANSFORMATIONS</u>						
Interaction Multiculturalism: (KR - Mn^{KR}) x (JN - Mn^{JN}) =	8.4	-6.1	-6.1	0	9.6	(-36 , +36)
Expressed Multiculturalism: (KR - Mpt^{KR}) x (JN - Mpt^{JN}) =	9	-6	-6	0	9	[-9 , +9]
Deviation from Biculturalism: (x, y) → (r, θ), then θ - 45° =	0°	+79°	-78°	---	±180°	[0° , ±180°]

Pm favors US culture, which would be mistakenly labeled "marginalization" in the old terminology. The midpoint of the Likert scale is 4, and the mean score of each of the attitude scales is 4.2.

Szapocznik *et al.* (1980) demonstrated two arithmetic computations of biculturalism. First, a measure of what might be called "summation biculturalism" can be computed by adding together the scores of the two independent measures, such that a high value means favoring both cultures, a low value means disfavoring both cultures, and an intermediate value means favoring one but not the other or favoring both moderately. A measure of what might be called "subtraction biculturalism" can be conceived as the new culture taking away attachment to the old culture. It is computed by subtracting the measure of attitude toward the new dominant culture from the measure of attitude toward the old minority culture, such that a high value means favoring the minority culture, a negative value means favoring the dominant culture, and a value near zero means balanced preference, whether that preference is strong or weak, positive or negative.

A measure of what might be called "integration biculturalism" can be computed by multiplying together the scores of the two independent attitude measures, such that a high value means favoring both cultures, and a low value means that one or both cultures are disfavored. Intermediate values are difficult to interpret. This measure is conceptually comparable to a measure of "multicultural ideology" computed by treating separation and assimilation items as negatively keyed questions about integration as demonstrated by Berry *et al.* (1977, pp. 131-135).

The most common method of centralizing a measure is to subtract the sample mean from each individual's score, as is done when computing an interaction

variable in multiple regression. A measure of "interaction multiculturalism" can be computed by multiplying together the centralized scores for the minority culture scale and the dominant culture scale. Because multiplying two negative numbers results in a positive number, a positive value for this measure can mean disfavoring both cultures as well as favoring both cultures. A negative value means favoring one cultural and disfavoring the other. This interaction variable is mathematically coerced to be independent of the two original measures; thus, it might be the preferred measure of biculturalism if multivariate methods are going to be used.

However, one problem is that respondents whose scale scores lie between the scale midpoint and the mean will have their expressed intentions transformed from agreement to disagreement or visa-versa. On a seven-point Likert scale with a scale midpoint of 4, if the mean answer is 6, then anyone expressing slight agreement to the scale, for example, 5, will have that expressed agreement transformed to slight disagreement since it is below the mean. For example, Phinney *et al.* (2006, pp. 103, 282) found that the almost all respondents answered agreement to the integration scale but that 64% of them were classified as non-integrationist based on their having standardized integration scores that were below the mean but above the scale midpoint. Another problem is that interaction multiculturalism has a very large range since the upper and lower limits will be defined as + and - the square of the Likert range. As shown in Table 1, if all but one respondent answered 7 for the Korean Scale and 7 for the Japan Scale and if that one respondent answered 1 and 1, then this person's differences from the mean will be almost 6 on each scale, and the interaction measure will be almost 36.

Another way to centralize a Likert scale is to subtract the scale midpoint from each response. The seven-point Likert scale of 1, 2, 3, 4, 5, 6, 7 is thus transformed

to -3, -2, -1, 0, +1, +2, +3. With this kind of centralizing, a measure of what might be called "expressed multiculturalism" can be computed by multiplying together the two centralized scores. With this measure, a positive value always means respondents expressed preference for both cultures or for neither, a negative value always means expressed preference for uniculturalism, and a value of zero always means the respondent expressed indifference. This computation has a reasonable range, maintains the respondents' expressed preferences, and does not coerce the new measure to be independent of the two original measures.

Finally, a novel measure of biculturalism might be conceived in polar coordinates as the theta angle of deviation from a reference axis defined by integration **(+M,+D)**. Thus, this might be called "deviation from biculturalism." An axis referenced on biculturalism arises from a clockwise 45° rotation of the two-dimensional Cartesian representation of acculturation attitudes shown in Figure 1. In a rotated figure, the x-axis would run from **-M,-D** at the negative end on the left to **+M,+D** at the positive end on the right, and the y-axis would run from **+M,-D** at the negative end at the bottom to **-M,+D** at the positive end on the top. If responses to independent questions about the minority culture and about the dominant culture are located in this two-dimensional rotated space, then in polar coordinates, theta measures how much an attitude deviates from biculturalism **(+M,+D)**. For responses of 7 and 7 to questions about minority culture and dominant culture, respectively, theta is 0°; for responses of 1 and 7 theta is +90°; for responses of 7 and 1 theta is -90°; and for responses of 1 and 1 theta is ± 180°. This measure might be further refined by expressing theta in absolute values and by referencing it to the marginalization axis **(-M,-D)** such that it represents absolute proximity to biculturalism, with a range of 0° to 180°.

Which of these six computed measures would be most useful depends on the study. "Expressed multiculturalism" best reflects the respondents' attitudes. Conceptually, this measure means preference for what is not uniculturalism. Use of this measure requires researchers to understand that a respondent's dislike of two cultures implies preference for some undeclared cultural alternative. For example, respondent P_n has low attitude scores for the two target cultures resulting in high scores on the two multiculturalism measures reflecting preference for the US cultural alternative. Rejection of the two target cultures is a relatively rare response, but when it occurs, it would be useful to ask the respondents what are their alternative cultural preferences. In any case, culturelessness is an anthropological impossibility, and any acculturation theory that has a construct defined as absence of culture is *ipso facto* a faulty theory.

Integration Preference

Given that the double-barreled format has long been repudiated with good reason by the broader field of psychology, given that double-barreled questions necessarily cause respondents to misrepresent their acculturation attitudes, and given that there are alternative ways to make measures of biculturalism, it is perplexing that double-barreled questions continue to be used in acculturation research. Two editors of the *Journal of Cross-Cultural Psychology*, writing in a review paper published by *Applied Psychology*, approved the use of double-barreled questions because such questions, they say, "*effectively discriminate between a most adaptive integration strategy and other, generally less adaptive, strategies*" (van de Vijver & Phalet, 2004, p. 220). Thus, the gate-keepers of science recommend a faulty research method because it will find results that they believe to

be true. This exemplifies one of the mechanisms by which ideological beliefs bias science, spread, and come to dominate a research community.

Certainly, positive beliefs about bicultural integration are widespread. For example, Berry and Sam (2003, p. 67) assert that after three decades of research using their paradigm, "*a large-scale preference for Integration has emerged.*" But Born (1970, p. 539) had earlier warned that such preference is a passive acquiescence response. Even Kim's (1988) non-acculturating Korean control groups preferred bicultural integration, as did Rudmin's (1996) Norwegian students guessing about Korean-Canadian attitudes.

The apparent preference for integration collapses when measured by normal psychometrics. For example, using two independent scales, Ward (1999, p. 227) found that preference for both cultures was reported by only 46% of Chinese in Singapore, 31% of Singaporeans in the USA, 7% of multinational workers in Nepal, 6% of Americans in Singapore, and by only 1% of Britons in Singapore. Unger, Gallaher, Shakib, Ritt-Olson, Palmer and Johnson (2002) used forced-choice items to measure the attitudes of 544 minority adolescents in the USA and found that 39% preferred assimilation, 32% preferred integration, 27% separation, and only 1% marginalization. Furthermore, preference for assimilation significantly increased across the first-, second-, and third-generations, and preference for integration significantly decreased, suggesting that integration is a step on the way to assimilation.

Measures of preference for integration tend to be unreliable. Sam (1995, p. 244) reported test-retest reliability for double-barreled questions about integration to be only $r = .55$, lower than for the other acculturation measures. Reports of low

reliability for integration items are common. For example, Rudmin and Ahmadzadeh (2001) reported $\alpha = .29$; Ward (2005) reported $\alpha = .38$; Virta *et al.* (2004) reported $\alpha = .40$; Jasinskaja-Lahti *et al.* (2003) reported $\alpha = .40$. In a large study of 42 samples collected in 13 countries, Vedder and van de Vijver (2006, p. 57) found their five-item integration scale to have low mean alpha of only .48 (SD = .13), the lowest reliability of 23 scales. In comparison, these same samples of respondents gave the five-item Satisfaction With Life Scale a mean alpha of .77 (SD = .06).

Integration scores can shift dramatically. Snauwaert, Soenens, Vanbeselaere and Boen (2003, p. 234) found that 82% of Turks in Belgium favored integration if asked about intercultural contact, 37% favored integration if asked about cultural practices, and only 10% of the same respondents favored integration if asked about ethnic identification. Rudmin and Ahmadzadeh (2001, p. 49) found for Iranian residents in Norway that agreement to integration was 90% when answering double-barreled questions, but only 41% of the same respondents agreed to integration when answering two independent scales. On the forced-choice scales, only 34% had more than random preference for the bicultural integration option compared to 85% for the multicultural option.

Thus, the preference for two cultures decreases when respondents are offered the option of many cultures. This supports an alternative explanation for integration preferences proposed by Boski and Kwast-Welfeld (1998). They argued that integration is favored because of a general belief that more is better than less when considering cultural abilities as resources. Thus, almost everyone would agree that the ability to speak two languages is better than one, and five languages are better than two. Boski and Kwast-Welfeld (1998) argued that this bias is encouraged by items that lack cultural content. Thus, it would be easy to agree to the integration

item, "I like Korean food, and I like Japanese food," compared to the same item rewritten to have cultural content, "I like kimchi, and I like natto." People who were not bicultural would be less likely to acquiesce to the latter item because they would not even know that the question was asking about fermented condiments for rice.

Bias for integration may also arise from an unequal distribution of the faulty qualities in the double-barreled items. A statistical compilation of the characteristics of Kim's (1984) Likert items can be used in a multiple regression analysis to examine which of the faulty qualities in the items elevate acquiescence to integration items. Excluding the marginalization items because they did not ask about cultural preferences, then for the integration, assimilation and separation items ($n = 60$), 18% of variance in Likert agreement can be explained by the number of negations used ($\beta = -.41$), by how multi-barreled were the items ($\beta = -.26$), and by the length of the items ($\beta = +.20$). Kim's integration items, on average, employ far fewer negations than the other two scales, but are equally multi-barreled and use equally many words. Thus, the purported preference for integration may be partly due to the negative correlation between agreement and use of negations ($r = -.39$, $n = 60$, $p < .05$), suggesting that respondents tend to agree to positively worded items and tend to disagree if one or more words of negations are used.

Over-Stating the Benefits of Biculturalism

The strongest evidence, by far, that a bias is shared by the research community is its excessively strong and over-generalized claims for the benefits of bicultural integration, even in the face of evidence that there are few if any benefits. Berry (2003, p. 31) has asserted: "*For acculturative stress, there is a clear picture that the pursuit of integration is the least stressful.*" Berry and Sam's 1997 review in the *Handbook of Cross-Cultural Psychology* presents the most comprehensive

coverage of research believed to support this claim. In the history of acculturation research, about half of all theorists have argued that biculturalism is psychologically or socially adaptive, and about one-third have argued that it is maladaptive (Rudmin, 2003b). The following will focus on research reports that show no special benefits for bicultural integration as a correlate of acculturative stress.

The concept "acculturative stress" was apparently coined in the 1950s (e.g., Barnett, Broom, Siegel, Vogt & Watson, 1954, p. 994; Ausbel, 1960, p. 617). The first multinational study of acculturative stress used a 14-item scale of psychosomatic symptoms to examine 14 samples in each of 6 developing nations and found significant effects in only 4 of 74 comparisons, two of these showing acculturation to be distressful and two showing acculturation to be healthful (Inkeles, 1969, pp. 223-224). This finding of no effect was replicated by Murphy (1973, p. 256) who concluded that "*contact per se with the forces of cultural change is not inevitably noxious to psychological well-being.*" The most recent multinational study of acculturative stress used a 15-item scale of depression, anxiety, and psychosomatic symptoms to examine 55 samples in 13 developed nations and found that immigrant adolescents had less distress and more success than their non-immigrant classmates (Sam, Vedder, Ward & Horenczyk, 2006, pp. 127-130). Thus, if acculturation is actually not so distressful in fact, then perhaps research need not be so focused on finding a least distressful strategy of acculturation.

In 1970, Berry used Cawte's (1968; 1972) 20-item test of psychosomatic symptoms and Mann's (1958) scales of marginal personality to measure acculturative stress and found that the integration attitudes of an Australian Aboriginal sample were unrelated to stress ($r = -.04, n = 31, p > .05$) and unrelated to marginality ($r = -.08, n = 31, p > .05$). Most subsequent studies modeled on this

1970 study have also found near-zero correlations between measures of integration and acculturative stress, showing no basis in fact for believing integration to be beneficial.

In 1976, Berry reported correlations between acculturative attitudes and his two measures of acculturative stress for nine samples of Native communities in Canada, tabling results four different ways. First, Berry (1976, p. 183, Table 8.6) showed results for each sample. For predicting reduced stress, integration was better than assimilation in Hartley Bay ($r = -.29$ vs $r = +.14$, $n = 56$, $p < .05$), but integration was worse than assimilation in Fort George ($r = -.03$ vs $r = -.52$, $n = 60$, $p < .05$). For predicting reduced marginality, integration and assimilation were indistinguishable in all nine samples. Second, at the bottom of Table 8.6, the mean correlations predicting stress for the nine samples showed integration ($r = -.19$) and assimilation ($r = -.18$) to be nearly identical, but neither of these correlations were statistically significant for even the largest of the nine samples.

Third, Berry (1976, p. 192 ,Table 8.12) merged the data of all nine samples and found that individuals favoring integration had small but significant reductions in stress ($r = -.17$, $n = 453$, $p < .05$) and marginality ($r = -.22$, $n = 453$, $p < .05$), but individuals favoring assimilation had slightly better reductions in stress ($r = -.24$, $n = 453$, $p < .05$) and marginality ($r = -.27$, $n = 453$, $p < .05$). Finally, the fourth analysis, also reported in Table 8.12, used sample medians to show that Native communities favoring integration suffered dramatically increased stress ($r = +.75$, $n = 9$, $p < .05$) and marginality ($r = +.85$, $n = 9$, $p < .05$). In sharp contrast, communities favoring assimilation benefitted from dramatically reduced stress ($r = -.84$, $n = 9$, $p < .05$) and marginality ($r = -.91$, $n = 9$, $p < .05$). These strong correlations are in opposite directions and are significantly different ($p < .05$). Thus,

the 1976 data show integration to have no consistent benefits, no reason to believe it better than assimilation. To the contrary, integration was disastrously worse than assimilation at the community level which is the level at which policies are enacted. Berry (1976, p. 191, underlining added) correctly concluded that *"for integration an inconsistent pattern is evident; at the sample level of analysis relationships are positive with stress and marginality, while at the individual level, relationships are weak but negative."*

Eleven years later, Berry, Kim, Minde and Mok (1987) reviewed psychosomatic stress data from 19 acculturation studies, 11 of which had measures of acculturation attitudes. Of these, 9 were from the 1976 analysis just discussed, plus a Canadian Native sample from Mistassini, plus a Korean immigrant sample. Only the Korean sample had a measure of marginalization, but misoperationalized as discussed earlier. For the Native samples, the correlations of stress with integration ($r = -.19$) and with assimilation ($r = -.18$) were re-reported from the 1976 study, showing them to be nearly identical and non-significant (Berry, 1976, p. 192; Berry *et al.*, 1987, p. 505). This finding was replicated with factor analysis of the Korean-Canadian data showing integration and assimilation to load in a factor orthogonal to, i.e., uncorrelated with, the acculturative stress factor. In the stress factor, the loadings of marginalization (+.67) and separation (+.70) were similar. In contrast to the 1976 conclusion that there was an inconsistent pattern in the results, Berry *et al.* (1987, p. 505, underlining added) made the very mistaken conclusion that *"there is a fairly consistent pattern, for all Native samples, those favoring integration . . . experience less stress."* In the closing statement, Berry *et al.* (1987, p. 509) cautioned that *"These studies, conducted in a single country [Canada] cannot provide a basis for generalizations to other host or larger societies."*

Nevertheless, the replicated findings that integration and assimilation were similarly unrelated to stress has been very widely miscited as showing that integration is the least stressful strategy. First, Phinney (1990, p. 509) wrote in a *Psychological Bulletin* article on ethnic identity that “*There is some evidence that the acculturated or integrated option may be the most satisfactory and the marginal, the least (Berry et al., 1987).*” Soon after, Williams and Berry (1991, p. 635) wrote in an *American Psychologist* article on refugee acculturation that “*those who pursue integration are minimally stressed, and assimilation leads to intermediate levels of stress (Berry et al., 1987).*” Phinney, Chavira and Williamson (1992, p. 303) wrote in *Youth and Society* that “*literature generally suggests that among the four acculturation options, integration may be the most adaptive (Berry, Kim, Minde & Mok, 1987).*” Ward and Kennedy (1994, p. 331) wrote in the *International Journal of Intercultural Relations* that “*integration is associated with a low level of stress, and assimilation is linked with an intermediate stress level (Berry et al., 1987).*” Bourhis, Moïse, Perreault and Senécal (1997, p. 378) wrote in the *International Journal of Psychology* that “*Berry, Kim, Minde, and Mok (1987) found that immigrants in Canada who adopted the integration strategy were minimally affected by acculturative stress*” and “*that immigrants pursuing the assimilation strategy experienced intermediate levels of acculturative stress.*” Farver and Lee-Shin (2000, p. 317) wrote in *Social Development* that “*current studies suggest that ‘integration’ may be the most adaptive form of acculturation (Berry, Kim, Minde & Mok, 1987).*”

Now in the new century, Farver, Bhadha and Narang (2002, p. 25) write in the *Journal of Family Psychology* that “*an integrated style of acculturation is associated with positive psychological outcomes (e.g., Berry et al., 1987).*” Neto (2002, p. 34) writes in the *International Journal of Intercultural Relations* that “*Integration is*

considered to be the most effective strategy with regard to definitive adjustment,” citing Berry *et al.* (1987). Kopic (2002, p. 182) writes in the *Journal of Social Psychology* that “integrated immigrants had low levels of stress, and assimilated immigrants were associated with intermediate levels of stress,” citing Berry *et al.* (1987). This cascade of errors has been continued by Jasinskaja-Lahti *et al.* (2003, p. 81) writing in the *International Journal of Intercultural Relations* that “literature has generally shown that integration is the most adaptive mode of acculturation and the most conducive to the immigrants’ well being as compared to other acculturation options,” again reciting Berry *et al.* (1987). Three editors of the *Journal of Cross-Cultural Psychology* recently recite the same miscitation: van de Vijver and Phalet (2004, p. 220) claim that “Compared to alternative assimilation, separation, or marginalisation strategies, the integration strategy is most often associated with successful personal adjustment (Berry *et al.*, 1987),” and Ward (2006, p. 249) claims that “There is also strong international evidence that acculturating individuals who adopt an integrated (or bicultural) strategy demonstrate better psychological and sociocultural adaptation,” citing Berry *et al.* (1987) which in fact had reported replicated results showing that integration and assimilation were nearly identical in having no detectable effects on acculturative stress. And those results came from the same 1976 data showing that integration is much worse than assimilation at the community level, which is the level at which policies are enacted.

The earlier quoted endorsement of integration by Berry (2003, p. 31) appears in a book entitled *Acculturation: Advances in Theory, Measurement and Applied Research*, published by the American Psychological Association. There Phinney (2003, p. 74) writes that “Most evidence suggests that a bicultural identity is the most adaptive identity for immigrants,” with the sole citation to Phinney, Horenczyk,

Liebkind and Vedder (2001, p. 502), who argue that “*literature has generally shown integration . . . to be the most adaptive mode of acculturation and the most conducive to immigrants' well-being, whereas marginalization is the worst,*” citing Berry *et al.* (1987). In the introduction to that volume, Trimble (2003, p. 10) states that “*numerous recent studies have shown that biculturalism is not only common but also quite beneficial to individuals,*” citing three sources which evidently are not the recent studies referred to: 1) Johnson *et al.* (1997) surveyed 69 multi-cultural women and found that they prefer multicultural self-designations. 2) LaFrombroise, Coleman and Gerton (1993) reviewed social science literature and identified five kinds of biculturalism, some of which were very distressful. 3) Root (2001) described the challenges and stresses of inter-racial marriages using an opportunity sample of 175 American families. Thus, the belief in the benefits of bicultural integration seems to now stand as a kind of shared “common sense,” presented with the appearance of high-level, unanimous, certified science and testified to by the field's best scholars writing in the field's best forums. In fact, in that APA volume, the only two chapters with empirical data on the effects of biculturalism reported no benefits: Caetano and Clark (2003) reported that bicultural Hispanics in the USA suffered more alcohol problems than did assimilated Hispanics, and Cortés (2003) reported that depression was unrelated to acculturative preferences after controlling for socio-demographic variables (Rudmin, 2003d).

The Evidence Against Integration

Many other studies show that integration is unrelated to measures of adaptation. Berry *et al.* (1989, p. 199) reported that integration was unrelated to marginalization (measured like Mann's marginality) for Portuguese-Canadians

($r = +.15$, $n = 117$, $p > .05$) and for Korean-Canadians ($r = +.01$, $n = 150$, $p > .05$). Birman (1998, p. 344) reported that biculturalism was unrelated to school competence ($r = +.03$, $n = 123$, $p > .05$) and self-worth ($r = +.12$, $n = 123$, $p > .05$) for immigrant Latino adolescents in the USA. In a study of the acculturation and health of 365 Korean-Americans, Lee, Sobal and Frongillo (2000, p. 159) concluded that "*beneficial effects of being bicultural on health were not found.*" In a study of South Asians in Canada, Abouguendia and Noels (2001, pp. 169-170) found that integration attitudes were unrelated to self-esteem ($r = -.09$, $n = 39$, $p > .05$), unrelated to depression ($r = -.08$, $n = 39$, $p > .05$), unrelated to outgroup hassles ($r = -.21$, $n = 39$, $p > .05$) and unrelated to general hassles ($r = -.09$, $n = 39$, $p > .05$) for first-generation migrants and that integration attitudes were unrelated to self-esteem ($r = -.13$, $n = 34$, $p > .05$), unrelated to depression ($r = +.15$, $n = 34$, $p > .05$), unrelated to outgroup hassles ($r = -.27$, $n = 34$, $p > .05$), unrelated to ingroup hassles ($r = +.21$, $n = 34$, $p > .05$), unrelated to family hassles ($r = +.05$, $n = 34$, $p > .05$), and unrelated to general hassles ($r = +.18$, $n = 39$, $p > .05$) for second-generation migrants. Virta *et al.* (2004, p. 21) found that the integration attitudes of Turkish adolescents in Norway and Sweden were unrelated to mental health after controlling for SES and identity ($\beta = +.06$, $n = 368$, $p > .05$), and these effects were not different from the effects of assimilation on mental health ($\beta = +.05$, $n = 368$, $p > .05$). Koch, Bjerregaard and Curtis (2004, p. 371) examined 929 Greenland children living in Denmark and concluded there was "*no connection between Berry's definition of acculturation and mental health among Greenlanders in Denmark.*" Kurman, Eshel and Sbeit (2005, p. 603) examined 88 ethnic Ethiopian university students in Israel and found integration attitudes unrelated to self-esteem ($r = +.09$, $n = 88$, $p > .05$),

unrelated to academic self-esteem ($r = +.09$, $n = 88$, $p > .05$) and unrelated to stress ($r = +.05$, $n = 88$, $p > .05$).

Many other studies show that integration is not better than other modes of acculturation. Damji, Clément and Noels (1996, p. 499) studied stress, depression and self-esteem among 295 English-Canadian students at a French-language university, finding that "*contrary to Berry's predictions, concurrent identification with both the first- and second-language group . . . did not result in appreciably better adjustment.*" Eshel and Rosenthal-Sokolov (2000, p. 686) tabled beta values for 300 Russian youth sojourning in Israel showing integration and marginalization attitudes, respectively, to have indistinguishable effects on academic adjustment (.11 vs .09), acceptance by Russian peers (.17 vs .07) and general adjustment (.10 vs .07) as rated by an objective observer. Singh and Singh (1996) studied migrant Santals in India and found no differences in the effects of integration and assimilation attitudes on eight of nine measures of stress coping strategies, with the one exception being that integrationists used avoidance strategies ($r = +.08$, $n = 280$, $p > .05$) more than did assimilationists ($r = -.25$, $n = 280$, $p < .01$). In a study of 106 Bosnian refugees in Norway, Van Selm, Sam and van Oudenhoven (1997, pp. 146-147) tabled beta values showing that integration and assimilation, respectively, had indistinguishable effects on feelings of competence (+.34 vs +.21) and life-satisfaction (+.20 vs +.28). In a study of 200 Turkish immigrant couples in Toronto, Ataca and Berry (2002, p. 20) tabled beta values showing that integration and assimilation scores were unrelated to psychological adaptation and unrelated to sociocultural adaptation, leading them to conclude: "*In terms of acculturation attitudes, integration and assimilation had similar patterns of effect.*" Kosic (2002) studied 172 Croat and 179 Polish immigrants in Italy, finding no differences in the

effects of integration and assimilation attitudes, respectively, on sociocultural adaptation ($M^i = 9.6$ vs $M^a = 10.0$), emotional disorders ($M^i = 2.4$ vs $M^a = 2.3$), and psychosomatic symptoms ($M^i = 1.9$ vs $M^a = 1.8$). In a study of 180 Asian Indian adolescents and their parents in the USA, Farver, Narang, and Bhadha (2002, pp. 345-346) found that integration and assimilation had indistinguishable effects on anxiety, self-esteem, school grades, and conflicts, whether reported by the adolescents or by their parents. Neto (2002, pp. 29-30) tabled beta values for 313 minority adolescents in Portugal showing that integration and assimilation, respectively, had statistically indistinguishable effects on adaptation ($-.18$ vs $-.06$), self-esteem ($+.03$ vs $-.04$), and anxiety/depression ($-.02$ vs $+.09$). Ward's (2005) study of immigrant Chinese adolescents in New Zealand found that integration was not significantly better than the other modes of acculturation for predicting psychological adaptation ($\beta = +.17$, $n = 103$, $p > .05$) or socio-cultural adaptation ($\beta = +.13$, $n = 103$, $p > .05$). Neto, Barros and Schmitz (2005) compared the effects of integration and separation on 118 Portuguese immigrants in Germany and found no differences in acculturative stress ($F = .20$, $df = 1,112$, $p > .05$), in self-esteem ($F = .23$, $df = 1,112$, $p > .05$), nor in satisfaction with life ($F = .21$, $df = 1,112$, $p > .05$).

Many other studies show that assimilation or separation are more beneficial than is integration. Ying (1995, p. 908) studied 143 Chinese in the USA, concluding that "*assimilated individuals enjoyed a well-being that was comparable to biculturals*" because integration and assimilation were indistinguishable as predictors of stress, satisfaction and positive affect, but both corresponded to more negative affect than did separation. The report by van Oudenhoven and Eisses (1998, pp. 304-305) on 94 Moroccan immigrants in The Netherlands and 97 Moroccan immigrants in Israel

found that assimilation was better than integration in reducing prejudice and increasing respect: *"The first important conclusion is that the strategy of assimilation seems to have quite positive consequences for the minority."* Nguyen, Messé and Stollak (1999, p. 25) studied the acculturative involvement of 182 Vietnamese-American youths and found assimilation to be beneficial in respect to psychological distress, depression, self-esteem, family relations, and school performance, concluding: *"In contrast to numerous research suggesting the adaptiveness of biculturalism . . . this study did not support such an interpretation."* Farver and Lee-Shin (2000, p. 325) studied Korean-Americans and found that *"Assimilated mothers had higher scores on the items for acceptance of children's creativity, $F(3, 104) = 14.16, p = .000$ (Scheffe = .05), and understanding of play as an influence on child development, $F(3, 104) = 16.85; p = .000$, (Scheffe = .05), than did separated, marginal, or integrated mothers."* Oh, Koeske and Sales (2002, p. 520) examined the attitudes, stress and depressive symptoms of 157 Korean-Americans and concluded that their data *"provided evidence consistent with assimilation, and contradictory to integration, as an adaptive strategy."* A study of 570 adolescent ethnic repatriates to Israel, Germany and Finland found that *"immigrants who preferred the separation option reported less stress symptoms than those who preferred the assimilation or integration options"* (Jasinskaja-Lahti *et al.*, 2003, p. 90, underlining added).

Other studies show that integration predicts increased maladaptation. Sayegh and Lasry (1993, p. 42) found the four modes of acculturation to have indistinguishable effects on depression, aggression, anxiety, and cognitive difficulties for 197 Lebanese immigrants in Canada, but integrationists ($n = 92$) were significantly worse than assimilationists ($n = 15$), respectively, on stability of

migration ($M^i = 62.8$ vs $M^a = 75.5$), on seeing themselves as victims of discrimination ($M^i = 50.3$ vs $M^a = 37.3$), and on life satisfaction ($M^i = 78.9$ vs $M^a = 88.0$). Donà and Berry (1995, p. 66) reported that among refugees in Canada who favored integration, increased stress was predicted by positive attitudes toward Canadian culture ($r = +.28$, $n = 72$, $p < .05$) and positive attitudes toward heritage culture ($r = +.26$, $n = 72$, $p < .05$). Sam (2000, pp. 16-18) tabled beta values for 506 immigrant adolescents in Norway showing that integration attitudes were unrelated to life-satisfaction (+.03), were unrelated to self-esteem (-.01), but predicted increased acculturative stress (+.19). Yeh, Arora, Inose, Okubo, Li and Greene (2003, p. 481) interviewed eight Japanese immigrant youth in the USA and found that they maintained bicultural identities but nevertheless suffered “*conflict regarding identity and values.*” In a study of 15,220 adolescents from 386 US schools, Yu, Huang, Schwalberg, Overpeck and Kogan (2003) found bilingual minority children to be worse than English-only minority children on feeling low, irritable, and helpless.

For compiling empirical evidence that contradicts a field's orthodox beliefs, dissertation research is useful because disconfirming findings have not been blocked from public record by the ideologies of editors or the conformity pressures of journal review readers. Many thesis studies have found bicultural integration to be positively correlated with elevated stress. Sikand (1980, pp. 175-192) tried to replicate Berry's 1976 studies of Canadian native communities and produced data showing that integration had near-zero correlation with marginality ($r = -.02$, $n = 60$, $p > .05$) and weak positive correlation with stress ($r = +.13$, $n = 60$, $p > .05$) for the Nelson House Cree, weak positive correlations with marginality ($r = +.13$, $n = 60$, $p > .05$) and stress ($r = +.15$, $n = 60$, $p > .05$) for the Peguis Cree, and weak positive correlation with marginality ($r = +.05$, $n = 60$, $p > .05$) and significant positive correlation with

stress ($r = +.34$, $n = 60$, $p < .05$) for the Garden Hill Oji-Cree. Ikeda's (1983) questionnaire survey of 126 Japanese-Americans found that biculturalism was positively related to psychological stress and lowered self-concept. Almyroudis (1991, pp. 77-79) found weak positive correlations of integration with marginality, stress, and two measures of depression, respectively, for first-generation Greeks in Canada ($r = +.09$, $r = +.03$, $r = +.01$, $r = -.02$, $n = 87$, $p > .05$) and for second-generation Greeks as well ($r = +.21$, $r = +.20$, $r = +.11$, $r = +.08$, $n = 76$, $p > .05$). The published version of this study failed to report these correlations (Sands & Berry, 1993). McClelland (1995) studied stress among 50 foreign students in Canada and found that those favoring integration had greater difficulty adapting to environmental stress than did those favoring assimilation. Boniferno (1994) reported a longitudinal study of 10 Native women in Canada, finding that they all preferred integration but suffered acculturative stress nevertheless after leaving the reserve and trying to enact an integration lifestyle in Canada. Glass's (1995) study of 73 Native person prison inmates in Alaska found that the biculturals were more violent than the assimilated and had more difficulties with interpersonal relations and with coping. Segel's (1996) study of 157 South African migrants to the USA found integration to be positively correlated with depression. Dhawan (1998, p. 115) found that integration was a dramatic positive predictor of acculturative stress for Indo-Canadian women in care-giver roles after controlling for length of residence ($\beta = +.84$, $n = 121$, $p < .05$). Gilkes (2005) studied 21 West Indians in New York City and Toronto and concluded that Canadian multiculturalism increased ethnic isolation, intolerance, and marginalization. Ohtsuka (2005, pp. 97-98) compared the acculturation strategies of 94 Vietnamese-Australians and found that "*the integrated individuals reported more symptoms of anxiety and depression [and] were more*

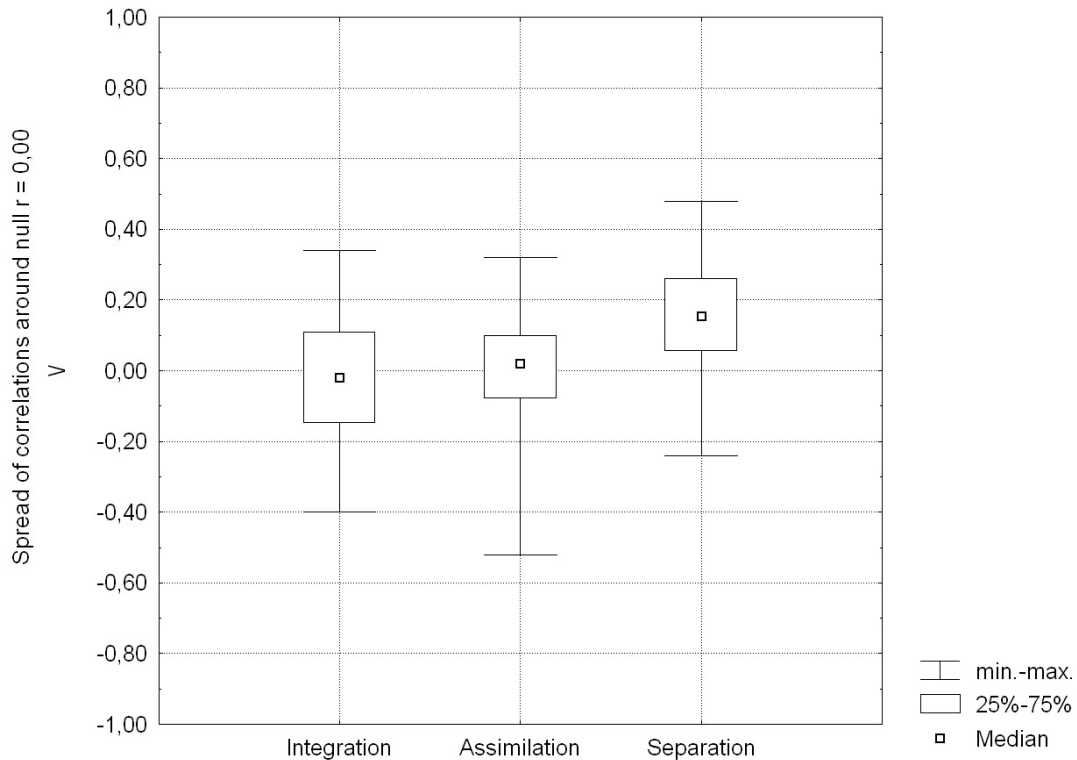
likely to somatise and psychologise.” Dissertation abstracts show that many other thesis studies have reported that biculturalism is not beneficial or is not more beneficial than other modes of acculturation (Amer, 2005; Athans, 2001; Blacic, 2001, Borek, 1998; Buddington, 2000; Tasleem, 1998; Dane, 1980; Garrison, 2003; Gonzalez, 1986; Jha, 2001, Kadkhoda, 2001; Kheirkhah, 2003; Kuttanplan, 2003; Laubscher, 1995; Lee, 1995; Lopez, 1988; Lozano-Bull, 1987; Loury, 2003; Marczynski, 1996; Masgoret, 1997; Maynard-Reid, 2005; Park, 2000; Rick, 1988, Rodriguez-Charbonier, 1993; Safdar, 1998; Safdar, 2002, Sanchez, 1986; Shah, 2003; Takebayashi, 2005; Tasleem, 1998; Tencer Garrity, 2003; Torres, 1997; Tousinezhad, 1993; Vallez, 1984; Vazquez, 1990; Yang, 2007).

None of the summary analyses done to date have displayed evidence by which to recommend bicultural integration. The first three summaries of fourfold data in Berry (1976), Berry *et al.* (1987), and Berry *et al.* (1989) have already been discussed, none of them showing data by which to recommend integration. To these samples, Rudmin (2003b, p. 7) added Berry's 1970 Storm Cove sample of Australian aborigines, his 1976 Westport and Sioux Lookout samples of Euro-Canadians, as well as Sikand's (1980) Garden Hill, Nelson House, and Peguis samples of Canadian Natives. Of the 18 correlations of integration and marginality, only 2 showed significant benefits. Of the 15 correlations of integration and stress, 2 showed significant benefits and 1 showed integration to significantly increase stress. Integration was significantly better than assimilation and separation for reduced marginality for only 1 of 18 samples and better for reduced stress for only 1 of 15 samples.

As shown in Figure 2, Rudmin (2003c) extended this analysis by adding Kwak's (1990) two samples of Koreans in Canada, Schmitz's (1992) five samples from Germany, Almyroudis' (1991) two samples of Greeks in Canada, Restoule's (1994) sample of Native Canadians, Merametdjian's (1995) sample of Somali in Norway, Ataca's (1998) sample of Turks in Canada, Safdar's (1998) sample of Iranians in Canada, Sam's (2000) sample of adolescents in Norway, Ziabakhsh's (2000) sample of Iranians in the USA, and Rudmin and Ahmadzadeh's (2001) sample of Iranians in Norway. All studies used double-barreled questions. Marginalization was omitted because it had been misoperationalized, as discussed earlier. Figure 2 shows median correlations of three modes of acculturation with psychological stress for the total 34 samples. Integration and assimilation both have near-zero median correlations with stress, and the variation of correlations spreads evenly above and below the null point of $r = 0.00$. In other words, this summary shows that integration is perfectly unrelated to stress and almost perfectly similar to assimilation. Figure 2 shows that scholars who claim that integration is beneficial, or is more beneficial than assimilation, must be blind to about half of the research results and must be interpreting near-zero correlations to be significant.

The most recent summary report of 42 samples of immigrant adolescents in 13 nations produced a structural equation model showing that an integration orientation was a near-zero predictor of psychological well-being, accounting for only .0036 of the variance in stress, that is, one-third of one-percent; whereas, the ethnic orientation (including separation attitudes) was a significantly stronger predictor of psychological well-being, accounting for .028 of the variance (Vedder, van de Vijver & Liebkind, 2006, p. 155). Thus, this most recent summary analysis confirms the earlier summary analyses showing a) that bicultural integration is not uniquely

Figure 2: Median correlations of integration, assimilation, and separation with measures of psychological stress (i.e., depression, anxiety) for 34 samples (from Rudmin, 2003c), showing integration to be perfectly unrelated to stress and statistically indistinguishable from assimilation.



beneficial for mental health, and b) that there is little psychological evidence, if any, by which to recommend bicultural integration as public policy.

Widely Shared Bias

It is a failure of the entire research community, not of any particular individual scholars, that so much research has been misinterpreted and miscited to support beliefs in the benefits of bicultural integration and that so much research showing contrary findings has been so systematically ignored. Because the many, many

scholars who are responsible for these failings include the field's best researchers writing in the best journals, explanations that point to incompetence or to deliberate deception are unbelievable. The most parsimonious and plausible explanation is that the failings thus far found in acculturation research arise from ideological biases that are widely shared within the academic community that studies acculturation (Myrdal, 1969). Ideological bias would explain the systematic errors in our science and explain why such obvious errors have been unnoticed for decades by so many authors, review readers, editors, examination committees, teachers, and students.

As an another example of such bias, consider how the misoperationalization of marginalization as distress, discussed earlier, has been unnoticed and is still denied (Berry & Sam, 2003, p. 65). Researchers cannot perceive that they have pre-judged the facts when they conceive that rejection of two cultures must necessarily, as part of the construct, be distressing. Similarly, the presumption that integration has beneficial effects in reducing distress has sometimes been seen as a necessary component of the construct of integration. For the Khmer Acculturation Scale (KAS), construct validity was examined "*by inspecting the association between subscale scores and measures of psychological distress,*" finding that respondents with an integration mode of acculturation "*are less likely to exhibit psychological distress than those who are only highly enculturated to Cambodian culture (separation mode),*" leading to the mistaken conclusion that this finding "*provides some support for the construct validity of the KAS as a measure of Berry's (1990) model*" (Lim, Heiby, Brislin & Griffin, 2002, pp. 664, 673). Ataca (1998, p. 105) also misconceived that measures of integration can be validated by evidence that integration attitudes coincide with reduced distress.

As another example of collective blind bias, consider the published responses by a panel of acculturation experts to Berry's 1997 keynote article in *Applied Psychology*, in which he wrote:

"Acculturation strategies have been shown to have substantial relationships with positive adaptation: integration is usually the most successful; marginalization is the least; and assimilation and separation strategies are intermediate. This pattern has been found in virtually every study, and is present for all types of acculturating groups" (Berry, 1997a, p. 24).

To claim that the same data pattern has been found in virtually every study is an extremely strong claim to make in the field of psychology, and is even more dramatic in cross-cultural psychology. Such a strong claim is quite likely to be in error, and in this case is certainly in error, as the research record shows. Berry is among the most prominent and competent cross-cultural psychologists, and a panel of equally prominent and competent scholars, charged with the task of criticizing Berry's article, apparently found this dramatic misinterpretation of evidence to be acceptable and not worth checking or challenging (Horenczyk, 1997; Kagitçibasi, 1997; Lazarus, 1997; Peck, 1997; Schönflug, 1997; Triandis, 1997; Ward, 1997). The exaggerated claim here for the benefits of biculturalism was reproduced verbatim in a Cambridge University textbook (Berry *et al.*, 2002, p. 378), but the book's co-authors (Poortinga, Segall, and Dasen) also apparently found it acceptable and not worth checking. Such would seem to indicate some widely shared world-view that encourages an entire community of scholars to misinterpret evidence and inhibit critical standards of science. In MacCoun's (1998) catalog of "Biases in the Interpretation and Use of Research Results," the mechanisms that give ideology its influence on acculturation

research probably include confirmation bias, mental contamination, and motive-driven cognitions.

Such mechanisms may explain the misinterpretation by Lee, Sobal and Frongillo (2003) of data from 356 Korean-Americans testing the assimilation model versus the integration model. The assimilation model predicts: 1) that there will be three groups of immigrants, i.e., the unassimilated, the partially assimilated, and the assimilated, 2) that these groups will differentiate by length of stay and 3) by arrival age, since assimilation takes time but is easier for young immigrants, 4) that none of these immigrant groups will reject assimilation as their acculturation goal, and 5) that Korean cultural practices and identity will decrease as American cultural practices and identity increase. In contrast, the integration model predicts: 1) that migrants will fall into four groups, i.e., those favoring assimilation, separation, integration, or marginalization, 2) that these groups will be differentiated by their strategies, not by length of stay, 3) nor by arrival age, 4) that everyone except assimilationists will reject assimilation as their acculturation goal, and 5) that bicultural respondents will not lose Korean culture or identity as American culture and identity are acquired.

Cluster analysis of respondents based on many measures of behaviors, attitudes, and identities found three distinct groups, namely, 1) unassimilated Korean-oriented, 2) partially assimilated biculturals, and 3) assimilated American-oriented. These groups were statistically differentiated by length of stay and by arrival age, with the assimilated group having longest length of stay and youngest arrival age and the unassimilated group having the shortest length of stay and oldest arrival age. None of the immigrant groups rejected assimilation as their acculturation goal. The bicultural group was not integrationist because it was less American than the American-oriented group and less Korean than the Korean-oriented group on

measures of American and Korean identity, English and Korean language competence, American and Korean media consumption, American friendships, perceived discrimination in America, knowledge of American ways, years of US education, and residency in an American neighborhood. Thus, the assimilation model predictions proved true, and the integration model predictions did not. Nevertheless, Lee *et al.* (2003, p. 291) concluded that these data supported the integration model. This misinterpretation of results was approved by the review readers and editors of the *Journal of Cross-Cultural Psychology*.

Kvernmo and Heyerdahl (2003) showed a similar bias for biculturalism. Their study used acculturation measures to predict internalizing problems (i.e., anxiety and depression) and externalizing problems (i.e., aggression) for 291 Kven and 581 Sami adolescents in Norway. Integration attitudes were unrelated to internalizing ($r = -.05$, $p > .05$) and unrelated to externalizing ($r = 0.00$, $p > .05$) for Kven females, unrelated to internalizing ($r = +.02$, $p > .05$) and unrelated to externalizing ($r = -.05$, $p > .05$) for Kven males, unrelated to internalizing ($r = +.04$, $p > .05$) and unrelated to externalizing ($r = +.06$, $p > .05$) for Sami females, and unrelated to internalizing ($r = -.11$, $p > .05$) for Sami males. Integration was related only to externalizing ($r = -.18$, $p < .05$), only for Sami males, explaining a mere 3% of the variance. However, further analysis showed integration to correlate with better mental health for Sami males only in medium-density ethnic contexts, but not in low or high density contexts. Kvernmo and Heyerdahl (2003, p. 63) believed that prior research had shown that "*integration has been regarded as the most healthy mode of acculturation*", and they thus made the mistaken conclusion that their data conformed and also showed integration to be "*a protective factor for mental health*

problems." In fact, their data are consistent with many other studies showing no reason to recommend integration as a protective factor for mental health.

Such bias for biculturalism is independent of the fourfold paradigm and its advocates. For example, Negy and Woods (1992b) criticized conclusions that biculturalism is beneficial made by two Latino-US studies, neither of which used fourfold measures or cited Berry. The first of these in fact had found that the well-adjusted respondents had a mean measure of acculturation to US culture of 9.4 on a scale that ranged 0 to 40, thus showing that they were not bicultural (Lang, Muñoz, Bernal & Sorensen, 1982). The second study in fact had found that bicultural students were not different from the assimilated students in coping with stress, but were worse than minority-oriented students in academic performance (Fernandez-Barillas & Morrison, 1984).

Social Class and Ideology

The risk of the research community sharing a bias, particularly when doing applied research on intercultural relations, was described in 1924 by Miller:

"The scientist as a human being, however, lives like other people as to his social relations, and he constantly reverts to the methods which are characteristic of unscientific man, namely trying to reduce all particulars to universals. But since he has been trained in the scientific method, he now defines his conclusions in scientific terms. This is one form of pseudo-science [and] no one can have the presumption to think that he is entirely free from the danger of falling from the scientific to one of the other positions at any time. One cannot but feel some consternation that, what might be called the 'middle-class mind', lying between science and superstition, rushes in to solve with scientific assurance some of the most complex problems, the

'solution' being generally in line with the traditions and prejudices of their class" (Miller, 1924, p. xiv).

Perhaps the psychometric and interpretive faults thus far found in acculturation research arise because academic researchers as a social class favor bicultural integration. In a large, national probability sample, Berry *et al.* (1977, p. 343) found statistically significant positive correlations of integration attitudes with income ($r = +.18$, $n = 1835$, $p < .001$), with education ($r = +.26$, $n = 1835$, $p < .001$), and with occupational status ($r = +.16$, $n = 1835$, $p < .001$). Others have replicated the positive correlation between SES and preference for integration (e.g. Ataca & Berry, 2002, p. 21; Lim *et al.*, 2002, p. 664). Thus, researchers, who generally have high SES, may be biased to prefer integration.

Bicultural integration requires intellectual, social, and financial resources. Negy and Woods (1992a) found, unsurprisingly, that cultural learning and SES are positive correlates. In an early meta-analysis of acculturation and adjustment, Moyerman and Forman (1992, p. 177) found that "*SES was the most influential study characteristic*" showing that "*lower SES samples had sharper increases in symptomology and conflict as they acculturated.*" Lee *et al.* (2003) found their bicultural group to have higher income than the unicultural groups, suggesting that people of low SES may lack the resources to be bicultural. University people, including researchers and students, may be biased to prefer bicultural integration and endowed with resources to become bicultural. Furthermore, university education may inculcate an ideology that favors and promotes multiculturalism.

Berry has long argued that acculturation theory, research, and policies are bound to, and blinded by, underlying ideologies. But Berry has been focused on national ideologies and sees Canada's multicultural ideology as marking a boundary

condition that differentiates Canadian society from US society, as shown in this preface to his Canadian social psychology textbook:

"[W]e have deliberately worked to provide examples of social behavior which may be unique to Canadian social life, to provide selections which reflect our ideology of dualism and pluralism. It is, after all, this attempted tolerance of retained ethnicity . . . which sets us socially apart from those societies [such as the USA] which have most influenced the development of our social science theories and methods. We hope that our efforts in this direction will lead others to consider more carefully the effects of this ideology on social behavior in this country" (Berry & Wilde, 1974, p. xv).

In line with this understanding, Berry *et al.* (1977, pp. 131-135) labeled as "multicultural ideology" a measure that used integration items as positively keyed questions and the assimilation and separation items as negatively keyed questions.

Berry's (2003, p. 24) recent writing on acculturation has re-emphasized the importance of ideology, pointing out that his theory of acculturation strategies is *"based on the assumption that nondominant groups and their individual members have the freedom to choose how they want to acculturate."* He argues that *"the integration strategy can be pursued only in societies that are explicitly multicultural."* That is, the population should embrace a multicultural ideology that includes *"mutual accommodation"* among cultural groups and includes acceptance of the *"value of cultural diversity."* Berry (2003, p. 26) explicitly differentiates the national ideologies of Canada and the USA, arguing that *"the Canadian policy of multiculturalism corresponds to the integration strategy"* and that *"the United States have been more assimilationist."* He acknowledges that he himself might be influenced in his acculturation research by his Canadian background: *"Of course, my own advocacy*

of Integration may well be due to my living and working in an explicitly multicultural society" (Berry, 2003, p. 26, footnote).

Liberalism

However, the ideology that is driving the advocacy of bicultural integration is not an ideology unique to Canada, but is probably the much more encompassing political ideology of liberalism, emphasizing individualism, free choice, equality, and social interest (Gaus, 1983). Certainly, the appeal of integration is much broader than Canada. Many, if not most American, Australian, and British acculturation theorists have also long advocated some form of bicultural integration (Rudmin, 2003a). According to Borrie's 1959 history of acculturation theories, it was clear by 1914 that immigrants in the USA did not assimilate, and cultural pluralism, now called integration, began to be advocated. Thomas and Znaniecki (1918) argued that immigrants do best to maintain psychological aspects of heritage culture while fully participating in the modern, urban society. Berkson (1920/1969) argued that liberalism is the core cultural value of America to which immigrants should be acculturating, and he advocated that immigrants should live interspersed with others, fully engaging in the social, economic, and political life of the nation while maintaining heritage culture through educational efforts of their ethnic community. Miller (1924, p. 38) similarly advocated the maintenance of heritage culture while engaging in the larger society.

After WWII, many scholars in the USA continued to advocate biculturalism, e.g. Wirth (1945) and Lewin (1948). Bogardus (1949, pp. 127-128) called "*democratic acculturation*" what is now called "integration:" 1) "*The representatives of each culture view all other cultures with respect and in terms of their history and their merits;*" 2) "*No compulsion is exercised on anyone as a rule to accept cultural*

patterns different from his own;" 3) "It includes the proposal to encourage an immigrant to develop his cultural traits fully and then to make culture contributions to the national life ;" 4) "Democratic acculturation keeps the immigrant's identity as a distinctive person in the community alive a long time ;" 5) "Instead of making the immigrant ashamed of the customs of his homeland, democratic acculturation dignifies his role as a liaison person between cultures;" and 6) "As an essential aspect of democratic acculturation, cultural pluralism deprecates those racial stereotypes which are derogatory." Subsequently, Antonovosky (1955; 1956, p. 60) concluded that US Jews do best to choose the "dual orientation " which is an "attitude of moderate and unproblematical . . . integration in a generally liberal society." Rothman (1960) came to the same conclusion. In the UK, Zubrzycki (1956) also advocated integration, calling it "accommodation."

According to Sommerlad and Berry (1970, p. 24), their concept of "integration" came directly from a paper on "Liberalising the White Australia Policy" written by an American political science theorist who advocated that Australia adopt a liberal acculturation policy like that of the USA, where there is "*interaction between the migrant community and the host society*" but "*without the migrant's loss of cultural identity*" such that there is "*cultural differentiation within a frame work of social unity*" (London, 1967, p. 340). Leading American, Australian, and British acculturation theorists continue to advocate biculturalism (e.g., Birman, 1994; 1998; Born, 1970; Hutnik, 1991; LaFromboise, Coleman & Gerton, 1993; Marden & Meyer, 1968; Phinney, 2003; Szapocznik & Kurtines, 1980; Taft, 1953; Trimble, 2003). A recent book by US acculturation theorist Glazer (1997) is entitled, *We are All Multiculturalists Now*. Thus, the ideology influencing acculturation research is something much more extensive than a Canadian ideology of multiculturalism.

Canada is one of the world's liberal democracies, and Berry's (2003) description of Canada's multicultural ideology also describes liberalism. The political philosophy literature on liberalism is immense, far too large to review here. But a few current titles will make the point that multicultural integration follows from liberalism. Krymlicka's (1995) *Multicultural Citizenship: A Liberal Theory of Minority Rights* argues that liberalism is based on protecting human rights, including collective minority rights, especially considering the multicultural reality of the world (fewer than 200 nations, but about 600 living languages and 5,000 ethnic groups). Gill's (2001) *Becoming Free: Autonomy and Diversity in the Liberal Polity* argues that liberalism advocates cultural diversity and a plurality of options that individuals can choose in pursuit of their own strategy of a good life. Kernohan's (1998) *Liberalism, Equality and Cultural Oppression* argues that liberalism requires the state to promote equality, to oppose cultural oppression, and to redress the accumulative harms that oppression and inequality might have caused minority peoples to suffer. Gray's (2000) *Two Faces of Liberalism* argues that the liberal principles of mutual toleration and plural values necessarily cause inter-cultural tensions and compromise.

The parallels between Berry's (2003, p. 24) descriptions of multicultural integration and liberalism are clear: 1) "*freedom to choose*" is the essence of liberalism; 2) "*cultural diversity*" is liberal plurality of values; 3) "*mutual accommodation*" is liberal tolerance; 4) "*low levels of prejudice*" is liberal opposition to oppression; and 5) even the use of psychometric evidence that minority individuals are distressed due to acculturative pressures fits the liberal idea of minimizing and redressing harm.

In 1974, Berry expressed preference for research findings that favor liberalism:

"If, as value-free social scientists, we could argue on empirical grounds for any one pattern, it is possible many of us would select the pattern which offers us identity, unity and freedom of choice. It is this pattern (Integration or Democratic Pluralism) for which I personally find evidence and with which I am most familiar. It is this policy which has recently been promoted in a Canadian Government Policy" (Berry, 1974, p. 20).

At the time of this statement of preference for evidence favoring integration, data from Berry (1970) and Berry (1976) clearly showed no evidence favoring integration. Three decades later, Berry (2003, p. 26 footnote) re-stated that he is an advocate of multiculturalism based on his Canadian experience. Berry and Sam's (2003, p. 67) rejection of the suggestion that acculturation research has been bent to make political arguments shows unawareness of the degree to which political liberalism is directing acculturation research, biasing its interpretation, and inhibiting criticisms. Such unawareness is further evidence of ideology, one which is widely shared and which may explain the research anomalies thus far found.

Top Scholars

In the history of psychology, only two scholars have had long, prolific research careers with continuous focus on acculturation: Ronald Taft from Australia and John Berry from Canada. Taft's first acculturation paper was his 1953 study describing three modes of acculturation: interactionism (**YES, YES**), monism (**NO, YES**), and pluralism (**YES, NO**). Berry's first acculturation paper was his 1970 study describing three modes of acculturation: integration (**YES, YES**), assimilation (**NO, YES**), and rejection (**YES, NO**). At their respective starting points, their scholarship seems

similar, certainly in studying the Australian context, in defining acculturation taxonomies, and in advocating biculturalism. However, Taft drew more on social psychology literature; Berry more on sociology literature. Taft studied immigrant acculturation; Berry studied aboriginal acculturation. Taft focused on developing new theory; Berry focused on developing an empirical research paradigm which has served as a model for many other researchers.

In a review of the history of acculturation psychology, Rudmin (2003b) was critical of the collective historic community of acculturation researchers, including Taft and Berry, for failure to link psychological research to legal scholarship, failure to systematically cite prior research, even one's own prior research, failure to tightly test theories of which kind of acculturation is most adaptive, failure to compete theories against opposing theories, failure to maintain common vocabulary, failure to heed warnings about difficulties in acculturation research, and failure to understand the logic of the theories. Berry's research and writings are salient in criticisms of acculturation research because he has been uniquely prolific in our contemporary period not because his research has been uniquely faulty. However, all of the faults in acculturation research might have been corrected decades ago if colleagues, co-authors, editors, review readers, teachers and students had been less blinded by ideology and been more aware and caring about standards of science. Progress in science depends on the high productivity of scholars like Taft and Berry, but it also depends on critics keeping such productivity aware of its failings and self-correcting. Quiet critics and polite silence make science go astray. Journal review biases help hide errors in science and serve to perpetuate the problems.

Research Recommendations

Research that reflects the values of liberalism, that promotes multiculturalism, and that helps ameliorate the distresses of acculturation will require new designs and must be done to higher standards of science. The acculturation constructs and measurements need renovation, and the right comparisons need to be tested. A claim that bicultural integration causes less stress than other modes of acculturation should meet five criteria: 1) Minority distress should be compared with that of control groups to determine if acculturating minorities experience excessive stress in comparison to a matched sample from the majority population or in comparison to control groups of the same ethnicity (Kim, 1988). Ødegaard (1973) recommended that people who migrate out of their country should be compared with people who migrate within their country, showing in his own data that Norwegians migrating to Minnesota were more depressed than people born in Minnesota but were less depressed than Norwegians migrating to Oslo. 2) Effect sizes should be computed to show that they are large enough to warrant policy recommendations. 3) The effects of biculturalism should be shown to be significantly better than the effects of assimilation, separation, and marginalization, and this latter should be correctly labeled and operationalized. 4) These four criteria should be shown to survive after covariate control for SES and demographic measures. If they do not, then further analyses should determine which sub-populations meet the four criteria and which do not. 5) A claim that bicultural integration causes reduced stress will require evidence that stress is not causing the acculturation choices, as Kosic (2004, p. 276) hypothesized and demonstrated. Born (1970) and Berry (1970; 1980) both have presumed that the modes of acculturation are responsive options for coping with acculturative stress, such that it is plausible that high levels of stress cause people to

choose acculturative withdrawal (separation or marginalization) and low levels of stress cause them to choose acculturative engagement (assimilation or integration). For example, Russian students in Russia, prior to emigration to Israel, and thus prior to the acculturative stress of migration, had Israel integration scores that were negatively related to alienation ($r = -.24$, $n = 143$, $p < .05$) (Tartakovsky, 2002, p. 1852). Since alienation status existed prior to acculturation in Israel, then low alienation cannot be a consequence of integration experiences.

The present paradigm is filled with circular reasoning. For example, acculturative stress causes minorities to choose among acculturation modes, which cause changes in acculturative stress. Similarly, the paradigm argues that acculturative attitudes cause acculturation outcomes, which are measured as acculturative attitudes. Thus, one-time measures of either stress or attitudes are uninformative since they are both conceived to be both causes and consequences.

Consider the claims 1) that virtually all acculturation research shows that integration is beneficial, and 2) that integration is only possible in societies that are explicitly multicultural. Both claims seem necessary for the political argument that acculturation research recommends multiculturalism. Both claims are empirical, and thus open to falsification. But one claim falsifies the other. If claim #1 is true, then integration is possible in societies that are not multicultural. If claim #2 is true, then it should not happen that all studies show integration to be beneficial. That is, unless it is also true that all societies are already multicultural. But if that were true, there would be no need for research by which to argue that societies should become multicultural.

The paradigm needs re-thinking in order to avoid such circular reasoning. Presently, the acculturation preferences of minority individuals are measured under

the presumption that they are exercising free choice. These preferences are then said to show that individuals who choose bicultural integration become less stressed compared to those who choose other options, and from this often false finding comes the conclusion that minorities should, therefore, have free choice as would be possible if the majority favored multiculturalism. That is, researchers argue that majority groups and their policies should allow minorities to have free choice, based on evidence that presumes that minorities do have free choice. But by placing blame for distress on the minorities' choices, majority groups and their policies are released from any real responsibility. An immense amount of research has been invested in this faulty reasoning and all unnecessarily: Liberalism advocates free choice whether it is distressing or not. The central research issue should be aimed, not at self-inflicted distress, but at redress of harm caused by violation of minority rights to free choice about cultural matters.

If the political purpose of the research is to generate information that might be persuasive in changing the attitudes, behaviors, policies, and laws of the majority, then the research strategy should be directed to showing which of these violate the acculturative rights of minority individuals or cause them harm. Within liberal societies, this kind of information is persuasive and can be legally very forceful. For example, in the 1954 US Supreme Court decision of *Brown v. Board of Education*, psychological research on the harm caused by racially segregated schools was central to the decision that such racial discrimination must cease (Benjamin & Crouse, 2002; Klineberg, 1986).

Thus, a between-groups survey study might sample nations or communities or schools or classrooms (rather than individuals), and measure the majority group's acculturative attitudes, behaviors and policies in order to see if more multiculturalism

correlates with less distress for the minority individuals in those settings. A within-subjects survey study might measure changes in distress when minority individuals move to a new setting in which the majority group has different acculturative attitudes, behaviors or policies. Experimental studies might randomly assign contexts to manipulation and control conditions, and then determine if experimentally induced increases in majority group multiculturalism cause decreased distress for the minority individuals. All of these above designs should include covariate control of social desirability, SES and demographics.

If research had a less political, more applied intent, then studies might focus on how best to be bicultural. This approach will require refinements of the concept of "bicultural" since, as argued by Berry (1970) and the sociologists he cites, marginality is also a bicultural condition. Berry's original 1970 theory argues that the remedy for marginality biculturalism is integration biculturalism, defined as maintenance of heritage identity and enough cultural learning for full participation in the dominant society. Thus, applied research should be comparing different ways of increasing heritage identity and comparing different ways of increasing cultural learning and social participation, and then determining the effects of those increases on the distress, satisfaction, or adaptation of the minority individuals. It might here be hypothesized that invisible strategies of heritage maintenance, such as attachment to history or literature, or intermittent strategies, such as ethnic associations and weekend religious services, are more effective than visible, continuous strategies, such as clothing, hair styles, cosmetics, religious symbols, architecture and language use, since these latter may interact negatively with the integration goals of increasing participation with the larger society. These latter

goals will also require research on the effectiveness of different ways to increase the majority population's acceptance of minority group participation.

Deep Critique

The focus thus far has been on faults in acculturation psychometrics, constructs, and research designs, leading to a conclusion that liberal ideology has been broadly biasing the research community. The recommendation to return to the methods of orthodox psychological science is not an advocacy of a revolutionary paradigm shift as described by Kuhn (1962). However, such a shift should be explored. Two of the European pioneers of social psychology, Fritz Heider and Gustav Ichheiser, both argued that new paradigms begin with phenomenological critiques that focus on phenomena that are so obvious that no one notices (Ichheiser, 1949; Rudmin, Trimpop, Kryl & Boski, 1989; Heider, 1987-1989). The failure of psychologists to study the acculturation processes of majority populations, discussed earlier, is an example of a phenomenological observation that implies that there is something fundamentally wrong with theories and research on acculturation. Phenomenology relies on naive observations and thoughtfulness, not on new data nor on literature reviews.

For example, no one has noticed that virtually all acculturation studies, in virtually all contexts, by all scholars, using any instrument, show that minorities are bicultural in their acculturative attitudes, identities, practices, preferences, etc. Respondents very rarely, if ever, give consistent, extreme answers favoring uniculturalism. Any deviation from a perfect unicultural response pattern is a claim to be bicultural, if only to a small degree. The one finding that virtually every research project has replicated is that no minority groups have unicultural preferences or practices. That fact has been well established and needs no further study.

Therefore, research reports should stop stacking up evidence against the strawman that uniculturalism is. Theories and empirical measurements should focus on the degrees of biculturalism, or the kinds of biculturalism, or the contexts of biculturalism, or the cognitive, meta-cognitive, and emotional processes of biculturalism, or the acquisition of biculturalism, or the costs and risks of biculturalism, how to make biculturalism less distressing, etc.

This line of thinking leads to another naive observation. Perhaps the reason that minorities do not prefer unicultural options is because unicultures are merely mythic, like unicorns. In reality, all cultures have acculturative origins, which means all cultures are hybrid and share qualities and features with other cultures. If psychologists have not noticed this, anthropologists have; hence Escobar and Vega's (2000) complaint that acculturation scales are based on assumptions about culture that anthropologists would find incredulous. This is apparent when thinking through the formal logic of two cultures in contact (Rudmin, 2003b). In Euler diagramming of two cultures in a universe of cultures, there is an overlapping intersection of the two cultures, which represents what they have in common. For example, both Japan and Korea practice Buddhism, which originally came from India, via Persia, to China. Such cultural similarity has not been represented in acculturation theory, except perhaps in the "cultural distance" concept first suggested by Bartlett (1923/1970). Admitting that cultures have commonalities confuses the fourfold theory of acculturation. If a Korean in Japan favors Buddhism, that could signify assimilation, or separation, or integration, or even marginalization if Buddhism is seen as a way to withdraw from the world and to cut cultural attachments.

Because cultures overlap and are not uniquely different, cultural groups select features by which to differentiate themselves and semiotically mark their inter-cultural boundaries (Barth, 1969). Acculturation is not about cultural values, practices, and traits per se, but about encountering and reacting to social constructs created and maintained as perceptual boundary markers between cultures. Similar cultures, such as Japan and Korea, or Canada and the USA, will still be bounded and semiotically marked by their respective communities, even though they have a large cultural intersections and little cultural distance. Thus, acculturation will always be context specific, as Berry *et al.* (1989) have argued, and general acculturation scales designed to fit all contexts will not be viable. When Berry *et al.* (1989) described preliminary emic research to find out which aspects of culture are "important" to the minority, this might better have been conceived as finding out how the minority groups and the majority group and the neighboring societies all mutually construct their inter-cultural boundaries and semiotically mark them. Presumably the semiotically "important" aspects of culture would be uniquely different depending on context, for example, for Koreans in Japan, Koreans in Canada, Koreans in Russia, Koreans in China, and Koreans in Brazil, since "important" will include consideration of "the other" against whom the cultural self-conception is bounding itself.

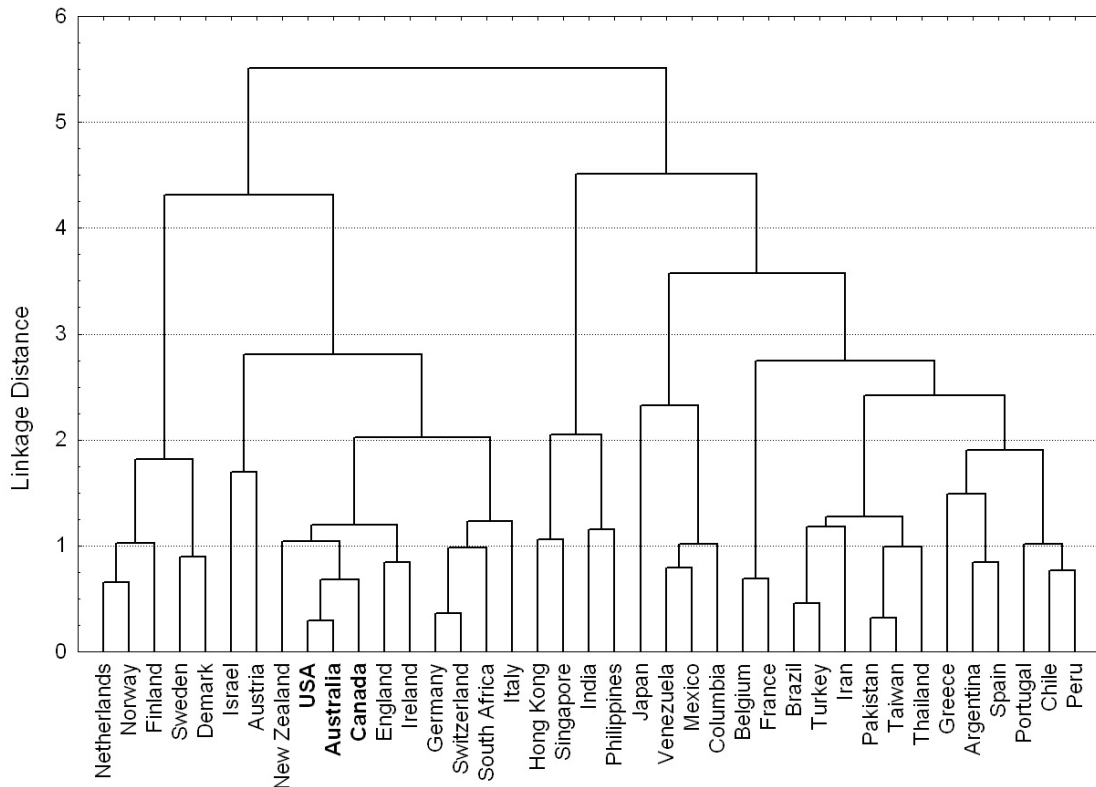
Finally, for a last naive observation that critiques acculturation research, no one seems to have noticed that the majority of acculturation theories, researchers, and data have come from three very similar but very aberrant societies: the United States, Australia and Canada. They share these qualities: 1) immense size, 2) historic dispossession of land from sparsely populated aboriginal peoples, 3) repopulated by predominantly Anglo-Saxon settlers, 4) liberal democratic political culture, 5) predominantly English speaking, 6) predominantly Protestant Christian

religion, 7) high economic development and consumer culture, 8) low likelihood of cultural diminishment or disappearance, and 9) all extremists in values of individualism (Hofstede, 1980). As shown in Figure 3, cluster analysis of Hofstede's (1980) comparative data on cultural values of individualism, power-distance, uncertainty avoidance, and masculinity shows that the United States, Australia and Canada form a tight cultural cluster, distinct from other nations in the world.

It is reasonable that scholars in the United States, Australia and Canada pursue applied research on how minorities acculturate in these nations. But it is presumptuous to think that research on how minorities react to Anglo-Saxon settler societies can describe the human experience of acculturation or can guide research and policies in other parts of the world. This has been unnoticed because the United States dominates the field of psychology, and the English language dominates global discourse, such that it seems unremarkable that acculturation theory is largely from, and about, these three nations. If Germany still dominated psychology and if French were still the world's lingua franca, then the limited context of Anglo-Saxon acculturation research might be more evident, and claims arising from this research might be more modest. Certainly, minorities learning Dutch in Amsterdam or learning Japanese in Tokyo are unlike minorities learning English in Seattle, Sydney, or Vancouver because English is confounded as the dominant local language and the dominant global language.

Comprehensive theories of acculturation and research paradigms that can generalize to the full range of human contexts are unlikely to come from studies of Anglo-Saxon settler societies. They are too similar to each other and too atypical of the world's societies. The United States, Australia and Canada may be the worst places in the world in which to develop a general theory of acculturation. On

Figure 3: Cluster analysis of 39 nations based on the four values of Individualism, Power-Distance, Uncertainty-Avoidance, and Masculinity as reported in Hofstede's (1980) *Culture's Consequences*. Method: Complete clustering of Euclidian distances of standardized scores.



this topic, scholars from other nations in the world need to lead, and we from the Anglo-Saxon settler societies need to be more circumspect about our cultural, historical, geographical, and political uniqueness.

Conclusion

Acculturation contexts are a cause of crises in our contemporary world, including the quiet distress of individual "foreigners" and the explosive violence of inter-ethnic war and global "clash of civilizations." Acculturation research as applied science has hoped to be helpful in understanding these phenomena and reducing

their pain. But science without rigor cannot be helpful: it is wasteful at best, hurtful at worst. On this topic, research has much less leeway for error than is usual in the social sciences. A caring science needs to be cautious, self-critical, correct in its methodology and conscious of its ideology.

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End Notes:

¹ Berry and Sam (2003, p. 66) claim that the figure made by Rudmin and Ahmadzadeh (2001, p. 46) to depict the acculturation constructs is an exact reproduction, without permission, of the cited source (Berry *et al.*, 1989, p. 187). However, the original figure uses boxes, arrows, italic and bolding; Rudmin and Ahmadzadeh's (2001) figure has none of those characteristics, plus it sets quoted text inside quotation marks and gives page citation as is the norm in psychology. The idea of a 2X2 graphic to illustrate acculturation constructs is not original to Berry (e.g., Bagley, 1971, p. 31; Comeau, 1969, p. 162; Pettigrew, 1974, p. 16; Smither, 1982, p. 60; Szapocznik, Kurtines & Fernandez, 1980, p. 362). Many others have made adaptations of graphic depictions of Berry's fourfold acculturation constructs without acknowledged permission (e.g., Arends-Tóth & van de Vijver, 2003, p. 251; Aycan & Kanungo, 1998, p. 452; Bourhis *et al.*, 1997, p. 377; Lee, Sobal & Frongillo, 2003, p. 283; Mishra & Chaubey, 2002, p. 203; Pettigrew, 1988, p. 20; van de Vijver & Phalet, 2004, p. 218). Berry himself has for several decades made multiple variations of the same figure, without citation of the original and without acknowledged permission of the copyright owners. Berry's thesis students (e.g., Almyroudis, 1991, p. 8; Donà, 1993, p. 30) have copied the text and graphics of the figure in Berry *et al.* (1989, p. 187) without quotation marks, without page citation, and without acknowledged permission. Thus, graphic depictions of fourfold acculturation constructs belong to the public domain of science.

In addition to a different image, the figure in Rudmin and Ahmadzadeh (2001, p. 46) also has a different caption, which reads, "*Answers to two issues generate four acculturation attitudes.*" The word "*answers*," Berry and Sam (2003, p. 66) argued, implies that research subjects are questioned about the two issues rather

than about the four attitudes. However, the figure in Berry *et al.* (1989, p. 187) presents two issues as questions ("*Issue 1: Is it considered to be of value to maintain cultural identity and characteristics?*" "*Issue 2: Is it considered to be of value to maintain relationships with other groups?*"), then answers each of these questions with categorical answers of "YES" and "NO," and uses arrows from these answers to the acculturation constructs of integration (**YES, YES**), assimilation (**NO, YES**), separation (**YES, NO**), and marginalization (**NO, NO**).

Berry and Sam (2003, p. 65) also objected to the description of the fourfold paradigm as a "*categorization scheme*" or a "*typology*." Berry (2003, p. 28) explained: "*Although many psychologists (usually clinicians or educators) do categorize individuals, I believe this practice loses valuable information about the complexity of an individual's acculturation situation and pigeon holes a person in a stereotypical way.*" Rudmin and Ahmadzaden (2001) used the words "categorization" and "typology" to refer to categories or types of acculturation, not to categories or types of people. Berry has himself used the same terminology in the same way. For example, in 1983 he wrote "*Let us consider the **types** of acculturation that are identified by answering 'no' to the question of establishing or maintaining positive relations with the larger society*" (Berry, 1983, p. 69, bolding and underlining added).

Finally, Berry and Sam (2003, p. 66) falsely state that Rudmin and Ahmadzadeh (2001) intentionally misrepresented the length of fourfold items by displaying especially bad items. Berry *et al.* (1989, p. 193) were the ones who first chose Kim's (1984) items as the exemplary model for making acculturation scales. These items are representative of the literature because so many researchers have followed that model, as noted in the text in the section on "Faulty Psychometrics."

Rudmin and Ahmadzadeh (2001) did not select items with deceptive intentions. Their display of Kim's four items about furniture happened because they had listed Kim's (1984, pp.157-167) questionnaire topics in the order that he had listed them, and to keep continuous prose, they displayed the items for the last mentioned topic, furniture. The four furniture items have a mean of 22 words (which was rounded down to 20) and a mean of 2.5 barrels, making them very typical of the other 76 items, which have a mean of 21 words and a mean of 2.6 barrels. Rudmin and Ahmadzadeh's (2001) four display items were less bad than the eight items Berry *et al.* (1989, p. 193) displayed, which have a mean of 22 words and 3.1 barrels. If Rudmin and Ahmadzadeh (2001) intended to show fourfold items at their worst, they would have displayed the four history items, which have a mean of 29 words and 3.75 barrels. Thus, Rudmin and Ahmadzadeh's (2001) examples of fourfold items are not misrepresentations, and certainly not deliberate misrepresentations. That Berry and Sam (2003) found these four items objectionable is further evidence that the paradigm is faulty and needs fixing.