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Autonomy, culture, and well-being: The benefits of inclusive autonomy

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Abstract

In an attempt to understand cultural variation in motivation, we distinguished between the *type* of motivation (ranging from controlled to autonomous, as conventionally measured) and the *subject* of motivation ("I" vs. "my family and I"), creating measures of individual and inclusive academic motivation. Support was found for three hypotheses. First, Chinese Canadian and Singaporean students felt less relative autonomy than European Canadian students, on both the inclusive and individual measures. Second, *individual* relative autonomy was associated with psychological well-being (WB) for European Canadians and Chinese Canadians (Study 1), and Singaporeans (Study 2). Third, *inclusive* relative autonomy was associated with psychological well-being for Chinese Canadians and Singaporeans, but not European Canadians. Exploratory analyses are also presented, and implications for the theory and measurement of autonomy are discussed.

Keywords: Cross-cultural differences; Motivation; Self-determination; Academic achievement motivation; Chinese cultural groups; Well being; Individuality

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1. Introduction

According to self-determination theory (SDT; Deci & Ryan, 1985, 1991) people of all types need to feel autonomous—that they are the authors and agents of their own behavior—rather than feeling that their behavior is controlled by forces that have not been assimilated into the self. Although thirty years of empirical research have supported this general claim, recently some cross-cultural theorists have suggested that autonomy is only a western cultural ideal, and not a universal need (Markus & Kitayama, 2003; Oishi, 2000; Oishi & Diener, 2001). According to this view, members of societies that give greater emphasis to family, tradition, hierarchy, and group-centered norms may never develop a preference for autonomy, instead feeling more satisfied when they subordinate their own will to the will of the group. Support for both of these seemingly contradictory positions can be found within the empirical literature.

In this article we hope to help clarify the issue by distinguishing between the *type* of motivation (ranging from controlled to autonomous), and the *subject* of that motivation ("I" vs. "my family and I"). We hope to show that a measure of "inclusive" autonomy, in which "my family and I" is the subject, converges considerably with a conventional measure of autonomy, in which "I" is the subject. However, we also hope to show that inclusive autonomy has greater significance for the well-being (WB) of individuals raised in collectivist cultural groups.

1.1. Self-determination theory

Self-determination theory (SDT) is a theory of motivation that focuses on the social and intrapersonal processes that promote or detract from peoples' sense of agency with respect to their behavior. To be autonomous is to "endorse one's actions at the highest level of reflection. When self-determined, people experience a sense of freedom to do what is interesting, personally important, and psychologically vitalizing" (Deci & Ryan, 2006). Early experimental research in this tradition (Deci, 1975) showed that controlling social contexts and extrinsic motivators can undermine peoples' intrinsic motivation to engage in formerly enjoyable activity, presumably by thwarting their need for autonomy and self-direction. In other words, when peoples' reasons for acting shift from autonomous to controlled, those actions tend to lose their appeal.

Later research broadened the extrinsic/intrinsic dichotomy by differentiating three types of *extrinsic* motivation: external motivation (the person acts to gain a reward or avoid a punishment), introjected motivation (the person acts to avoid self-imposed recriminations or guilt), and identified motivation (the person acts to express an important value or self-identification). External and introjected motivations are conceptualized as *controlled*, whereas identified motivation feels *autonomous* even though engaging in the behavior itself may not be enjoyable. Thus, a person may do a boring task because she will get fired if she does not (external motivation), because she will feel bad about herself if she does not (introjected motivation), or because she believes in its value and importance (identified motivation). In the latter case, the motivation is said to be internalized. Motivational internalization helps people do what needs to be done even when the behavior is intrinsically unpleasant (Sheldon, Kasser, Houser-Marko, Jones, & Turban, 2005). Autonomous (i.e., internalized) behavior also has been shown to be associated with a broad variety of positive outcomes in realms such as school and sport performance, weight loss, medication adherence, mood and well-being, and personal goal attainment (see Deci & Ryan, 2000, for a review).

1.2. Cross-cultural challenges to the SDT position

The majority of data supporting SDT, however, have been collected within the U.S., and some cross-cultural researchers have questioned the generalizability of SDT (e.g., Cross & Gore, 2003; Markus & Kitayama, 2003). Most prominently, Iyengar and Lepper (1999) conducted a series of studies that, they argue, demonstrate that individual choice is less important to children from more collectivist cultures. In one study, they found that European American children persisted longer on anagram tasks when they themselves chose what task to work on, but not when an experimenter or their mother chose the task for them. Asian American children persisted on the anagrams when they themselves chose the task, *and* when their mothers chose the task for them. In fact, they persisted more when their mothers made the choice than when they themselves chose. They did not persist on the task when the experimenter (with whom they did not have a relationship) made the choice. Thus, Iyengar and Lepper argued that personal choice is not as relevant to Asian American children as it is for Anglo American children.

Bontempo, Lobel, and Triandis (1990) found results similar to those of Iyengar and Lepper (1999). They asked individuals from Brazil and the USA to rate how likely they would be to engage in behaviors that were costly to them but expected by the in-group (e.g., visiting a friend in the hospital when this was time consuming). Participants responded to the questions in either a private or public condition. Brazilian individuals, who emphasize collectivism (Oyserman, Coon, & Kemmelmeier, 2002), said that they would do what was expected of them in both conditions. Participants from the USA said that they would do what was expected of them in the public, but not the private condition. Thus Brazilians, but not Americans, appeared to be motivated to behave in ways that were consonant with the expectations of the in-group.

Cross-cultural researchers who emphasize cultural differences typically interpret such findings with reference to the more interdependent (rather than independent) sense of self that is felt by individuals within collectivistic cultures. "Interdependent" means that people conceptualize themselves as overlapping with the selves of others, with shared interests, goals, and values; "independent" means that people conceptualize themselves as distinct from the selves of others, with potentially divergent interests, goals, and values (Markus & Kitayama, 1991). And indeed, research indicates that members of collectivist cultures typically conceive of themselves in more interdependent and less independent terms, compared to members of individualist cultures (Cousins, 1989; Miller & Bersoff, 1992). These differences are said to have their roots in cultural-developmental dynamics, as children are exposed to more group-centric versus self-centric norms of their culture of origin (Chao, 1994; Miller, 2003).

Implicit in the cross-cultural critique has been the idea that autonomy and choice are isomorphic with independence, and that when interdependence is stressed, autonomy and choice are not important (Iyengar & Lepper, 1999; Markus & Kitayama, 2003). By this reasoning, autonomy and choice should be relevant to well-being (WB) in cultures that emphasize individualism and independence, but less relevant to WB in cultures that emphasize collectivism or interdependence (Oishi & Diener, 2001).[1]

[1] We should point out that while some cross-cultural researchers often implicitly equate individualism with choice and autonomy, they also offer more nuanced positions with respect to these variables, not unlike the arguments we make below (Gore & Cross, 2006, p. 849; Iyengar & Lepper, 1999, p. 364; Markus & Kitayama, 2003, p. 17; Oishi & Diener, 2001, p. 1681).

Nevertheless, there is emerging cross-cultural evidence to support Ryan and Deci's claim that the need for autonomy applies to individuals from all cultures. Sheldon et al. (2004), for example, asked individuals in China, South Korea, Taiwan, and the USA to rate the extent to which they pursue important personal strivings (Emmons, 1989), for reasons ranging from controlled to autonomous. In all four cultures subjective WB was positively predicted by higher *relative autonomy*, that is, higher levels of intrinsic and identified motivations relative to external and introjected motivations. Similarly, Chirkov, Ryan, Kim, and Kaplan (2003) assessed the motivation of undergraduates from Russia, South Korea, Turkey, and the U.S. and found that relative autonomy for both collectivist- and individualist-type behaviors (as represented by items in the Triandis & Gelfand, 1998, measure of cultural styles) was positively associated with perceptions of WB, in all four samples. Similar results have been found for Brazilian and Canadian participants (Chirkov, Ryan, & Willness, 2005). Research conducted on Japanese and Chinese samples, too, has found external and introjected academic motivation to predict less optimal learning styles, academic achievement, and adjustment, whereas identified and intrinsic motivation predict more adaptive outcomes (Hayamizu, 1997; Tanaka & Yamauchi, 2000; Vansteenkiste, Zhou, Lens, & Soenens, 2005; Yamauchi & Tanaka, 1998).

In short, there appear to be two contradictory positions concerning the cross-cultural importance of psychological autonomy, and research data that supports both positions. How might the contradiction be resolved? We suggest that the two traditions actually refer to subtly different features of motivation. Whereas SDT focuses on the *reasons for behavior*, with reference to a continuum ranging from controlled to autonomous types of motivation, cross-cultural researchers are focusing on *who is behaving*—the felt subject of the motivation. Does the actor feel him or herself to be an independent self, distinct from others, or to be a relatively interdependent self, where the boundary between self and important others overlaps? This suggests that feelings of behavioral autonomy, and feelings of being an independent self, are not necessarily the same—thus, one might define oneself in an interdependent or independent way, as one behaves for controlled or autonomous reasons (a conceptual 2×2; see Table 1). The extent to which these factors tend to co-vary then becomes an empirical question (Kagitcibasi, 2005). In sum, we hoped that a measurement approach that combines prominent concepts from the self literature (i.e., interdependent vs. independent self-construal) and the motivational literature (i.e., autonomous vs.

Table 1
Examples of individual and inclusive motivation

"I work hard at my course work because…"		
Type of motivation (reasons for behavior)	Subject of motivation	
	Individual	Inclusive
External	"… I think it's what I'm supposed to do"	"… in my family, we think it's what you are supposed to do"
Introjected	"… I feel bad about myself when I don't do my work"	"… in my family, we feel bad about ourselves when we don't do our work"
Identified	"… I think it's important to understand the subject"	"… in my family, we think it's important to understand the subject"
Intrinsic	"… I enjoy academic activities"	"… in my family, we enjoy academic activities"

controlled reasons for acting) may provide significant progress concerning unresolved problems in the field (Markus & Wurf, 1987).

To demonstrate the possible utility of distinguishing between the *subject* vs. the *type* of motivation, let us return to Iyengar and Lepper's (1999) finding that Asian American children were more motivated to pursue activities in which their mothers made choices, which seems to challenge the SDT position. Rather than implying that these children do not value personal choice, however, these results might instead imply that these children include their mothers to a greater extent within their sense of self. Similarly, Bontempo et al.'s (1990) finding that Brazilians were motivated to uphold in-group norms in both public and private conditions may reflect differences in Brazilians' sense of self, rather than a devaluation of autonomy. More generally, our line of reasoning suggests that there may be two routes to motivational internalization: pursuing the behavior for identified reasons as an individualized self, or pursuing it for identified reasons as an inclusive self. Still, even in the inclusive case, the type of motivation should remain important, according to SDT: behaving with a feeling of being more controlled than autonomous should be problematic in any culture, even if it is an interdependent self that has this feeling.

It is important to note that the typical SDT measure of individual autonomy (i.e., high intrinsic and identified motivation and low external and introjected motivation, referenced to "I" as the subject) may function quite similarly to the measure of "inclusive" relative autonomy measure that we propose. Individuals who endorse the item, "I try to do X because my family and I think it is important" (identified inclusive motivation) should also endorse the item, "I try to do X because *I* think it is important" (identified individual motivation). This is especially so given that the belief that X is important likely came from the social surround, initially. Still, we believed that the measures might have different correlates in different cultural groups, because the explicit reference to family and groups that was contained within the inclusive autonomy measure fits better with the more explicit allocentrism of collectivist groups. Conversely, in individualist cultures, typical measures of individual relative autonomy might better predict WB than a measure of inclusive relative autonomy, since the latter measure should be less relevant to those from individualist groups.

We note that our measures of individual and relative inclusive autonomy resemble some distinctions made in existing research. Hobfoll, Schroder, Wells, and Malek (2002) examined self-mastery and communal mastery, which concern, respectively, the sense that one can achieve personally relevant goals oneself, and the sense that one can achieve these goals with the support of others. Similarly, Morris, Mennon and colleagues have assessed behavioral attributions to individual and group dispositions (for example, when a worker in a company behaves in problematic ways, the responsibility for the misbehavior can be attributed to the individual worker or to the larger group of workers; Menon, Morris, Chiu, & Hong, 1999). Also, Yeh and Yang (2006) assessed what they termed individuating and relating autonomy. However, none of these investigators assessed the relative strength of controlled versus autonomous motivations, which is the crucial issue according to SDT. For example, Yeh and Yang assessed relating autonomy with items such as "It is meaningful to fulfill my duty as a son or a daughter." While the latter type of item appears to reflect identified motivation, there were no items on the relating autonomy scale that reflected external, introjected, or intrinsic motivations.

Gore and Cross (2006) did assess inclusive and individual motivations that varied in terms of how controlled versus autonomous they felt. They used the labels Relationally

Autonomous Reasons (RAR) and Personally Autonomous Reasons (PAR) to refer to their two measures. They found that RAR was associated with increased effort to achieve personally relevant goals in a Midwestern sample. However, their study did not assess psychological well-being, nor did it examine how RAR might function in a more collectivist culture. Also, their measures of RAR versus PAR did not make the distinction between type of motivation and subject of motivation. RAR items were "I am pursuing this goal…" "… because other people expect me to" (external) "… because I would let someone else down if I did not," (introjected), "because it is important to someone close to me," (identified) and "because the people involved make it fun and enjoyable" (intrinsic). These items reflect motivations that are clearly related to interpersonal concerns. However, the subject of the motivation in all cases is "I".

In sum, other recent approaches to inclusive motivation have not made distinctions among the various reasons for acting specified by SDT, and/or have not made distinctions between the reasons for action and the subject of the motivation. Also, past SDT research has not focused upon variations in the subject of the motivation, as have some of the recent cross-cultural approaches within the self literature. In the current research we developed a measurement approach to accomplish both of these purposes simultaneously, hoping to show that both the SDT and the cross-cultural positions have merit.

1.3. The present studies

In Study 1 we sampled two groups of Canadian undergraduates, one of Chinese background and the other of European background. Specifically, we assessed their academic motivation, a highly relevant issue to most university undergraduates, in both inclusive and individual terms. We also assessed four measures of WB, two negative (depression and anxiety) and two positive (self-esteem and self-actualization).

In Study 2, we sought to generalize the results found within the Chinese Canadian immigrant sample by examining a non-immigrant Singaporean sample. Study 2 also somewhat refines the two measures, while supplying validity evidence showing that both inclusive and individual autonomous academic motivation are associated with a measure of general autonomy need-satisfaction, beyond the academic domain. We now turn to Study 1.

2. Study 1

In Study 1, we tested three hypotheses. Our first hypothesis was that the Chinese Canadians would report lower levels of autonomous academic motivation (relative to controlled motivation) on both the inclusive and individual measures. This assumption was based on research that has found that Chinese and/or Asian immigrant children feel a great deal of pressure to succeed academically, and are more fearful of parental reactions to academic failure than children from non-Asian groups (Chung, Walkey, & Bemak, 1997; Steinberg, Dornbusch, & Brown, 1992). This heightened pressure may reflect contextual forces such as the extremely competitive academic environments within Asian countries, or immigrant parents' perceptions that academic success is important to effectively integrating within a new host culture (Fuligni & Yoshikawa, 2003; Lam, Yim, Law, & Cheung, 2004). Our second hypothesis was that the individual relative autonomy measure (RAI) would be correlated with WB for Chinese Canadians *and* European Canadians. This was based on the past findings in the SDT literature showing that relative autonomy, measured in the typical

SDT way, predicts WB in both western and eastern cultures as discussed above. Our third hypothesis was that the inclusive RAI would be more strongly associated with psychological well-being for the Chinese Canadians compared to the European Canadians (i.e., an interaction was predicted). We thought that if individuals from collectivist societies have more interdependent selves, they would be prone to benefit when their motivations acknowledge such interdependence (Oishi & Diener, 2001).

2.1. Method

2.1.1. Participants

Ninety-six (61 female, 35 male) Chinese Canadian, and 89 (61 female, 28 male) European Canadian students from a major university in Toronto participated in the study. Those who labeled themselves as Chinese or Taiwanese were included in the Chinese Canadian sample. Thirty-two were born in Canada or the USA and 64 were born outside of Canada. With one exception, all parents of the Chinese Canadians were born outside of Canada. Eighty-one of the European Canadians were born in Canada. The eight not born in Canada were of the following backgrounds: Belgian, German, Italian, South-African/Greek, Israeli, and the USA.

The average age of the Chinese Canadians and European Canadians, respectively, was 19.81 ($SD = 1.16$) and 20.65 ($SD = 3.22$). An ANOVA with ethnicity as the predictor variable revealed a significant effect for age, $F(1, 182) = 5.69$, $p < .05$ (one student did not report age). This was because three European Canadians were over 30; exclusion of these cases yielded similar results and thus the cases were retained. Excluding these participants, the Chinese Canadians and European Canadians, respectively, ranged in age from 17.1–24.6 and 18.2–24.9.

2.1.2. Measures

2.1.2.1. Individual and inclusive academic motivation. To assess academic motivation, we asked participants to rate statements about why they engaged in different academic activities. Items were worded in two ways: in one the self was the subject, and in the other the family *and* the self were the subject. Items reflected the four types of motivations described by Ryan and Connell (1989), yielding eight subscales. For example, participants rated the extent to which they worked hard at their course work "because that's what I'm supposed to do" and "because in my family, we think it's what you're supposed to do" (external individual motivation and external inclusive motivation, respectively), the extent to which they paid attention in class "because I would feel guilty if I didn't pay attention" and "because in my family, we feel guilty when we don't pay attention" (introjected individual and introjected inclusive motivation), the extent to which they participated in class "because I want to know if my ideas are correct" and "because in my family, we want to know if our ideas are correct" (identified individual and identified inclusive motivation), and the extent to which they tried to do well in school "because I enjoy doing my school work well" and "because in my family, we enjoy doing our work well" (intrinsic individual and intrinsic inclusive motivation). Each subscale was comprised of three items. Participants rated how true each item was of themselves, on a scale of 1 (*Not True at All*) to 7 (*Very True*). Subscale alphas ranged from .63 to .81, with the exception of the "individual" version of the introjection scale, for which the alphas were .45 for Chinese Canadians and .49 for European Canadians.

Below, we present the results in two ways. First, in order to compare the present study to past research, we calculated separate relative autonomy indices (RAIs) for the inclusive

and individual items. In forming the RAIs, the external, introjected, identified and intrinsic scales were weighted by −2, −1, 1 and +2, respectively, and then averaged. This technique has been used by a number of researchers in a wide variety of cultural groups (Chirkov et al., 2003, 2005; Grolnick & Ryan, 1989; Vallerand, Fortier, & Guay, 1997; Vansteenkiste et al., 2005). Second, we present analyses that separately test the effects of the autonomous (the weighted identified and intrinsic items) and controlled (the weighted external and introjected items) facet scores, so that we could evaluate which feature of motivation is most associated with WB. Specifically, "autonomous" and "controlled" facet scores were created for both the "I" and "my family and I" variables (four scales in all). Alphas for these scales ranged from .67 to .80 in the two groups. Inclusive autonomous and controlled motivation were significantly associated in both groups, with both *r*s above .64, $p < .0001$, reflecting a pattern wherein some participants endorsed all types of inclusive motivation more than other participants. The individual autonomous motivation and individual controlled motivation scales were positively associated in the Chinese Canadian group, $r = .22$, $p < .05$, but not the European Canadian group, $r = .06$, *ns*.

2.1.2.2. Collectivism. Confucian values emphasize vertical relationships (within and beyond the family) as well as interpersonal connectedness and harmony (Chao, 1994). Thus, to confirm that the Chinese Canadians valued collectivism more than the European Canadians, we administered Triandis' (1995) 8-item Vertical Collectivism scale, which assesses interdependence that also emphasizes deference to authority (e.g., "I would sacrifice an activity that I enjoy very much if my family did not approve of it"). Participants responded on a ten-point scale (1 = *strongly disagree*; 10 = *strongly agree*). Alphas were .60 and .69 for the two groups.

2.1.2.3. Psychological well-being (WB). Participants completed the Center for Epidemiological Studies-Depression scale (CES-D; Radloff, 1977), six items from the anxiety subscale from the Hopkins Symptoms Checklist (Derogatis, Lipman, Rickels, Uhlenhuth, & Covi, 1974; see Kasser & Ryan, 1996), and Rosenberg's (1979) measure of self-esteem. Alphas for these scales ranged from .77 to .88 within the two groups. Participants also completed the 15-item short index of self-actualization (Jones & Crandall, 1986), which assesses perceptions of the development and expression of the self. Alphas for this measure were .46 for the Chinese Canadians and .51 for the European Canadians. Although these alphas are low, they are consistent with past research showing relatively low internal consistency for this very broad measure of personal development (Ryan, La Guardia, Solky-Butzel, Chirkov, & Kim, 2005). Furthermore, the measure has been found to function similarly within a wide variety of cultures, including Chinese cultural groups (Chirkov et al., 2003, 2005; Ryan et al., 1999, 2005).

We also created a composite measure of psychological WB by converting all scales to *z*-scores and scoring them so that higher scores indicated higher levels of WB. Alphas for this measure were .75 for the Chinese Canadians and .79 for the European Canadians.

2.2. Results

2.2.1. Descriptive statistics and preliminary analyses

We first examine the correlations across the inclusive and individual versions of each the four motivational subscales. For Chinese Canadians, the cross-correlations for external,

Table 2
Means for all measures, both for the whole sample and split by cultural group

	Cultural group						
	Overall		Chinese Candian		European Canadian		F^a
	M	*SD*	*M*	*SD*	*M*	*SD*	
Vertical collectivism	6.15	1.26	6.67	1.07	5.59	1.22	34.94***
Inclusive RAI	0.09	0.76	−0.11	0.69	0.31	0.77	12.32**
Inclusive controlled	5.64	1.85	6.04	1.78	5.21	1.84	8.66**
Inclusive autonomous	5.83	1.81	5.82	1.82	5.84	1.81	0.01
Individual RAI	0.30	1.06	0.06	0.97	0.57	1.10	7.73**
Individual controlled	6.55	1.69	6.79	1.61	6.29	1.75	2.69
Individual autonomous	7.15	1.48	6.90	1.49	7.43	1.44	3.94*
Psychological well-being							
Depression	1.81	0.48	1.87	0.47	1.76	0.48	1.63
Anxiety	1.56	0.50	1.61	0.53	1.50	0.47	1.75
Self esteem	2.88	0.52	2.80	0.51	2.96	0.52	2.91
Self actualization	5.61	0.73	5.52	0.71	5.72	0.75	2.14
Aggregate WB	−0.00	0.77	−0.14	0.76	0.13	0.78	3.58

Note: RAI, relative autonomy index; WB, well-being.

[a] *F* values are reported for simple ANCOVAs that compared the Chinese Canadian mean to the European Canadian mean for each individual scale, controlling for age.

* $p < .05$.

** $p < .01$.

*** $p < .0001$.

introjected, identified, and intrinsic motivations were .47, .67, .26, and .42. The corresponding European Canadian correlations were .59, .53, .37, and .33. The cross-correlations for the autonomous and controlled motivation facet scores were .60 and .39 for Chinese Canadians and .62 and .30 for European Canadians. The correlations between the inclusive and individual RAIs were .49 for Chinese Canadians and .51 for European Canadians (all $ps < .01$).

Table 2 presents the means and standard deviations for all measures for the two groups and for the sample as a whole. Preliminary ANOVAS using a Bonferroni correction revealed that there were no main or interaction effects involving gender. Thus gender was not considered in ensuing analyses. Consistent with past research (Sheldon & Kasser, 2001), participant age was significantly positively associated with the summary measure of WB within the sample as a whole, r (184), = .21, $p < .01$, and with higher scores on the inclusive and individual RAIs, rs (184) = .17 and .25, respectively, $ps < .05$. Thus, age was entered as a control variable in the ANCOVAs and regression analyses reported below. As expected, Chinese Canadians did in fact score higher on Triandis' measure of collectivism than European Canadians, F (1, 181) = 34.94, $p < .0001$, confirming that they held more collectivist values.

To evaluate whether there were group differences on the measures of WB, we conducted a series of ANCOVAs testing for group differences on each measure with age entered as a covariate. The ANCOVAs were all non-significant, Fs (1, 181) = 1.63, 1.75, 2.91, and 2.14, for depression, anxiety, self-esteem, and self-actualization, respectively.

2.2.2. Hypothesis tests

2.2.2.1. Hypothesis 1: group differences on the RAIs. To test hypothesis 1, we conducted ANCOVAs on the two Relative Autonomy Indexes. As expected, the Chinese Canadians

felt less autonomous, overall, on both the inclusive RAI, $F(1, 181) = 12.32$, $p < .001$, and on the individual RAI, $F(1, 181) = 7.73$, $p < .01$. Thus, on both measures, Chinese Canadians appeared to feel more external pressure and internal strain, relative to intrinsic enjoyment of and identification with, behaviors related to academic success. The differences on the inclusive RAI were due to the Chinese Canadians reporting higher levels of inclusive controlled motivation (levels of autonomous inclusive motivation were virtually identical). The differences on the individual RAI were due to the Chinese Canadians reporting lower levels of autonomous individual motivation (the groups reported similar levels of controlled individual motivation). Thus, the Chinese Canadians reported feeling both more controlled and pressured in their family-based behavior, and feeling less autonomous and agentic in their individually based behavior.

2.2.2.2. Hypothesis 2: individual motivation and psychological well-being. Consistent with our second hypothesis, in both groups the individual RAI was positively associated with the summary measure of WB (see Table 3). For European Canadians, it was also significantly associated, in the expected direction, with each individual measure of WB. For Chinese Canadians, it was significantly associated with lower levels of depression and anxiety, and higher levels of self-actualization; the association between self-esteem and individual autonomy was not significant. Turning to the autonomous vs. controlled motivation facet scores, both autonomous and controlled individual motivation predicted aggregate WB (positively and negatively, respectively), in both samples.

To directly test hypothesis 2, that the individual RAI would be equally associated with WB in both samples, we conducted a regression analysis (Analysis 1, Table 4a), wherein we predicted the summary measure of WB using terms for age, group, the individual RAI, and the group X individual RAI interaction. All predictors were centered with a mean of zero (Aiken & West, 1991). Consistent with the hypothesis that the individual RAI would be associated with WB in both groups, the interaction between group and the individual RAI was *not* significant, and the association between individual RAI and WB for the overall group was highly significant. An analysis that used separate terms for the autonomous and controlled scales (Analysis 1, Table 4b) revealed that both the autonomous and controlled

Table 3
Associations between the two versions of the RAI and the indicators of psychological well-being, Study 1

	Cultural group									
	Chinese Canadian					European Canadian				
	Dep.	Anx.	S.E.	S.A.	WB	Dep.	Anx.	S.E.	S.A.	WB
Inclusive RAI	−.23*	−.12	.12	.30**	.25*	−.02	.05	.01	.05	.01
Inclusive C	.10	.20*	−.08	−.22*	−.20*	.00	−.02	−.15	−.09	−.07
Inclusive A	−.08	.10	.01	.01	.00	−.02	.02	−.15	−.05	−.07
Individual RAI	−.23*	−.24*	.10	.36**	.31**	−.32**	−.30**	.46***	.33**	.45***
Individual C	.06	.24*	.02	−.25*	−.18+	.18+	.27**	−.36**	−.32**	−.36**
Individual A	−.23*	−.06	.15	.19+	.21*	−.26*	−.12	.26*	.12	.24*

Note: RAI, relative autonomy index; C, controlled facet score; A, autonomous facet score; Dep., depression; Anx., anxiety; S.E., self-esteem; S.A., self-actualization; WB, well-being.

* $p < .05$.
** $p < .01$.
*** $p < .0001$.
\+ $p < .10$.

Table 4
Regression analyses predicting psychological well-being from the measures of inclusive and individual motivation

	Analysis 1 (Hypothesis 2)			Analysis 2 (Hypothesis 3)			Analysis 3 (Exploratory)		
	β	t	R^2	β	t	R^2	β	t	R^2
(a) RAI									
			.18			.10			.22
Age	0.10	1.40		0.19	2.65**		0.10	1.41	
CG	0.07	0.96		.11	1.41		.08	1.12	
Ind. RAI	0.36	5.05***					0.39	4.89***	
CG X Ind. RAI	0.03	0.41					0.13	1.68+	
Incl. RAI				0.13	1.68		−0.06	−0.78	
CG X Incl. RAI				−0.15	−2.05*		−0.21	−2.70**	
(b) Controlled and autonomous scales									
			.18			.11			.23
Age	0.10	1.39		0.20	2.76**		0.10	1.33	
G	−0.07	−0.97		0.09	1.21		0.08	1.12	
Ind. C	−0.29	−4.13**					−0.31	−3.54**	
Ind. A	0.25	3.46**					0.28	3.64**	
CG X Ind. C	0.05	0.64					−0.20	−2.27*	
CG X Ind. A	0.01	0.09					0.06	0.78	
Incl. C				−0.22	−2.17*		0.07	0.64	
Incl. A				0.09	0.94		−0.07	−0.72	
CG X Incl. C				0.20	2.05*		0.35	3.15**	
CG X Incl. A				−0.17	−1.80+		−0.21	−2.13*	

Note. CG, Cultural Group; RAI, Inclusive Relative Autonomy Index; NI, Non-integrated motivation; I, integrated motivation; Ind., Individual; Incl., inclusive; C, controlled facet score; A, autonomous facet score.

* $p < .05$.
** $p = <.01$.
*** $p < .0001$.
\+ $p < .10$.

scales were associated with WB in the expected direction, and that group status did not moderate the relationship (results were the same when age was not used as a predictor). Consistent with Deci and Ryan's (2000) claims, then, this conventional measure of relative autonomy was relevant for the WB of members of both groups.

2.2.2.3. Hypothesis 3: inclusive motivation and psychological well-being. Our third hypothesis was that the inclusive RAI would be more positively associated with WB for Chinese Canadians than European Canadians (Tables 3 and 4 contain the relevant results). Simple correlations revealed that inclusive RAI was associated with WB for Chinese Canadians, but not European Canadians. Considering the individual indicators of WB, the inclusive RAI was negatively associated with depression and positively associated with self-actualization for Chinese Canadians; the inclusive RAI was unrelated to WB for European Canadians. Turning to the autonomous and controlled motivation facet scores, neither facet predicted WB for the European Canadians, while feeling controlled in one's inclusive motivation was the primary predictor of negative WB for the Chinese Canadians (recall that the Chinese Canadians also reported higher mean levels of controlled inclusive motivation).

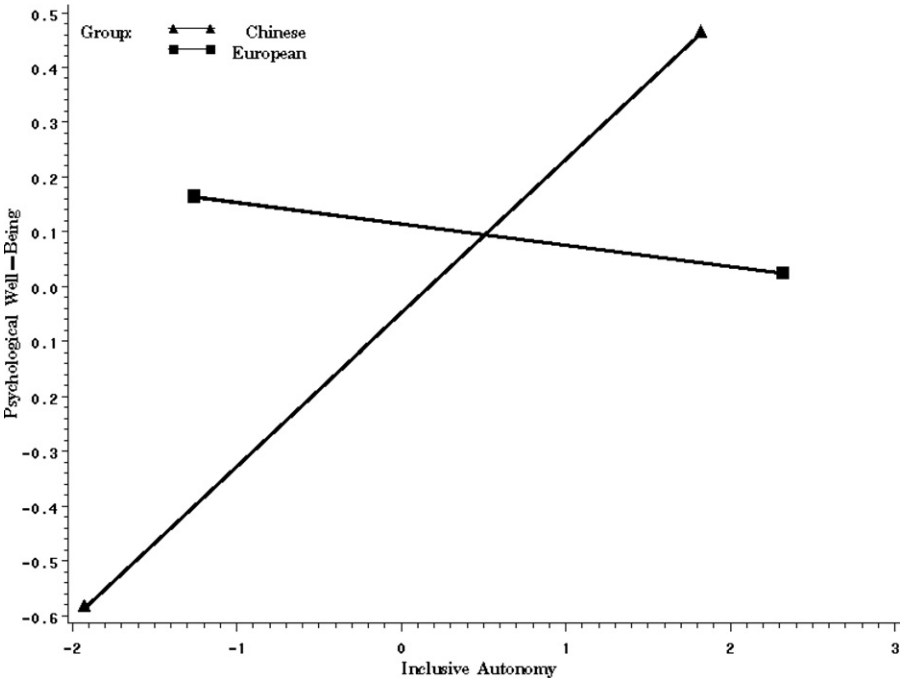

Fig. 1. Psychological well-being, as predicted by group and inclusive autonomy. *Note:* regression lines are plotted over the range of observed responses within each group.

A regression analysis that used terms for participant age, group, the inclusive RAI, and group X the inclusive RAI provided more direct support for hypothesis 3 (Analysis 2, Table 4a). Specifically, the interaction between group and the inclusive RAI was significant, $\beta = -.15$, t (179) $= -2.05$, $p < .05$. As can be seen in Fig. 1, there was a pronounced positive relationship between the inclusive RAI and WB for Chinese Canadians, and a slight negative relationship for European Canadians. When age was not entered as a predictor, the group X inclusive RAI interaction was marginally significant, $\beta = -.13$, t (181) $= -1.76$, $p < .08$. When we examined the autonomous and controlled facet scales separately (Analysis 2, Table 4b), the controlled inclusive scale X group interaction was significant, $\beta = -.20$, t (177) $= -2.05$, $p < .05$, and the autonomous inclusive scale X group interaction was marginally significant, $\beta = .17$, t (177) $= 1.80$, $p < .08$. For the Chinese Canadians, controlled inclusive motivation was negatively—and autonomous inclusive motivation positively—associated with WB, but there was no relationship for either variable for the European Canadians. Consistent with the claims of cross-cultural researchers, then, a measure that reflected an inclusive sense of self was better at predicting WB in a cultural group that valued collectivism than in a group that valued individualism (Markus & Kitayama, 2003).[2]

[2] In Studies 1 and 2, we also conducted regression analyses that had terms for a three-way interaction between group, the inclusive RAI, and the individual RAI, as well as their lower-order terms. These analyses revealed that the 3-way interaction terms and the 2-way terms for the inclusive RAI X individual RAI were all not significant.

2.2.2.4. Exploratory analyses. We also conducted an exploratory analysis in which the inclusive and individual RAIs were entered together in one regression model to predict WB (Analysis 3, Table 4a). Because the two RAIs were strongly (positively) associated, this analysis must be interpreted with caution, as partial coefficients are highly unstable for IVs that are multicollinear (Cohen, Cohen, West, & Aiken, 2003). When this analysis was conducted, there was a significant main effect of the individual RAI (as in the analysis that included the individual RAI alone), $\beta = .39$, $t\ (177) = 4.89$, $p < .0001$, and a significant group X inclusive RAI interaction (as in the analysis that included the inclusive RAI alone), $\beta = .21$, $t\ (177) = -2.70$, $p < .01$. The nature of the latter effect, however, differed from the effect in the regression analysis that used only the inclusive RAI as a predictor. When individual RAI was controlled, there was a *non-significant* association between inclusive autonomy and WB for the Chinese Canadians and a *negative* association between inclusive autonomy and WB for European Canadians. Thus higher scores on the inclusive RAI *relative* to scores on the individual RAI appeared to be problematic for European Canadians. The results, while not entirely anticipated, are consistent with ideas posited by Kagitcibasi (2005), which we discuss below. Finally, when inclusive and individual RAIs and their interactions with group, were entered into the same regression equation (along with age), there was a marginally significant group X individual RAI interaction, $\beta = .13$, $t\ (177) = 1.68$, $p < .10$. The interaction was significant when age was not entered as a predictor, $\beta = .16$, $t\ (179) = 2.07$, $p < .05$. In both groups, individual autonomy was positively related to WB, but the slope was more positive for European Canadians than Chinese Canadians.

A similar analysis using the autonomous and controlled facet scales (analysis 3, Table 4b), revealed that both inclusive facet scales significantly interacted with group, but that for individual motivation, only the controlled scale significantly interacted with group. The nature of the significant interactions in all cases reflected that found for the RAIs, discussed above.

3. Study 2

Study 1 provided support for our hypotheses that (1) conventional measures of relative autonomy should be positively associated with WB across cultures, and (2) that inclusive relative autonomy is more beneficial to individuals from more collectivist cultures than to individuals from more individualist cultures. We also found that the Chinese Canadians were higher in controlled inclusive motivation and lower in autonomous individual motivation, interesting given that these two measures were most strongly correlated with WB in the Chinese Canadian sample.

One limitation of the study, however, is that it examined an immigrant Asian sample. It is possible that immigrant Asians may have a sense of self that includes other family members not because of collectivism per se, but because (1) there are obvious distinctions between one's culture of origin and the new host culture and (2) family members must rely upon each other more than they otherwise would in order to deal with the demands of adjusting to a new culture (Feldman, Mont-Reynaud, & Rosenthal, 1992). Study 2 was conducted on a non-immigrant Asian sample to address this issue. We also sought to test the validity of the measure of inclusive academic autonomy. We expected that reports of inclusive autonomy would be positively associated with reports that participants' need for autonomy more generally had been met, using a measure of general need satisfaction.

Finally, we planned to examine the correlations within the Singaporean group, and to compare the Singaporeans and the European Canadians from Study 1, in order to again test hypotheses 1–3.

3.1. Method

3.1.1. Participants

One hundred and seventy-three (58 male and 114 female; in one case gender was not reported) students from a university in Singapore participated in the study. The students reported having the following backgrounds: Chinese (153), Malay (6) and South Asian (8). The average age of the sample was 21.52 ($SD = 1.67$). Participants were significantly older than the European Canadians from Study 1, $F(1, 253) = 8.01$, $p < .01$. Six participants did not report their age. All students in the university had excellent English skills and the study was conducted in English.

3.2. Measures

3.2.1. Measures from Study 1

Participants completed measures of inclusive and individual academic motivation, as in Study 1. For each type of motivation (inclusive, individual), each motivational subscale (external, introjected, identified, and intrinsic) contained four items (rather than three, as in Study 1), yielding eight subscales. Alphas for the subscales ranged from .55 to .81. Alphas for controlled (the weighted external and introjected items) and autonomous (the weighted identified and intrinsic items) inclusive and individual motivation ranged from .74 to 86. The autonomous and controlled scales were positively correlated for the inclusive ($r = .62$, $p < .0001$) and individual ($r = .38$, $p < .0001$) measures. Participants also completed Triandis' (1995) Vertical Collectivism scale. The alpha for this measure was .77.

3.2.2. Psychological well-being

Participants completed the measures of self-esteem and anxiety administered in Study 1. They also rated the 20 mood adjectives from the Positive and Negative Affect Schedule (Watson, Clark, & Tellegen, 1988), indicating the extent to which they felt this way "right now in your life," from 1 (*very slightly or not at all*) to 5 (*extremely*). Finally, participants completed the five items from the satisfaction with life scale (Diener, Emmons, Larsen, & Griffin, 1985), with respect to "right now in your life," on a scale of 1 (*strongly disagree*) to 5 (*strongly agree*). The latter two scales were used by Sheldon et al. (2004), who found that individual autonomous (relative to controlled) goal motivation was related to subjective WB in samples of university students from China, Russia, South Korea, and the USA. Alphas for the above measures ranged from .78 to .87. We also computed a composite measure of psychological WB by standardizing all scales and scoring them so that higher scores indicated higher levels of WB. The alpha for this scale was .69.

3.2.3. Satisfaction of the need for autonomy

We also administered a 7-item subscale from the basic need satisfaction scale (Gagne, 2003), that assesses the extent to which the need for autonomy is satisfied in life (e.g.,"I feel

Table 5
Means for all measures, Study 2

	M	*SD*
Vertical collectivism	7.06	1.25
Inclusive RAI	−0.08	0.73
Inclusive autonomous	6.40	1.62
Inclusive controlled	6.24	1.70
Individual RAI	0.03	0.75
Individual autonomous	7.79	1.33
Individual controlled	7.84	2.88
Need satisfaction—autonomy	3.43	0.50
Psychological well-being		
Life satisfaction	3.10	0.70
Positive affect	3.34	0.61
Negative affect	2.11	0.65
Anxiety	1.76	0.59
Self-esteem	2.97	0.44

like I am free to decide for myself how to live my life"). Items were rated on a scale of 1 (*not at all true*) to 5 (*very true*). The alpha for this scale was .58.

3.3. Results

3.3.1. Preliminary analyses

We initially examined the associations of the motivation scales across the inclusive versus individual dimension. The cross-correlations for the external, introjected, identified and intrinsic subscales were .52, .56, .34, and .52; for the autonomous and controlled subscales they were .52 and .46. For the RAIs, the cross-correlation was .70 (all $ps < .0001$).

In the analyses below, we examine patterns found solely within the Singaporean group. In order to again test hypotheses 1–3, we also compare the Singaporeans and the European Canadians from Study 1. We conducted the latter analyses in two ways. First, we made comparisons that used scales comprised only of items used in both Studies 1 and 2. For example, because only anxiety and self-esteem were assessed in both studies, an aggregate measure of WB was created using only these scales. Second, we made comparisons between measures based on all available information within each sample. For example, we compared the aggregate measure of WB used in Study 1 (comprised of the assessments of depression and anxiety, both reverse-scored, and self-esteem and self-actualization), to the aggregate measure of WB used in Study 2 (comprised of the assessments of anxiety and negative affect, both reverse-scored, and positive affect, self-esteem, and life satisfaction). Because the pattern of results was similar for both methods, we report the results that compared the broader measures.

Table 5 presents the means and standard deviations for all measures. Preliminary regression analyses and ANOVAs using a Bonferroni correction revealed no main or interaction effects involving gender. Thus gender was not included in the analyses presented below.

As expected, an ANCOVA that tested for differences between the Singaporeans and European Canadians from Study 1 (age was entered as a covariate) revealed that the Singaporean group scored higher on Triandis' (1995) measure of vertical collectivism,

Table 6
Associations between the two versions of the RAI and the indicators of psychological well-being, Study 2

	L.S.	Panas Pos.	Panas Neg.	Anx.	S.E.	WB	N. Aut.
Inclusive RAI	.20**	.17**	−.11	−.20**	.16*	.25**	.34***
Inclusive C	.09	.01	.11	.20**	−.01	−.07	−.16*
Inclusive A	.25**	.15*	.00	.02	.13+	.14+	.13+
Individual RAI	.24**	.28***	−.15*	−.20**	.29***	.35***	.36***
Individual C	.01	.02	.09	.09	−.01	−.05	−.15*
Individual I	.28**	.33***	−.08	−.13+	.31***	.34***	.24**

Note: RAI, Relative Autonomy Index; C, Controlled facet score; A, Autonomous facet score; Dep., Depression; Anx., Anxiety; S.E., Self-Esteem, S.A., Self Actualization; WB, Well-Being; N. Aut., Perceptions of the need for autonomy being met.

* $p < .05$.
** $p < .01$.
*** $p < .0001$.
\+ $p < .10$.

$F(1, 260) = 82.58$, $p < .0001$. The Singaporean group and European Canadian groups did not differ on the aggregate measures of WB, $F(1, 251) = 2.33$, *ns*.[3]

3.3.2. Validity information

To establish the validity of the inclusive RAI, we examined the correlations between both RAI measures and the satisfaction of the need for autonomy (see Table 6). The inclusive and individual RAIs were both positively associated with reports of the general need for autonomy being satisfied, and the associations were similar in strength. This supports our presumption that both measures assess felt autonomy, albeit from a somewhat different standpoint.

3.3.3. Main hypotheses

3.3.3.1. Hypothesis 1: group differences on the RAIs. Our first hypothesis was that the Singaporeans would score lower on both the inclusive and individual RAIs than the European Canadians from Study 1, as did the Chinese Canadians from Study 1. This hypothesis was confirmed. The Singaporeans scored lower than the European Canadians on the individual RAI, $F(1, 251) = 25.86$, $p < .0001$. The Singaporeans also scored lower than the European Canadians, on the inclusive RAI $F(1, 251) = 16.70$, $p < .0001$. When the controlled and autonomous scales were examined separately, the Singaporeans scored higher on the measure of controlled inclusive motivation, $F(1, 251) = 30.15$, $p < .0001$, and marginally higher on autonomous inclusive motivation, $F(1, 251) = 3.32$, $p < .07$. The Singaporeans also scored higher on the measure of controlled individual motivation, $F(1, 251) = 62.34$, $p < .0001$. There were no differences for the measure of autonomous individual motivation, $F(1, 251) = 1.37$, *ns*. Thus, although the Study 1 group difference in controlled inclusive

[3] We also compared the Chinese Canadian group to the Singaporean group, in analyses identical to those that compared the European Canadian and Singaporean groups. These analyses revealed no significant interactions involving group in the regression analyses; all ANCOVAs were also non-significant, with the following exceptions: the Singaporeans scored higher than the Chinese Canadians on (1) vertical collectivism, $F(1, 259) = 5.28$, $p < .05$; (2) the inclusive autonomous facet score, $F(1, 259) = 4.30$, $p < .05$; (3) the individual controlled facet score, $F(1, 259) = 17.38$, $p < .0001$; and (4) the individual autonomous facet score, $F(1, 259) = 20.45$, $p < .0001$.

motivation was replicated, the Study 1 group difference in autonomous individual motivation was not.

3.3.3.2. Hypothesis 2: individual motivation and psychological well-being. Hypothesis 2 was that for the Singaporeans, the individual RAI and WB would be positively associated. The hypothesis was confirmed; scores on the individual RAI were significantly associated, in the expected direction, with each specific indicator of WB (see Table 6) and with the aggregate measure of WB. The correlations involving aggregate WB measure were similar for the Study 1 Chinese Canadians and the Study 2 Singaporeans (.35 and .31, respectively).

For comparison purposes, we conducted a regression analysis that combined the Singaporeans and the European Canadians from Study 1, using terms for age, group, individual autonomy, and their interaction. All predictors were centered. Consistent with the hypothesis that the individual RAI would be associated with WB in both groups, the term for the individual RAI was significant, $\beta = .39$, $t\ (250) = 6.19$, $p < .0001$, and the interaction term was not significant, $\beta = .04$, $t\ (250) = 0.61$, *ns*. A regression analysis that used separate predictors for the controlled and autonomous scales revealed that both predictors were significantly associated with WB in the expected direction ($\beta = -.29$, $t\ (248) = -4.19$, $p < .0001$, and $\beta = .34$, $t\ (248) = 5.66$, $p < .0001$, for the controlled and autonomous scales, respectively); neither scale significantly interacted with the term for group.[4] These results all replicate Study 1.

3.3.3.3. Hypothesis 3: inclusive motivation and psychological well-being. Hypothesis 3 was that scores on the inclusive RAI would be more strongly associated with WB for the Singaporeans than the European Canadians from Study 1. Table 6 shows that the inclusive RAI was associated with the aggregate measure of WB in the Singaporean sample, just as in the Chinese Canadian sample, with identical correlations. The inclusive RAI was significantly positively associated with the specific indicators of life satisfaction, positive affect on the PANAS, and self-esteem; it was significantly negatively associated with anxiety, but not with negative affect. The inclusive controlled and autonomous facet scores were less consistently associated with the WB indicators.

To formally test hypothesis 3, we conducted a regression analysis that combined the Singaporeans with the European Canadians from Study 1, using terms for age, group, the inclusive RAI, and group X the inclusive RAI. We expected the interaction term to be significant and reveal a more positive association with WB for the Singaporeans as compared to the European Canadians. The interaction was marginally significant, $\beta = -11$, $t\ (250) = -1.78$, $p < .08$, and in the expected direction (a plot of the graph revealed results very similar to Fig. 1). A similar regression analysis, in which terms for the controlled and autonomous motivation facets were entered separately, revealed a significant group X autonomous inclusive motivation interaction, $\beta = .26$, $t\ (248) = 2.02$, $p < .05$. The group X controlled inclusive motivation interaction was not significant, $\beta = -.14$, $t\ (248) = -1.13$, *ns*. Autonomous inclusive motivation was positively associated with WB for Singaporeans but not European Canadians.

[4] For all regression analyses presented involving Study 2, the results were the same whether or not age was entered as a predictor.

3.3.4. Exploratory analyses

As in Study 1, we conducted a final regression analysis including all of the variables that included terms for age, group, the inclusive and individual RAIs, and the interaction of the latter two variables with group. The results were similar to Study 1; across the groups, the individual RAI was strongly positively associated with WB, $\beta = .43$, t $(248) = 5.09$, $p < .0001$, and there was a significant group X inclusive RAI interaction $\beta = -.16$, t $(248) = -2.31$, $p < .05$. With scores on the individual RAI controlled, there was a *negative* association between the inclusive RAI and WB for European Canadians, and a *non-significant* association between the inclusive RAI and WB for Singaporeans. Again, higher scores on the inclusive RAI *relative* to the individual RAI appeared to be problematic for the European Canadians. In Study 1, we also found a marginal group X individual RAI interaction; in Study 2, this interaction was not significant, $\beta = .12$, t $(248) = 1.50$, $p < .15$. Finally, although the ANCOVA, reported above, found that the groups did not differ on the summary measure of WB, there was a significant effect of group in this regression analysis, with the European Canadians having more positive scores, $\beta = .13$, t $(248) = 2.17$, $p < .05$. No other effects were significant. A similar analysis that examined the autonomous and controlled facet scores for the inclusive and "individual" measures revealed a pattern of significant results that was the same as that found in Study 1.

4. Discussion

The results of these studies suggest that the concept of inclusive autonomy may have some merit, and may help us to understand how people may feel included within important groups and collectives at the same time that they also feel relatively autonomous. Although this possibility is suggested by research informed by both the SDT and the cross-cultural perspectives discussed earlier (Markus & Kitayama, 1991; Oishi & Diener, 2001; Ryan & Deci, 2003; Sheldon et al., 2004; Singelis & Brown, 1995), most research to date has instead emphasized apparent differences between these two perspectives, based on divergent definitions of psychological autonomy. In the current work we tried to differentiate and integrate the two perspectives, by distinguishing between the subject of motivation ("Me" or "My family and I") and the type of motivation (ranging from external to introjected to identified to intrinsic, on the relative autonomy continuum). We hoped to use this distinction to show that there are important commonalities, and also some important differences, among the two theoretical perspectives and also among members of collectivist versus individualistic cultures.

To summarize the results, we found some support for the three hypotheses. First, (and less centrally), we found that Chinese Canadians and Singaporeans scored lower on the inclusive and individual RAIs than the European Canadians; results consistent with past research concerning cultural differences in academic motivation (Chung et al., 1997; Steinberg et al., 1992). Second, the correlations and regression analyses revealed that the individual RAI was positively associated with WB in every sample. This supports SDT's arguments concerning the universal benefits of identifying with and enjoying one's behavior, rather than feeling socially or internally pressured (Ryan & Deci, 2000). Third, the correlations and regression analyses revealed that the inclusive RAI was positively associated with WB for Chinese Canadians and Singaporeans, but not European Canadians. This supports the idea that relative autonomy that reflects an inclusive self may be more beneficial to WB in collectivist samples (Markus & Kitayama, 2003). Finally, the exploratory

analyses revealed that when scores on the individual RAI were controlled, high scores on the inclusive RAI were problematic for European Canadians but not the two Asian samples. These patterns are discussed in more detail, below.

4.1. Hypothesis 1: group differences on the RAIs

The finding that Asian students reported more controlled relative to autonomous academic motivation is in line with research that has found that compared to children of non-Asian groups, children of Asian backgrounds report receiving higher levels of pressure from parents to succeed academically, and greater fear of parental reaction to academic failure (Chung et al., 1997; Steinberg et al., 1992). It should be cautioned, however, that these academic motivation results do not necessarily reflect *generally* higher levels of controlled relative to autonomous motivation in Asian participants. Indeed, some research has found that Asian individuals do not always report lower levels of autonomous relative to controlled motivation with respect to non-academic behavior (e.g., Chirkov et al., 2003; Sheldon et al., 2004). As a second caveat, Asian children's particular fear of parental reactions to academic failure might reflect veridical concerns regarding the very competitive academic environments in many Asian countries, and concerns about the importance of academic success after immigrating to countries such as the Canada and the USA (Fuligni & Yoshikawa, 2003; Lam et al., 2004). In tight-knit families, children might fear parental reaction to academic failure even when parents themselves try not to burden their children with such concerns.

4.2. Hypothesis 2: individual autonomy as universally important

The fact that Chinese Canadian, European Canadian, and Singaporean students' scores on the individual RAI were all associated WB is consistent with those of other SDT researchers who have administered measures of relative autonomy to a variety of collectivist samples, that include Brazil, China, Russia, South Korea, Taiwan and Turkey, (Chirkov et al., 2003, 2005; Ryan et al., 2005; Sheldon et al., 2004; Vansteenkiste et al., 2005; see also Hayamizu, 1997; Tanaka & Yamauchi, 2000; Yamauchi & Tanaka, 1998). These researchers have all measured motivation on a continuum as suggested by Deci and Ryan (2000), have all used the pronoun "I" as the subject of their items, and have all shown that higher levels of autonomous (as compared to controlled) motivation are positively associated with WB and positive functioning. The current results reinforce these patterns.

4.3. Hypothesis 3: inclusive relative autonomy is relevant to well-being in collectivist groups

Our results further indicate that inclusive autonomous motivation—at least, with respect to one's family—may offer an additional route to WB for individuals from cultures that emphasize collectivism. The Chinese Canadian and Singaporean groups both scored higher on the measure of collectivism than the European Canadian group. In the former two groups, but not the latter, the inclusive RAI predicted WB. The inclusive RAI was also positively associated with the Singaporean students' perceptions that their general need for autonomy was being met.

Still, it should be noted that when the inclusive and individual RAIs were entered as predictors of WB in the same regression equation, the associations between the inclusive RAI

and WB became nonsignificant for the Chinese Canadians and Singaporeans, and negative for the European Canadians. Again, these results must be considered tentatively, due to the multicollinearity of the two RAIs. The non-significant associations in the Asian groups, however, are not entirely surprising: recall our suggestion in the introduction that a person who strongly endorses the item, "I try to do X because my *family and I* think it is important" (identified inclusive motivation) should also strongly endorse the item "I try to do X because *I* think it is important" (identified individual motivation). In Venn diagram terms, the family-centered self is a subset of the larger "I," and thus the RAI referenced to "I" should often account for the variation in WB associated with the RAI referenced to "my family and I."

We were surprised, however, by the *negative* association between the inclusive RAI and WB for the European Canadians, when controlling for scores on the individual RAI. European Canadians who scored high on the individual RAI but relatively low on the inclusive RAI had higher levels of WB than individuals who scored high on both measures. Given collinearity issues and the fact that the results were found in only one sample of European Canadians, the results must be replicated in other individualist samples. If they are replicated, two explanations are plausible. First, in cultures where individualism is normative, inclusive autonomy may actually be problematic once individual autonomy is taken into account; such family-centrism may place the individual outside of the cultural mainstream. Second, the effect is tantamount to finding that when the effects of individual RAI are accounted for, European Canadian participants who feel more controlled are somewhat happier if they share this feeling with other family members. In this view, the beneficial supports and structures of a more inclusive family might offset low levels of relative autonomy in one's general self. Obviously, future research will be required to test these ideas.

4.4. Autonomy and independence as separate constructs

Our results are consistent with Ryan and Deci's (2003) claim that autonomy (the feeling of volition) is not isomorphic with independence (the feeling that the self and other are distinct entities). Ryan and Deci state that autonomy "concerns the extent to which people genuinely *concur* with the forces that do influence their behavior" (2000, p. 330). Thus, autonomy does not necessarily imply an independent sense of self. Kagitcibasi (2005) makes a similar point, in arguing that autonomy has been viewed in two ways. First, autonomy has been conceptualized as regarding the extent to which an individual is distinct from others. Research influenced by a Western psychoanalytic perspective, for example, has conceived of healthy adolescent development as consisting (at least in part) of distancing and establishing a separate sense of self from parents. The second view of autonomy—held by SDT researchers—has to do with agency, or the pursuit of goals that are valued by the self, as opposed to goals that one feels pressured to attain, regardless of whether the goals are also valued by others. From this perspective, individualism (or independence) is not a necessary precondition for autonomy. Indeed, Kagitcibasi (2005) argues that in economically developed *collectivist* cultures, families will promote autonomy and relatedness simultaneously.

The debate between SDT theorists and those who emphasize cultural differences appears, at times, to reflect these different understandings of the meaning of autonomy. Markus and Kitayama (2003), for example, characterize SDT as being a "disjoint" model of agency that reflects individualist values. "Disjoint" models, they argue, construe the self

as a distinct, independent entity that often experiences the influence of others as constraining. Indeed, Markus and Kitayama describe autonomy as being necessarily limited by others (2003, p. 47), and state that in cultures emphasizing interdependence, the press "is not to become separate and autonomous from others, but to fit in with others" (1994, p. 97). Thus their criticism of SDT has to do with (1) their proposal—with which we agree—that *interdependence* is normative and healthy in many cultures, and (2) their understanding of autonomy as similar to independence (or separateness) and antithetical to interdependence. Similarly, Oishi (2000) found that a measure of *individualism* was less strongly associated with global life satisfaction in collectivist cultures than in individualist cultures. He interpreted the results as demonstrating that autonomy was less relevant to WB in collectivist cultures. We interpret the results as demonstrating that that *individualism* (or independence), rather than autonomy, is less strongly associated with life satisfaction in collectivist cultures than in individualist cultures.

There is ample evidence, then, that individualism (or independence), wherein a distinct self is emphasized, may be more relevant to social processes and WB in cultures that value individualism than in cultures that value collectivism (Bontempo et al., 1990; Cousins, 1989; Heine & Lehman, 1997; Iyengar & Lepper, 1999; Markus & Kitayama, 2003; Oishi, 2000). However, there is also ample evidence to support the notion that the *type* of motivation that an individual experiences (that is, autonomous as opposed to controlled motivation, as defined by SDT) is relevant to WB across cultures (Chirkov et al., 2003; Chirkov & Ryan, 2001; Chirkov et al., 2005; Sheldon et al., 2004; Vansteenkiste et al., 2005). Thus, the distinction made in the present research, between the *subject* of motivation and the *type* of motivation, may provide a fruitful means of resolving the dilemma between SDT perspectives and researchers who emphasize cross-cultural differences. From this perspective, both lines of research yield valid findings that are not contradictory.

4.5. Limitations and future directions

This research has a number of limitations. First, additional evidence as to the validity of the measure of inclusive autonomy would be helpful. We have provided initial evidence showing that the inclusive RAI measure correlates with perceptions of the general need for autonomy being met (a measure derived from a different strand of SDT research). While we therefore can be confident that our inclusive measure does reflect higher levels of autonomous relative to controlled motivation, we cannot be as confident that individuals who endorse inclusive items more strongly necessarily have a more inclusive or interdependent sense of self. It is possible, for example, that individuals who endorse inclusive items might come from families that emphasize consistency, even though boundaries between self and other family members are relatively distinct. Thus, it would be important to determine whether the endorsement of inclusive items are associated with measures that directly assess a more interdependent sense of self, such as the Relational-Interdependent Self-Construal Scale (Cross, Bacon, & Morris, 2000).

It is also the case that in all groups, the inclusive controlled and autonomous facet scores were strongly positively associated (with *r*s in the .60 range). This pattern might reflect the fact that for our particular measure, the inclusive *subject* was more salient than the *types* of inclusive motivation. Alternatively, it might reflect the fact that different types of inclusive motivation actually often co-occur. In spite of these positive associations, in the Asian samples the controlled and autonomous measures of inclusive motivation were

mostly associated in the expected direction with the measures of WB. Also, in these samples the inclusive RAI was more strongly associated with WB than the separate controlled and autonomous facet scales, and it was as strongly associated as the individual RAI with Singaporeans' perceptions that their need for autonomy had been met. Thus while there is evidence that the inclusive RAI discriminates between levels of autonomy, it is also clear that further work is needed concerning the measure.

As a second limitation, the measures of WB administered in the present study assessed outcomes specific to the individual (e.g., individual self-esteem, anxiety, etc.), and it would be possible to administer "inclusive" measures of WB, such as self-esteem with reference to one's identity that is shared with important in-groups (Wang & Ollendick, 2001). However, expanding the measurement of psychological adjustment was beyond of the scope of the present study.

Third, much of the cross-cultural work that has found a relationship between individual autonomy and well-being has been conducted with college students. It is possible that highly educated individuals from more collectivist cultures might emphasize individual autonomy to a greater extent than other members of the culture. Thus, it is important to assess cross-cultural data from non-student samples.

Fourth, it is possible to conceive of other ways of measuring inclusive autonomous versus controlled motivation. In the current study, we manipulated the subject ("I" versus "In my family, we") and kept the reasons for behavior (external, introjected, identified, and intrinsic) constant. By contrast, Gore and Cross (2006), kept the subject ("I") constant and manipulated the reasons for behavior (examples of external personal and external relational motivations, respectively, are: "I am pursuing this goal because the situation demands it" versus "I am pursuing this goal because other people expect me to."). Both approaches likely have their merits. Finally, our measure of inclusive relative autonomy used "my family and I," or "in my family, we…" as subjects. It is possible to conceive of other pertinent subjects, such as "my classmates and I," or "in my company, we…". We believe that measures of relative autonomy that reflect such inclusive selves have an excellent potential for helping to integrate self theories and motivation theories.

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