

# EGO STRENGTHS, RACIAL/ETHNIC IDENTITY, AND WELL-BEING AMONG NORTH AMERICAN INDIAN/FIRST NATIONS ADOLESCENTS

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*Abstract: This study investigated associations between ego strengths (psychosocial development), racial/ethnic identity using Multi-Ethnic Identity Measure-Revised (exploration, commitment) and Multidimensional Measure of Racial Identity (centrality, private regard, public regard) dimensions, and personal adjustment/well-being among 178 North American Indian/First Nations adolescents who resided and attended school on reserves. As predicted, ego strengths related directly with centrality, private regard, and the adjustment measures; the moderation of ego strengths for exploration, commitment, and private regard reflected adverse functioning for those with less than advanced ego strengths. As well, ego strengths mediated associations between centrality and private regard with several measures of personal well-being. Practical and theoretical implications are considered.*

Identity construction is the major developmental task for adolescents. According to Eriksonian theory, this process is predicated by successful resolution of earlier psychosocial stages, which also provide the foundation for negotiating subsequent lifespan concerns. The adolescent period is considered more complicated and challenging for minority youth who also must incorporate their racial, ethnic, or cultural background into their self-definition (Phinney, 1992). Research indicates that racial and ethnic identity (REI) functions as a protective resource to offset adversity among many disadvantaged minority groups (e.g., Chao & Otsuki-Cutter, 2011; Rivas-Drake, Seaton, et al., 2014; Rivas-Drake, Syed, et al., 2014; Smith & Silva, 2011). However, minimal research has focused on how psychosocial development is associated with REI to facilitate optimal well-being. In this study, psychosocial development, conceptualized as ego strengths (i.e., the outcomes, values, or assets that result from resolving lifespan developmental tasks), was examined in relation to various components of REI and adjustment, and as a potential moderator and a mediator for the dimensions of REI and well-being.

The sample, Indigenous adolescents, is an understudied group considered the most disadvantaged in terms of overall physical and mental well-being (e.g., Bramley, Herbert, Tuzzio, & Chassin, 2005; Frohlich, Ross, & Richmond, 2006). In Canada, Indigenous people are a prominent minority. More than 16% of the population in the prairie provinces self-identifies as Aboriginal; that is, North American Indian/First Nations (NAI/FN), including Status and Non-status Indian, Metis, and Inuit; 58% live on reserves, and 61% are less than 30 years of age—the most rapidly growing demographic in the country (Statistics Canada, 2013).

As with American Indian/Alaska Natives in the U.S., NAI/FN people in Canada experience higher rates of physical, social, and mental health problems in comparison with other minority groups (Comeau & Santin, 1995; Pavkov, Travis, Fox, King, & Cross, 2010; Townsend & Wernick, 2008), including increased psychological distress (Bratter & Eschbach, 2005; Campbell & Evans-Campbell, 2011; Walls & Whitbeck, 2011), greater challenges in terms of identity development (Arnett, 2006) and lower ethnic identity scores (Martinez & Dukes, 1997). These disparities have been linked with the historical trauma experienced by colonized Indigenous people (Evans-Campbell (2008) due to government assimilation policies (including the establishment of reservations, removal of children from their parents to attend residential schools) and a legacy of discrimination and racism (Kirmayer, Simpson, & Cargo, 2003). These practices have systematically undermined protective cultural factors, socialization, cultural values, ceremony, language, and tradition (Duran, Duran, & Brave Heart, 1998) and have continuing multigenerational impacts (Bombay, Matheson, & Anisman, 2014; Tafoya & Del Vecchio, 1996; Weaver & Brave Heart, 1999).

Research has shown that REI is viewed as a resource for optimal development among NAI/FN adolescents (Buruch, Bombay, Flores, Stewart, & Ponizovsky, 2014; Gfellner & Armstrong, 2012; 2013; Jones & Galliher, 2007; Martinez & Dukes, 1997; Whitesell, Mitchell, Kaufman, & Spicer, 2006; Whitesell, Mitchell, Spicer, & the Voices of Indian Teens Project Team, 2009); although often inconsistently, depending on the measure of ethnic identity used (Markstrom, Whitesell, & Galliher, 2011). The protective role of REI is reflected in the Native revitalization movement that typically includes traditional healing concepts (e.g., Garrett et al., 2014; Gone, 2009; Goodkind et al., 2010; Iwasaki, Bartlett, & O'Neill, 2005; Kirmayer, Dandeneau, Marshall, Phillips, & Williamson, 2011; LaFromboise, Hoyt, Oliver, & Whitbeck, 2006).

## Ego Strengths and Psychosocial Development

From the Eriksonian perspective, ego strengths reflect the outcomes, values, or assets that emerge as a person negotiates and integrates the tasks associated with the eight psychosocial stages over the lifespan (Erikson, 1969). The first four of the developmental stages (trust vs. mistrust, autonomy vs. doubt and shame, initiative vs. guilt, competence vs. inferiority) occur from birth to age 12; these provide the foundation for identity versus role confusion, the fifth stage associated with adolescence and youth. The final three stages (intimacy vs. isolation, generativity vs. stagnation, integrity vs. despair) refer to the young, middle, and late adult years, respectively. Erikson's model is consistent with lifecycle epochs in Aboriginal cultures (cf., Reichard, 1977; Slobodin, 1981); and his field work included the Oglala Sioux in South Dakota and the Yurok tribe of Northern California.

According to Erikson's theory (1969), positive resolution of a psychosocial stage is associated with optimal adjustment; conversely, difficulties with earlier psychosocial phases have a negative impact on subsequent functioning and development. Indeed, psychosocial development or ego strengths would be expected to be an important precursor of REI development among NAI/FN adolescents and other minorities.

Ego strengths has been positively associated with identity achievement among youth and adolescents (Markstrom & Marshall, 2007; Markstrom, Sabino, Turner, & Berman, 1997) as well as with fidelity, the emergent value associated with personal identity (Markstrom & Hunter, 1999), and career identity (Anthis, 2014), and have been inversely associated with identity distress (Gfellner & Cordoba, 2011). Gfellner and Armstrong (2012) found significantly higher ego strengths among NAI/FN adolescents who strongly self-identified with Indigenous culture in comparison with those who self-identified as bicultural (both their own and mainstream culture). As with personal identity (achievement), ego strengths has been associated with other indicators of psychosocial maturity and adjustment, including self-esteem, social-cognitive ego development, locus of control, coping styles, empathetic concern, positive affect, personal distress, social support, academic adjustment, externalizing (e.g., acting out/behavioral) and internalizing (e.g., anxiety, depression) problems, and stress (Gfellner & Armstrong; 2012; Gfellner & Cordoba, 2011; Markstrom et al. 1997; Markstrom & Marshall, 2007). The present study extended the evaluation of ego strengths with well-being and as a predictor of REI among NAI/FN adolescents.

## REI and Adjustment

REI is a component of one's identity that develops as a function of one's group membership. It is a multifaceted construct that varies in complexity as well as salience, or importance to an individual's sense of self. REI models focus on identification and feelings of belongingness and attachment to one's group and the meaning attributed to this association (Phinney, 1992; Sellers, Rowley, & Chavous, 1997). From a developmental perspective, ethnic identity includes the processes of exploration and commitment (Phinney, 1992). Exploration involves actively seeking out and examining one's ethnicity and its meaning, while commitment refers to allegiance to one's group by incorporating or adhering to its values and ideology. Sellers and colleagues (1997) considered racial identity to encompass both the significance and qualitative meaning of one's background in terms of three components: centrality, or the extent to which race/ethnicity is salient to one's self-concept; private regard, which refers to the value one feels about one's background; and public regard, which is how one feels that others view one's group. These processes become increasingly important during adolescence, when individuals are undergoing dramatic physical, cognitive, and social changes (Phinney, 1993). REI is an important aspect of identity among members of minorities in comparison with those in the majority or dominant groups in society (Phinney, 1992); it has been associated with personal identity development (identity achievement) among minority but not among non-minority individuals (St. Louis & Liem, 2005).

According to social identity theory, individuals maintain self-esteem through identification with their group (Tajfel & Turner, 1986). Indeed, REI is viewed as an important predictor of positive adjustment, so that a strong REI contributes to personal well-being among ethnic group members (e.g., Rivas-Drake, Syed, et al., 2014; Smith & Silva, 2011). As a pivotal aspect of identity for some minorities, REI has been associated with positive outcomes; this result is not found among non-minority youth (St. Louis & Liem, 2005). Given the salience of REI for minority group members and its association with adjustment in general, ego strengths was predicted to moderate the linkages between REI and well-being. In other words, elevated ego strengths in conjunction with a robust REI were expected to be associated with adjustment. At the same time, ego strengths was examined as a mediator in the relationship between REI and psychological functioning; that is, ego strengths was predicted to relate to REI, which, in turn, would be associated with personal well-being.

Several recent reviews of REI and positive development for minority youth (Chao & Otsuki-Clutter, 2011; Rivas-Drake, Syed, et al., 2014; Umana-Taylor, 2011) noted differences in: 1) the strength and direction for effects of REI among various groups, 2) the use of specific components versus global REI measures, 3) confounding of developmental effects, and 4) contextual factors. In a meta-analysis of acculturation/enculturation and mental health, Yoon et al. (2013) reported that REI (enculturation) related solely with positive mental health and anxiety. They indicated that REI was a more important predictor for African Americans than for Asian Americans, and suggested a focus on potential differences among various minority groups along with differential effects of age and social roles in relation to REI and contextual factors.

Similar concerns were echoed in a review of ethnic identity and mental health of American Indian/Alaska Natives by Markstrom, Whitesell, and Galliher (2011). Although less research is available for Indigenous youth in comparison with other minorities, a lack of consistent findings was attributed to variations in the ethnic identity measures used, including a greater reliance on acculturation (identification with mainstream society) rather than enculturation (REI) in some studies. These authors called for careful attention by investigators to the operationalization of ethnic identity and how it may be appropriate for Indigenous samples.

Taken together, these reviews, along with the work of other scholars (e.g., Casey-Cannon, Coleman, Knudson, & Valezquez, 2011; Cokley, 2007; Ong, Fuller-Rowell, & Phinney, 2010; Quintana, 2007) caution against the use of aggregate measures of REI as potential confounds that obfuscate findings. They emphasize the need to focus on discrete components of REI and how these may align differentially in relation to relevant outcome variables as well as across minority groups.

The present study measured REI with the two most frequently used indices: the Multi-group Ethnic Identity Measure-Revised (MEIM-R; Phinney & Ong, 2007) and the Multidimensional Measure of Racial Identity (MMRI; Sellers, Smith, Sheldon, Rowley, & Chavous, 1998). These instruments have been examined widely across different minority groups, including NAI/FN adolescents, although research with the latter group is scant. The MEIM-R assesses ethnic exploration and commitment; the MMRI includes scales for centrality, private regard, and public regard. Together, the scales may be considered to reflect two dimensions of REI: the affective/emotional, including attachment, belonging, in-group affect and pride (i.e., private regard, commitment, public regard); and the cognitive/evaluative consisting of awareness and meaning of group membership and importance to one's self-concept (i.e., exploration, centrality). As indicated previously, the affective components tend to be associated with self-

esteem, positive well-being, and supportive resources (e.g., Rivas-Drake, Syed, et al., 2014; Smith & Silva, 2011). Despite limited evidence, these trends have been found with NAI/FN adolescents (Galliher, Jones, & Dahl, 2011; Gfellner & Armstrong, 2012; Jones & Galliher, 2007; Kenyon & Carter, 2010; Newman, 2005).

Given the multidimensionality of REI, the objective of this study was to investigate aspects of the construct rather than using a global configuration. Well-being was indexed by self-esteem (Rosenberg, 1979), superior adjustment, mastery and coping, and emotional tone (Offer, Ostrov, & Howard, 1982). The current study extended the evaluation of ego strengths as a predictor of the REI dimensions and a moderator and a mediator for the REI components with well-being. Developmental and gender differences were tested but predictions were not proposed, as an earlier study with the same population did not support these effects among adolescents. The hypotheses were as follows:

- 1) Ego strengths was predicted to positively relate with the dimensions of REI and with well-being of NAI/FN adolescents.
- 2) The dimensions of REI were predicted to positively relate to well-being.
- 3) Ego strengths was expected to moderate the linkage between the REI variables and well-being.
- 4) Ego strengths was expected to mediate the association between REI and well-being.

## METHOD

### Participants and Procedure

There were 178 NAI/FN adolescents in grades 7 to 12 ( $M = 14.2$  years,  $SD = 2.0$ ; 50% female) who resided and attended school in their FN communities (reserves) located in the southern midwest of Canada. The breakdown by grade level was:

- grades 7 and 8:  $M = 12.4$  years,  $SD = .65$ ; 39 females; 42 males
- grades 9 to 12:  $M = 15.6$  years,  $SD = 1.6$ ; 50 females; 47 males.

Students participated in this study in conjunction with the evaluation component of a cultural curriculum program operating in their band schools in 5 FN communities; the populations ranged from 871 to 4,302 ( $M = 1,962$ ;  $Mdn = 1,394$ ) persons. The Community Well-Being Index (a measure of socioeconomic well-being based on income, education, housing, and employment information from Statistics Canada) for these reserves ranged from 50 to 69, compared with the range of 66 to 89 for non-Aboriginal communities in the province (Aboriginal Affairs and Northern Development Canada, 2015).

The project was a collaborative process among community organizations and members, Aboriginal groups, and university researchers in all phases: initiation, proposal writing, program development, maintenance, and evaluation. The inclusion of communities was based on interest and commitment. The team developed, applied for, and received a Social Sciences and Humanities Research Council of Canada: Community-University Research Alliance (SSHRC-CURA) Grant for the project entitled “Community-Based Aboriginal Curriculum Initiatives: Implementation and Evaluation.” The program consisted of integrating Aboriginal culture into all components of the school curriculum. It involved the use of Aboriginal artist-educators, teachers, and elders in ongoing course development and evaluation along with community members, educators/teachers, and researchers. The project was vetted by the University Research Ethics Board in accordance with the Tri-council Policy Guidelines (TCPG) for research with Indigenous people and by the respective Band Councils (Thompson, Whitesell, Galliher, & Gfellner, 2012).

Students’ participation in this study required consent from parents or guardians, and student assent. Students took home consent forms that were signed by parents or guardians, and subsequently returned to teachers and collected by school-based community project coordinators prior to data collection. Survey administration was conducted by NAI/FN research assistants; students completed the surveys in their classrooms or in a larger group setting. Participants received gel pens as a gratuity during the survey administration. The survey took approximately 30 to 40 minutes to complete.

Overall, 68% of students registered in the schools completed the survey. Another 27% were absent on the survey administration occasions or had incomplete data, and 5% refused consent.

## Measures

The Psychological Inventory of Ego Strengths (PIES; Markstrom et al., 1997) was used to assess ego strengths. It indexes progressive functioning in terms of Erikson’s stages. The short form consists of 32 items, 4 for each of the eight ego strengths associated with the psychosocial stages (hope, will, purpose, competence, fidelity, love, care, and wisdom), which are rated on a 5-point Likert scale from 1 (*Does not describe me well*) to 5 (*Describes me very well*). Item scores may be summed for each scale as well as for a composite score. The composite score was

used in this study. Psychometric properties are given by Markstrom and Marshall (2007); the PIES has been used with African American adolescents (Markstrom & Hunter, 1999) and NAI/FN adolescents and adults (Gfellner, 2015; Gfellner & Armstrong, 2012).

The Multi-group Ethnic Identity Measure-Revised (MEIM-R; Phinney & Ong, 2007) is the most extensively used measure of REI; it is a global index that has been found to be valid and reliable with a number of ethnic groups. The MEIM-R includes two scales: Exploration refers to the extent to which one has examined one's ethnicity; and Commitment measures the extent to which one has affirmed one's ethnicity. Each scale includes three items that are rated on a 4-point response scale that ranges from 1 (*Strongly disagree*) to 4 (*Strongly agree*.)

The Multidimensional Measure of Racial Identity (MMRI; Sellers et al., 1998), originally developed for use with African Americans and adapted for use with other minorities (e.g., Rivas-Drake, 2011), was modified for use with NAI/FN adolescents. Three scales were used. Centrality (eight items) refers to the extent to which one's ethnic identity is focal to one's life, or how one defines the self in terms of race and ethnicity. Private Regard (six items) measures the extent to which one feels positively or negatively toward Indigenous people and how one feels about being an Indigenous person. Public Regard (five items) measures how one feels that others view Indigenous people, and how one perceives that their group is viewed or valued by mainstream society. Items are rated on a 7-point scale from 1 (*Strongly disagree*) to 7 (*Strongly agree*). Mean scores were computed for each scale.

Self-esteem was indexed by Rosenberg's (1979) 10-item global self-image measure. Statements are rated on a 4-point scale from 1 (*Does not describe me at all*) to 4 (*Describes me very well*). Psychometric properties are well established; the measure is the most frequently used index of self-image, and it has been used in recent studies with Indigenous adolescents (e.g., Jones & Galliher, 2007; Whitbeck, Hartshorn & Walls, 2014; Whitesell et al., 2006; Whitesell et al., 2009).

Adjustment was indexed by three scales from the Self-image Questionnaire for Young Adolescents (SIQYA; Offer et al., 1982; Petersen, Schulenberg, Abramowitz, Offer, & Jarcho, 1984). The SIQYA involves scales that depict specific aspects of self-image. Statements about the self are rated using a 6-point scale from 1 (*Describes me very well*) to 6 (*Does not describe me at all*). Half of the items are reversed; scale scores are summed to reflect a positive value. Emotional Tone includes 11 items that refers to the psychological self. Examples include: "My feelings are easily hurt," "I am often nervous," and "I frequently feel bad." The other two scales are measures of the coping self. Superior Adjustment consists of 10 items such as "I am popular

at school,” “New situations are often difficult for me to cope with,” “I am worried I will not be able to make decisions for myself in the future.” Mastery and Coping is measured by 10 items including, “When I decide to do something I do it,” and “I am not afraid of competing to succeed.” The SIQYA has well-established reliability and validity for normal, delinquent, and emotionally disturbed adolescents (Offer, Marohn, & Ostrov, 1979); it has been used extensively, including in a major study that compared the self-image of adolescents in 10 countries (Offer, Ostrov, Howard, & Atkinson, 1988).

A power analysis (typical of large scale survey research) refers to the sample size required to insure that findings are reliable. As noted above, this was not necessary as every student in the schools that participated in the curriculum initiatives project was targeted to partake in this study.

### **Data Analysis**

Descriptive statistics included Sex by Age-group MANOVAs for the variables in the study. Correlations were computed between the predictor and moderator variables with the adjustment measures. A series of regressions analyses were run with age-group, sex, ego strengths, the respective REI dimensions ( $n = 5$ ), and, subsequently, the ego strengths by REI-dimension interactions ( $n = 5$ ) for each of the adjustment variables ( $n = 4$ ), respectively. Slopes were plotted for significant interactions with the moderator and independent variables centered at the mean and  $\pm$  one standard deviation. Mediation was tested using Baron and Kenny’s (1986) criteria followed by a Sobel test.

## **RESULTS**

Most students lived with both natural parents (21%) or mother (21%); followed by grandparents (15.3%), mother and stepfather (14.8%), father (8%), father and stepmother (7.4%), part-time with mother and father (4.6%), other (6%), adopted (1.7%), and court-appointed guardian or foster home (1.2%). The average educational attainment was high school for both fathers and mothers. The breakdown for fathers was: junior high or less (9.5%); some high school (29.7%); completed high school (34.5%); some post-secondary (16.9%); university degree (7.4%); and post-graduate school (2%). Similarly, the distribution for mothers was: junior high or less (9%); some high school (32.3%); completed high school (24.5%); some post-secondary (20.7%); university degree (10.3%); and post graduate school (3.2%). The majority of

fathers were employed in skilled (27.6%) and unskilled (31%) jobs, followed by professional/white collar positions (11.2%); one was a student, and 29.3% were unemployed. Students described most mothers as homemakers (50.4%), followed by employed in skilled (16.8%), professional (10.4%), and unskilled (16%) work; one was a student, and 5.6% were unemployed.

**Preliminary Analyses**

A summary of the grade-level by sex ANOVAS for the variables in the study are given in Table 1. The significant main effects of grade-level for age, ego strengths, exploration, and commitment indicated higher scores for middle school than high school students apart from age. Sex differences for public regard and emotional tone reflected elevated scores for males. A significant grade-level by sex interaction for ego strengths,  $F(1, 172) = 6.08, p < .02, \eta = .034$ , showed lower psychosocial development among younger females ( $M = 3.22, SD = .44$ ) in comparison with male cohorts ( $M = 3.47, SD = .43$ ), and older female ( $M = 3.53, SD = .46$ ) and male ( $M = 3.45, SD = .43$ ) adolescents.

**Table 1**  
**Means (SD) by Grade-level and Sex for the Variables in the Study**

<u>Variables</u>	<u>Grade Level</u>		<u>F-Value</u>	<u>Sex</u>		<u>F-Value</u>
	<u>Middle School<sup>a</sup></u>	<u>High School<sup>b</sup></u>		<u>Females</u>	<u>Males</u>	
Age	12.4 (.65)	15.6 (1.6)	275.39***	14.2 (2.0)	14.1 (2.0)	0.04
Ego Strengths	3.3 (0.45)	3.5 (0.44)	5.09*	3.4 (0.47)	3.5 (0.42)	1.63
Centrality	6.0 (0.91)	6.2 (1.1)	1.41	6.1 (0.87)	6.1 (1.11)	0.00
Private Regard	5.5 (1.4)	5.4 (1.8)	0.16	5.3 (1.3)	5.6 (1.2)	3.07
Public Regard	4.5 (1.0)	4.2 (1.2)	2.88	4.0 (1.1)	4.7 (1.0)	20.68***
Exploration	10.2 (2.3)	9.5 (2.1)	4.93*	9.9 (2.1)	9.7 (2.4)	0.22
Commitment	11.9 (2.8)	10.7 (2.8)	7.58**	11.1 (3.0)	11.4 (2.8)	0.19
Self-esteem	27.6 (5.3)	27.7 (5.2)	0.03	27.3 (5.3)	28.0 (5.2)	0.67
Mastery & Coping	4.10 (0.73)	4.3 (0.70)	2.57	4.2 (0.74)	4.2 (0.69)	0.89
Superior Adjustment	3.7 (0.80)	3.9 (0.77)	2.22	3.7 (0.78)	3.9 (0.78)	2.99
Emotional Tone	3.6 (0.85)	3.5 (0.60)	0.12	3.4 (0.70)	3.7 (0.72)	4.15*

<sup>a</sup> Middle school = grades 7 and 8; <sup>b</sup> High school = grades 9-12

\* =  $p < .05$ ; \*\* =  $p < .01$ ; \*\*\* =  $p < .0001$

## Correlational Analyses

The zero-order correlations between the predictors and outcome variables, and the means, standard deviations, ranges, and alpha coefficients for all variables, are given in Table 2. As predicted in the first hypothesis, correlations supported associations between ego strengths, the REI dimensions of centrality and private regard, and all the adjustment measures. As indicated in the second hypothesis, each REI dimension correlated significantly with self-esteem and superior adjustment; centrality, private regard, and commitment correlated with mastery and coping.

**Table 2**  
Correlations Between the Predictor, Moderator, and Outcome Variables in the Study

	Ego Strengths	Self-esteem	Superior Adjustment	Mastery and Coping	Emotional Tone	M(SD)	Range	alpha
<b>Ego Strengths</b>	-					3.4 (0.45)	2.2-4.7	.79
<b>MMRI</b>								
Centrality	.24***	.15*	.19**	.24***	-.02	6.1 (2.0)	3.5-8.8	.57
Private Regard	.28***	.25***	.18*	.18**	.10	5.4 (1.3)	2-7	.82
Public Regard	.12	.24***	.16*	.07	.03	4.3 (1.1)	1.3-7.0	.61
<b>MEIM-R</b>								
Exploration	.13	.16*	.15*	.06	-.10	9.8 (2.2)	3-15	.61
Commitment	.14	.20**	.28***	.22**	-.10	11.3 (2.9)	2-15	.63
<b>Adjustment Variables</b>								
Self-esteem	.41****	-				27.6 (5.3)	14-40	.77
Superior Adjustment	.46****	.37****	-			3.8 (.79)	1.5-5.6	.66
Mastery and Coping	.60****	.32****	.52****	-		4.2 (.71)	2.7-5.9	.71
Emotional Tone	.27***	.11	-.13	.26***	-	3.6 (.72)	1.7-6.0	.79

\* =  $p < .05$ ; \*\* =  $p < .01$ ; \*\*\* =  $p < .001$ ; \*\*\*\* =  $p < .0001$ ;

**Regression Analyses**

The regression analyses for the MEIM-R and MMRI scales are summarized in Table 3 and Table 4. Consistent with the correlations, ego strengths was a significant predictors for each of the adjustment measures in the first set of regression analyses. Similarly commitment predicted self-esteem and superior adjustment. In contrast to the correlations, exploration and commitment related inversely with emotional tone, and public regard predicted self-esteem in the first set of the regression equations.

**Table 3**  
**Beta Coefficients, Error Terms, and Size Effects from the Multiple Regression Analyses for MEIM-R Scales as Predictors of the Adjustment Variables**

MEIM-R <sup>a</sup>	Self-esteem		Superior Adjustment		Mastery and Coping		Emotional Tone	
	Beta(SE)	R <sup>2</sup>	Beta(SE)	R <sup>2</sup>	Beta(SE)	R <sup>2</sup>	Beta(SE)	R <sup>2</sup>
<u>Exploration</u>								
Grade	-.26 (.76)		.09 (.11)		.04 (.09)		-.13 (.11)	
Sex	.16 (.73)		.11 (.11)		.00 (.09)		.20 (.11)	
Ego Strengths	.16 (.03)****		.03(.00)****		.03 (.00)****		.02 (.00)****	
Exploration	.23 (.17)	.182	.03 (.03)	.226	-.00 (.02)	.360	-.05 (.02)*	.117
Grade	-.24 (.76)		.09 (.11)		.04 (.09)		-.13 (.11)	
Sex	.08 (.73)		.10 (.11)		.01 (.09)		.22 (.10)d	
Ego Strengths	.34 (.12)***		.05(.02)***		.01 (.02)		-.62 (.54)	
Exploration	.24 (.13)		.30 (.19)		-.23 (.16)		-.42(.18)*	
Ego Strengths	-.58 (.37)	.194	-.08 (.05)	.235	.06 (.05)	.368	.11 (.05)*	.139
X Exploration								
<u>Commitment</u>								
Grade	-.14 (.76)		.15 (.11)		.11 (.09)		-.16 (.11)	
Sex	.11 (.73)		.12 (.10)		.02 (.09)		.20 (.10)	
Ego Strengths	.15 (.03)****		.02 (.00)****		.030 (.00)****		.02 (.00)****	
X Commitment	2.4 (.13)	.190	.06 (.018)**	.277	.04 (.02)**	.396	-.04 (.02)*	.118
Grade	-.34 (.74)		.13 (.11)		.11 (.09)		-.16 (.11)	
Sex	.28 (.71)		.13 (.10)		.09 (.09)		.20 (.11)	
Ego Strengths	.52 (.11)****		.06 (.02)***		.04 (.01)**		.02 (.02)	
Commitment	3.67(.97)***		.36 (.14)**		.11 (.12)		-.01 (.14)	
Ego Strengths	-1.00 (.28)***	.248	-.09 (.04)*	.296	-.02 (.03)	.397	-.01 (.04)	.118
X Commitment								

<sup>a</sup> MEIM-R = Multi-group Ethic Identity Measure-Revised

\* =  $p < .05$ ; \*\* =  $p < .01$ ; \*\*\* =  $p < .001$ ; \*\*\*\* =  $p < .0001$

**Table 4**  
**Beta Coefficients, Error Terms, and Size Effects from the Multiple Regression Analyses**  
**for MMRI Scales as Predictors of the Adjustment Variables**

MMRI <sup>a</sup>	Self-esteem		Superior Adjustment		Mastery and Coping		Emotional Tone	
	Beta (SE)	R <sup>2</sup>	Beta (SE)	R <sup>2</sup>	Beta (SE)	R <sup>2</sup>	Beta (SE)	R <sup>2</sup>
<u>Centrality</u>								
Grade	-.61 (.75)		.039 (.11)		.02 (.09)		-.11 (.11)	
Sex	.10 (.74)		.095 (.11)		-.04 (.09)		.18 (.11)	
Ego Strengths	.16 (.03)****		.026(.00)****		.03(.00)****		.02 (.01)****	
Centrality	.27(.38)	.173	.062 (.06)	.227	.07 (.04)	.419	-.06 (.06)	.121
Grade	-.52 (.75)		.04 (.11)		.01 (.08)		-.11 (.11)	
Sex	.01 (.74)		.11 (.11)		-.03 (.09)		.18 (.11)	
Ego Strengths	.13 (.04)***		.00 (.02)		.02 (.02)		.03 (.02)	
Centrality	.03 (.42)		-.34 (.42)		-.24 (.33)		.11 (.41)	
Ego Strengths X Centrality	.13 (.10)	.182	.12 (.12)	.232	.09 (.09)	.422	-.05 (.12)	.122
<u>Private Regard</u>								
Grade	-.50 (.75)		.048 (.11)		.02 (.09)		-.12 (.11)	
Sex	-.03 (.74)		.09 (.11)		-.04 (.09)		.19 (.11)	
Ego Strengths	.15 (.03)****		.03 (.00)****		.03 (.00)****		.00 (.02)***	
Private Regard	.55(.30)	.187	.00(.01)	.223	.00 (.04)	.409	.01 (.11)	.115
Grade	-.55(.74)		.05 (.11)		.02 (.09)		-.12 (.11)	
Sex	-.22 (.73)		.08 (.11)		-.04 (.09)		.19 (.11)	
Ego Strengths	.46 (.14)****		.03 (.02)		.03 (.02)		.02 (.00)	
Private Regard	1.04 (.40)**		.02 (.06)		-.06 (.29)		-.21 (.35)	
Ego Strengths X Private Regard	-1.72(.72)*	.214	-.03 (.11)	.223	.02 (.09)	.409	.07 (.11)	.117
<u>Public Regard</u>								
Grade	-.28 (.75)		.08 (.11)		.04(.09)		-.15 (.11)	
Sex	-.53 (.77)		.07 (.11)		-.02 (.09)		.20 (.11)	
Ego Strengths	.15 (.03)****		.03 (.00)****		.04 (.00)****		.02 (.00)****	
Public Regard	.95 (.35)***	.206	.01 (.01)	.243	-.00 (.01)	.423	-.04 (.05)	.113
Grade	-.29 (.750)		.08 (.11)		.04 (.09)		-.14 (.11)	
Sex	-.53 (.77)		.07 (.11)		-.02 (.09)		.20 (.11)	
Ego Strengths	.22 (.11)*		.03 (.02)		.03 (.01)*		.01 (.02)	
Public Regard	2.59 (2.1)		.03 (.08)		-.05 (.06)		-.28 (.38)	
Ego Strengths X Public Regard	-.48 (.77)	.208	-.02 (.11)	.243	.07 (.09)	.426	.07 (.11)	.116

<sup>a</sup> MMRI = Multidimensional Model of Racial Identity

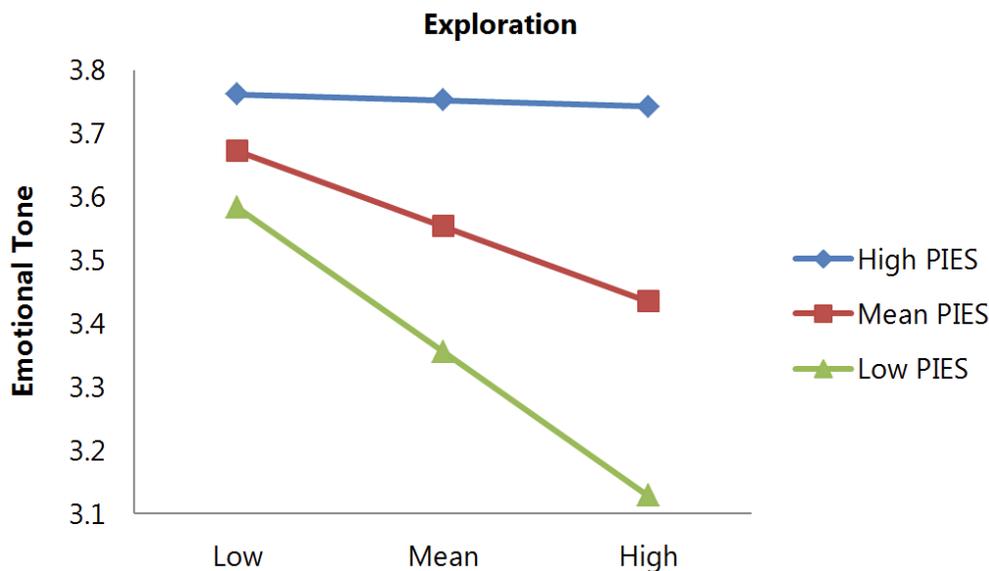
\*\*\*\* =  $p < .0001$ , \*\*\* =  $p < .001$ , \*\* =  $p < .01$ , \* =  $p < .05$

**Ego Strengths as a Moderator of REI and Adjustment**

To test for moderation (hypothesis 3), the interaction terms for ego strengths with each of the REI variables ( $n = 20$ ) were entered in the second set of regression equations. Tables 3 and 4 show the results; the following four interactions attained significance.

The ego strengths by exploration interaction for emotional tone was significant ( $p < .0001$ ). Following the work of Aiken and West (1991), slopes were plotted with ego strengths and exploration standardized at the mean and  $\pm 1$  standard deviation. As seen in Figure 1, low ego strengths exacerbated the negative effect of exploration on emotional tone; the slope,  $t = -2.85$ ,  $p < .01$ , was significant. A similar trend was seen for mean ego strengths with a significant slope,  $t = -2.20$ ,  $p < .05$ . However, moderation was not found for those with high ego strengths, indicating that advanced ego strengths was protective regardless of level of exploration, while average and low ego strengths augmented the negative effect of exploration on emotional tone.

**Figure 1**  
**Slope Analysis of the Ego Strengths by Exploration Interaction Showing Ego Strengths as a Moderator of Exploration in Relation to Emotional Tone<sup>a</sup>**

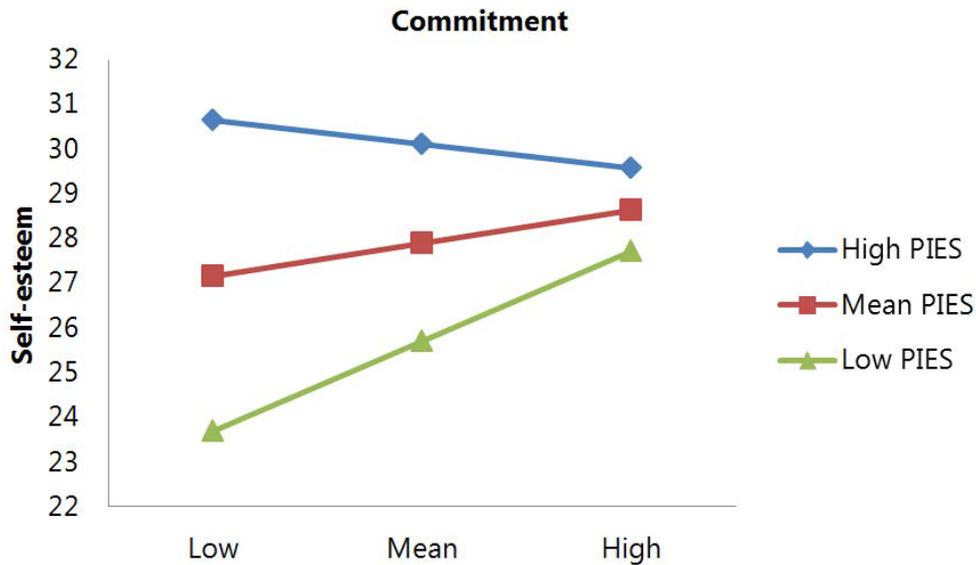


<sup>a</sup> Ego strengths and exploration are centered at the mean;  $\pm 1$  standard deviation

The interaction of ego strengths by commitment for self-esteem achieved significance ( $p < .0001$ ). Figure 2 shows the slopes; for low ego strengths the significant slope,  $t = 3.92$ ,  $p > .0001$ , indicated that deficient ego strengths in conjunction with commitment circumvented self-esteem. This effect was mirrored for mean ego strengths with a significant slope,  $t = 2.05$ ,  $p <$

.01. Conversely, the gradient for high ego strengths did not achieve significance. In other words, low and mean ego strengths reversed the linkage between commitment and self-esteem; advanced ego strengths enhanced self-esteem regardless of level of commitment.

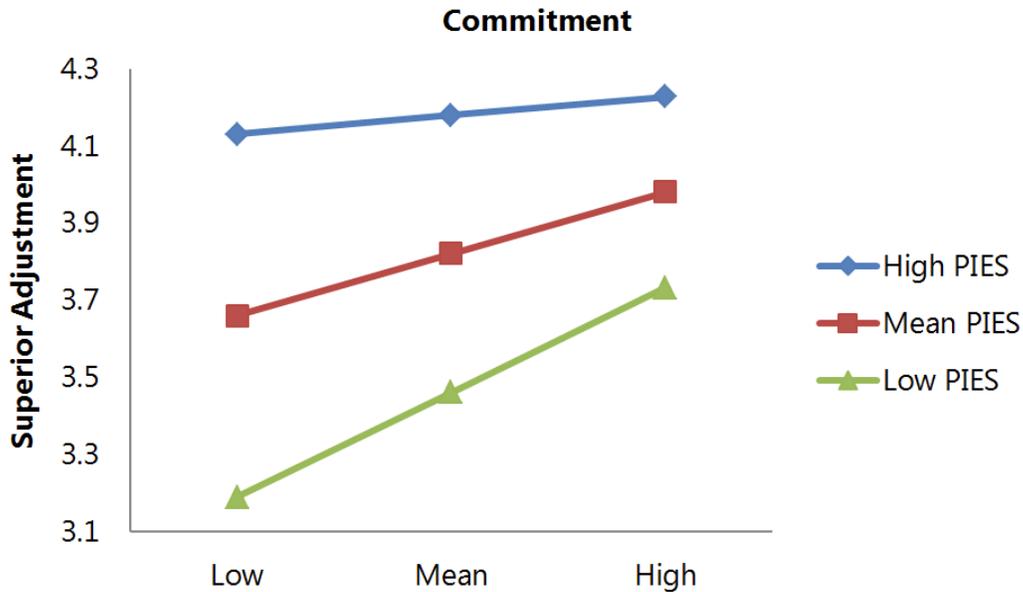
**Figure 2**  
Slope Analysis of the Ego Strengths by Commitment Interaction Showing Ego Strengths as a Moderator of Commitment in Relation to Self-esteem<sup>a</sup>



<sup>a</sup> Ego strengths and commitment are centered at the mean;  $\pm 1$  standard deviation

Also significant was the ego strengths by commitment interaction for superior adjustment ( $p < .0001$ ). As seen in Figure 3, low ego strengths depressed the effect of commitment on self-esteem; the slope,  $t = 3.65$ ,  $p < .0005$ , was significant, and the trend was similar for mean ego strengths,  $t = 3.08$ ,  $p < .005$ . The slope was not significant for high ego strengths, indicating augmentation of ego strengths as an indicator of superior adjustment, while low and mean ego strengths negatively moderated the effect of commitment on superior adjustment.

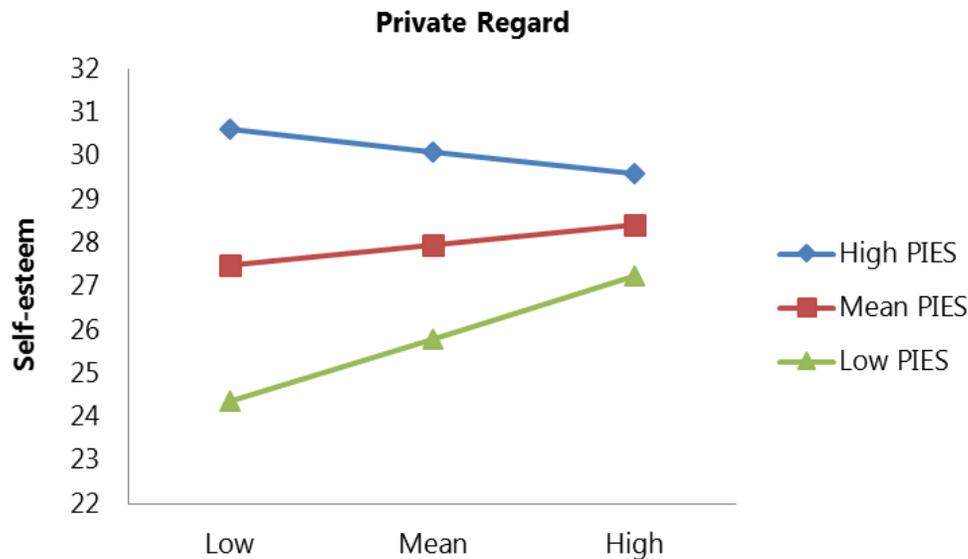
**Figure 3**  
**Slope Analysis of the Ego Strengths by Commitment Interaction Showing Ego Strengths as a Moderator of Commitment in Relation to Superior Adjustment<sup>a</sup>**



<sup>a</sup> Ego strengths and commitment are centered at the mean; ± 1 standard deviation

Finally, as shown in Table 4, on the MMRI, the ego strengths by private regard interaction was significant for self-esteem ( $p < .0001$ ). Figure 4 illustrates the slopes. The slope was significant for low ego strengths,  $t = 2.98, p < .005$ , revealing that low ego strengths negatively moderated private regard on self-esteem. The slopes did not achieve significance at the mean or high levels of ego strengths, reflecting that they independently contributed to self-esteem. However, deficient ego strengths negatively moderated the linkage of private regard with self-esteem.

**Figure 4**  
**Slope Analysis of the Ego Strengths by Private Regard Interaction Showing Ego Strengths as a Moderator of Private Regard in Relation to Self-esteem<sup>a</sup>**



<sup>a</sup> Ego strengths and private regard are centered at the mean;  $\pm 1$  standard deviation

### Ego Strengths as a Mediator of REI and Adjustment

Following Hypothesis 4, ego strengths was examined as a mediator for the REI dimensions with the adjustment variables using the criteria outlined by Baron and Kenny (1986). The preconditions for mediation were the presence of correlations between 1) the REI dimensions and the adjustment measures, 2) ego strengths and the REI variables, and 3) ego strengths and the adjustment variables. As seen in Table 2, these correlations were significant, indicating potential mediation of ego strengths for centrality with mastery and coping; and private regard with self-esteem, superior adjustment, and mastery and coping, respectively. Testing the models involved generating three sets of regression analyses for each case ( $n = 4$ ). First the REI dimension was regressed on the relevant outcome variable; the next step involved the regression of ego strengths on the appropriate REI variable; and finally, both ego strengths and the respective REI variable were regressed on the adjustment variable. Ego strengths was considered to function as a mediator if the REI dimension was mitigated or reduced in variance when included with the mediator in the regression analysis. A Sobel test of indirect effect was used to confirm mediation. The results of the regression analyses for the conditions that met the screening criteria were as follows.

In the first case, centrality was significant when regressed on mastery and coping ( $R^2 = .059$ ), and subsequently, when it was regressed on ego strengths ( $R^2 = .057$ ). For step 3, when

centrality and ego strengths were regressed on mastery and coping, ego strengths retained significance and centrality was mitigated (see Table 4). This drop in significance of centrality indicated that ego strengths functioned as a mediator; the significant Sobel test,  $z = 2.29$ ,  $p < .02$ , substantiated this result. Thus, ego strengths related to centrality which in turn was associated with mastery and coping.

Following the same procedure, ego strengths was examined as a mediator for private regard and self-esteem. Private regard was significant when regressed on self-esteem ( $R^2 = .061$ ). Next, it was significant when regressed on ego strengths ( $R^2 = .080$ ); and, in the last model with both private regard and ego strengths regressed on self-esteem, ego strengths retained significance and private regard was mitigated (see Table 4). Mediation was supported by the Sobel test,  $z = 2.58$ ,  $p < .01$ . In other words, ego strengths indirectly related to self-esteem through its association with private regard.

Ego strengths was tested as a mediator for private regard with superior adjustment. Significant effects were found with private regard regressed on superior adjustment ( $R^2 = .031$ ), showing that private regard was significant; and on ego strengths (shown above). In the third step, with private regard and ego strengths regressed on superior adjustment, ego strengths was significant and private regard was mitigated (see Table 4). The Sobel test,  $z = 2.03$ ,  $p < .04$ , corroborated ego strengths as a mediator of private regard with superior adjustment.

Finally, ego strengths was examined as a mediator between private regard and mastery and coping. The effects attained significance for private regard regressed on mastery and coping ( $R^2 = .032$ ), and on ego strengths (shown above). When both private regard and ego strengths were regressed on mastery and coping, ego strengths retained significance and private regard was mitigated (see Table 4). The significant Sobel test,  $z = 2.03$ ,  $p < .04$ , supported mediation. Ego strengths related to private regard, which subsequently was associated with mastery and coping.

## DISCUSSION

Ego strengths, REI as measured on the MEIM-R and MMRI, and positive well-being were examined among NAI/FN adolescents who resided and attended school in their reserve/FN communities. The results extended research on ego strengths (Anthis, 2014; Gfeller & Armstrong, 2012; Gfeller & Cordoba, 2011; Markstrom & Marshall, 2007; Markstrom et al., 1997) in relation to self-esteem, superior adjustment, mastery and coping, emotional tone, and

the affective REI dimensions of private regard and centrality that reflect belonging or attachment to one's group and its salience to one's sense of self.

The findings are consistent with a comprehensive review of research (Rivas-Drake, Seaton, et al., 2014) and meta-analysis (Rivas-Drake, Syed, et al., 2014) among pan-American minority adolescents using the same affective measures. Direct associations for centrality, private regard, and commitment (affirmation) with personal well-being underscore the protective function of these dimensions among NAI/FN adolescents. Similar relationships were reported for ethnic affirmation and belonging with self-esteem among Navajo (Galliher et al., 2011; Jones & Galliher, 2007) and general positive affect among Lumbee (Newman, 2005) adolescents.

In contrast to these affective components, exploration and commitment inversely predicted emotional tone in the regression analysis. Low emotional tone was an indicator of anxiety and distress for those involved in the process of exploring and examining their heritage, as well as those indicating commitment to their culture and its ideology, as reported on the MEIM-R. Unlike the affective dimensions, exploration is a cognitive component in which one actively questions issues relevant to one's self-definition while moving toward establishing an integrated sense of self. Considerable research shows that identity exploration tends to be associated with less stable functioning and well-being (Kroger & Marcia, 2011; Marcia, 1980). This involvement in searching and questioning may be a temporary phase in the process of identity formation for most young people, as the issues involved in active evaluating, rather than the process itself, may be the cause of anxiety and distress (Arnett, 2006). The negative association with commitment is less clear, although exploration is subsumed under commitment in consolidated identity achievement (Phinney, 1993). Recent revisions to the identity status paradigm extend commitment so that it may involve revisiting decisions and thereby aligns more closely with exploration (Luyckx, Goossens, & Soenens, 2006; Luyckx, Goossens, Soenens, & Beyers, 2006). From this perspective, both exploration and commitment reflect a state of flux that may account for these adolescents' depressed emotional tone scores.

The inverse relationship between exploration (and commitment) with emotional tone may reflect enhanced progress in establishing a coherent ethnic identity rather than unequivocal disruption. As NAI/FN adolescents advance in their REI development, they may be more responsive to the impact of negative nuances associated with their race, ethnicity, and culture, so that ethnic exploration is a source of uneasiness and anxiety, as indicated in the depressed scores for emotional tone. It also may reflect an awareness of the background of historical trauma, racism, and discrimination experienced by their group. Such an interpretation resonates with

recent models of NAI/FN identity in which this legacy is a backdrop for REI that includes other aspects across many contexts (Markstrom, 2011; Whitbeck et al., 2014). The present findings may reflect a developmental unfolding of REI (Umana-Taylor et al., 2014); further research is needed to unravel the complexities of this process, including consideration of alternate dimensions of ethnic exploration (Syed et al., 2013) and commitment (Luyckx, Goossens, Soenens, & Beyers, 2006) and how they may change over time.

As well, anxiety was the sole outcome that was not associated with the affective components of REI in the Rivas-Drake, Syed, et al. (2014) meta-analysis of well-being among adolescents; exploration was not included in their computations. Other recent meta-analyses extending into the adult years with aggregated measures (Smith & Silva, 2011; Yoon et al., 2013) reported higher REI (enculturation) associated with anxiety and other negative as well as positive aspects of mental health. This finding was considered to be due to external factors, such as concerns over how one is viewed or accepted, fear of rejection, or a sense of insecurity in the context of mainstream society (Lau, Fung, Wang, & Kang, 2009). According to Chandler, Lalonde, Sokol, and Hallett (2003), socio-environmental factors, including the resilience that may be available through assets in one's reserve/FN community (e.g., economic opportunities, housing, and other community resources), require consideration as they are related to REI (cultural continuity) and well-being.

Ego strengths moderated the linkages for private regard, commitment, and exploration with several indicators of well-being (i.e., self-esteem, superior adjustment, emotional tone). In each case, those with less than optimal ego strengths demonstrated depressed personal well-being in these aspects as a function of REI. Given the associations between ego strengths and positive adaptation (e.g., Markstrom & Marshall, 2007), adolescents operating with low and mean levels of ego strengths may be delayed in social perspective taking and formal-operational skills that may not be available until later adolescence for some individuals (Berman, Schwartz, Kurtines, & Berman, 2001). As such, these components of well-being may be challenged for those who confront REI and a myriad of other developmental issues with insufficient personal resources. Indeed, focused approaches to intervention and support within the family and the community are needed to address these incapacities.

Ego strengths was supported as a mediator for centrality and private regard. In other words, the indirect effect of personal development (ego strengths) on well-being was through these REI dimensions. These findings highlight the importance of psychosocial stage development in providing the foundation for centrality, the integrating aspect of REI, in

conjunction with active coping; and for private regard, an affective sense of attachment, with global as well as specific aspects of well-being. The results offer directions for intervention for those lagging behind in their psychosocial development, as well as for those experiencing challenges with REI, and suggest targeting positive feelings; belonging; and the relevance of one's race, ethnicity, and culture to one's sense of self (private regard and centrality) in educational programs and interventions with NAI/FN adolescents to facilitate REI development and to promote functional well-being.

These results contribute to the ongoing discourse concerning the interface of REI processes within the broader context of personal identity development (e.g., Schwartz et al., 2013; Schwartz, Zamboanga, Weisskirch, & Rodriguerz, 2009; Syed, 2010) and its importance for well-being (Syed et al., 2013). Careful elucidation of these relationships is warranted given the role of centrality (the prominence of REI in self-concept) as a moderator for negative consequences of discrimination among NAI/FN adults (Bombay, Matheson, & Anisman, 2010); it is unclear how the salience of race, ethnicity, or culture to one's self-definition may differ among adolescents, those in different contexts, or other minorities.

The present findings indicate the need for more nuanced study of racial/ethnic exploration and other aspects of REI in terms of their development and function, and how they are related to positive adjustment among NAI/FN adolescents. As well, it is important to extend the study of disaggregated REI to other areas of adaptive functioning for a better understanding of the role of REI among NAI/FN adolescents and how it may change over time. At the community level, findings from the school-based cultural curriculum project have been used to inform, advance, and extend program initiatives in terms of educational components and resources. Information is shared in a variety of venues, including student activities, workshops, websites, and discussion sessions. To protect the identity of the communities, data are always presented in aggregate. Long-term outcomes related to positive youth development are anticipated; further investigation will address longitudinal associations of the components of REI and additional areas of adjustment (e.g., school achievement, retention, and completion; mental health). At a subjective level, short-term progress has been observed in students' enthusiasm and accomplishments with cultural knowledge, and involvement in activities including art, stories, history, music, dance, tradition, ceremony, and celebratory events (e.g., cultural camps and projects, exhibitions of their work). Positive affirmations from teachers, parents, community members, and elders underscore the supportive function of the program at school and in the community.

Several limitations of the study warrant consideration. It was cross sectional, which precludes any notion of causality. Longitudinal investigation is essential to infer the ordering of changes in the association of ego strengths, various aspects of REI, and outcome behaviors. The findings provide important information about adolescents on reserves attending nonintegrated band schools. However, generalizability may be restricted, as NAI/FN adolescents in urban settings, those living off-reserve in towns or in other rural and remote regions, those attending integrated schools, and those with other tribal or band affiliation may differ. Nevertheless, given the complexities of NAI/FN peoples and commonalities of historical and political significance, it is important to piece together some comprehensive narrative about developmental risk and resilience from specific individuals and locales to glean some universal implications (Burach et al., 2014).

In summary, the results of this study provide empirical support for the theoretical relevance of ego strengths in REI development among NAI/FN adolescents, and indicate the need to enhance competence in the formative years of psychosocial stage development in tandem with a focus on racial/ethnic socialization to insure optimal personal growth and well-being. At the same time, further research is required to determine how these associations unfold among NAI/FN young people in different settings, as well as adolescents in other minorities.

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