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## Flourishing: American Indian Positive Mental Health

Margarette L. Kading<sup>1</sup>, Dane S. Hautala<sup>2</sup>, Laura C. Palombi<sup>1</sup>, Benjamin D. Aronson<sup>1</sup>, Reid C. Smith<sup>1</sup>, and Melissa L. Walls<sup>3</sup>

<sup>1</sup>University of Minnesota, College of Pharmacy–Duluth

<sup>2</sup>University of Nebraska, Lincoln, NE, USA

<sup>3</sup>University of Minnesota Medical School, Duluth Campus

### Abstract

Positive mental health (PMH) is an important construct for understanding the full continuum of mental health. Some socially disadvantaged populations experience a paradoxically high level of PMH despite negative social experiences including discrimination. The purpose of this study is to examine the prevalence and culturally salient correlates of PMH among a cross-sectional sample of 218 American Indian adults living with type 2 diabetes mellitus. Although 17.1 percent of individuals in this sample met Patient Health Questionnaire (PHQ-9) criteria for depression, 51.5 percent were in flourishing PMH. Perceived discrimination was negatively associated with PMH, and participation in traditional cultural activities was positively associated with PMH. Traditional cultural activities did not appear to buffer the impact of discrimination on PMH. This study contributes to strengths-based research with American Indian communities, furthers our understanding of correlates of PMH, and documents comparatively high rates of flourishing mental health in our sample relative to previously published studies with diverse samples.

### Keywords

resilience; race/ethnicity; mental health; emotional well-being; discrimination

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The concept of mental health is frequently studied from perspectives of individual deficit and disparity, primarily in terms of depression/depressive symptoms across groups (Schwartz 2002). An alternative focus on well-being, including positive mental health, highlights community and cultural strengths and may increase our understanding of social and cultural protective factors for holistic health (Keyes 2005a; Kirmayer et al. 2011). Interestingly, some minority racial and ethnic groups appear to experience higher levels of positive mental health despite concurrent differential exposure to discrimination and other culturally and minority-specific stressors (Gallo et al. 2009; Keyes 2009a). American Indians (AI) as a cultural group have experienced historical trauma, discrimination, and disproportionate levels of chronic diseases, including type 2 diabetes and mental illness (Brave Heart 1999; Evans-Campbell 2008; Urban Indian Health Institute 2012; Whitbeck et al. 2004a). American Indian/Alaska Native (AI/AN) people also experience higher rates of

psychological distress than non-Native Americans (Barnes, Adams, and Powell-Griner 2010), although the prevalence of depression may actually be similar to the general population in some communities (based on diagnostic category; Beals et al. 2005). Furthermore, type 2 diabetes is about two times more common in AI/AN communities (15.3 percent) than in the general population (7.3 percent; National Institute of Arthritis and Musculoskeletal and Skin Diseases 2006) and can lead to an increased number of poor mental health days (Centers for Disease Control 2011). While disparities like these are widely documented, we know very little about positive outcomes for AI communities despite some evidence of cultural strengths and resilience for Indigenous people globally (Kirmayer et al. 2011; Mohatt et al. 2004; Penehira et al. 2011).

An ongoing debate in the sociology of mental health focuses on the conceptualization and operationalization of mental health and well-being. Of direct relevance to this study, scholars have debated whether we should focus on positive or negative outcomes (Horwitz 2002). Mental health research with AI people has traditionally focused on disparities as measured by markers including high rates of suicide, substance abuse, and psychological distress (Bridges and Kunselman 2005; Rieckmann et al. 2012). This exclusive focus on negative outcomes precludes the examination of how various social conditions and arrangements impact the full range of mental health outcomes (Aneshensel 2005). More specifically, we are left with uncertainty about the *positive* consequences of social arrangements and factors that are both conducive and deleterious for well-being (Horwitz 2002). The inclusion of the full spectrum of mental health, from illness to flourishing, is an important step in fully understanding mental wellness (Aneshensel 2005). Furthermore, calls for strengths-based research and narratives by Indigenous communities (Kirmayer et al. 2011; Mohatt et al. 2004) underscore the importance of investigating positive mental health in these communities. The first aim of this article is to examine the prevalence of positive mental health among a sample of AI adults living with type 2 diabetes. A second aim of this article is to examine perceived racial discrimination and participation in traditional cultural activities as culturally salient risk and protective correlates, respectively. Third, we examine possible interactive (buffering) effects between discrimination and traditional cultural activities on positive mental health.

## **SOCIAL CORRELATES OF POSITIVE MENTAL HEALTH**

### **Theoretical Framework**

The stress process model (Pearlin 1989; Pearlin et al. 1981) provides a contextual framework for understanding the prevalence of positive mental health as well as social correlates that may impact well-being. The stress process model describes the complex interrelationships among: (1) stressors, (2) social and personal resources (i.e., coping resources and responses), and (3) mental health outcomes. This model emphasizes the importance of framing individual lives within social contexts that give rise to various sources of stress. The model also incorporates the available resources that can be used to buffer the negative effects of stress on health. The invasive and persistent effects of history on AI communities have been conceptualized as historical trauma, or the ongoing, intergenerational exposure and response to traumatic events within the community (Brave

Heart 1999; Brave Heart and DeBruyn 1998; Evans-Campbell 2008; Whitbeck et al. 2004a). Although the processes of colonization, which include forced relocation, forced removal of children from families to boarding schools, prohibition of spiritual and cultural practices, community massacres, pandemics, and genocidal policies, are considered “historical,” their effects continue to challenge individuals and communities alike (Evans-Campbell 2008). Historical trauma has more recently been defined as “cumulative emotional and psychological wounding” that crosses generations (Brave Heart 2003:5) and is perpetuated with genocidal intent on a group of individuals and their culture (Walters et al. 2011). Contextualizing this socio-historical background is necessary to understand the social determinants of contemporary health and health disparities for AIs; the stress process model is a useful framework for understanding the dynamics of this relationship.

The first component of the stress process highlights various sources of stress and their distribution, with due consideration of the antecedents (social arrangements, stratification, etc.) to stress exposure. Racial and ethnic minorities and those of low socioeconomic status are said to experience greater exposure to a range of stressors (Turner 2010; Turner and Avison 2003), which helps explain robust positive associations between minority status, low socioeconomic status, and physical and mental illness and disorder (Mirowsky and Ross 2003).

More specifically, racial and ethnic minorities are exposed to high levels of discrimination (Kessler, Mickelson, and Williams 1999). Perceived racial discrimination has consistently been linked to worse mental health, and the impact of discrimination has been shown to be comparable to death of a loved one (Kessler et al. 1999). Numerous studies, including several major review articles, have made clear the adverse impact of perceived racial discrimination on both physical and mental health (Hausmann et al. 2008; Paradies 2006; Paradies and Cunningham 2012; Wagner and Abbot 2007; Williams and Mohammed 2009; Williams, Neighbors, and Jackson 2003) across diverse samples, including AIs (Whitbeck et al., 2002). Perceived discrimination has also been linked to worsened eudaimonic (potential and functioning in life) well-being in Mexican American, African American, and white women (Ryff, Keyes, and Hughes 2003).

The second component of the stress process model highlights the social and personal resources that may condition the effect of stressors on health. Coping resources can have both a main effect on well-being and/or a stress buffering (moderating) effect. Specific to AI populations, socially protective factors or buffers may include family and/or community, spiritual coping, traditional health practices, identity attitudes, and enculturation (Walters, Simoni, and Evans-Campbell 2002; Wexler 2014). In this study, we focus on participation in traditional cultural activities as a potential coping mechanism that may link social experiences (e.g., discrimination) to well-being. Indigenous culture, variously conceptualized, has also been shown to be positively associated with better behavioral, physical health, and mental health outcomes (Chae and Walters 2009; Torres Stone et al. 2006; Wolsko et al. 2007; Yoder et al. 2006). This area of research remains relatively new, however, and scholars continue to examine the potential for “culture as treatment” (Gone 2013). We expect participation in traditional cultural activities to have a positive effect on well-being in this study.

Walters and colleagues' (2002) Indigenist stress coping model posits that cultural coping mechanisms such as engagement in traditional practices serve as protective buffers against the negative effects of stressors on health outcomes. In support of this model, prior research indicates that participation in traditional cultural activities buffers the effects of discrimination on depressive symptoms among AI adults (Whitbeck et al. 2002). Specifically, adults who reported high levels of traditional participation and high levels of perceived discrimination had the lowest levels of depressive symptoms. Those who were low in traditional participation and high in perceived discrimination had the highest levels of depressive symptoms. With these findings in mind, we also expect participation in traditional cultural activities to serve as a protective factor that buffers the negative association between discrimination and well-being.

The third component of the stress process highlights health/mental health outcomes that index the consequences of various social arrangements (e.g., stressors and resources). As noted previously, most research on AI mental health focuses on negative outcomes. This consistent focus on pathology and rigid definitions of "wellness" may overstigmatize and pathologize communities. This focus may further reinforce the medicalization of social forces that lead to collective distress or well-being (Conrad 1992). Although important as indicators of human psychological suffering, widespread focus on pathology may also miss cultural idioms of distress (Kirmayer et al. 2011), cultural health beliefs, and various forms of resilience (Gallo et al. 2009; Werner 1983). As an example, some AI communities traditionally include mental health as just one component of total health and wellness. A more common indigenous perspective of health is an interrelationship and balance between emotional, physical, spiritual, and mental health as indicative of well-being (Urban Indian Health Institute 2012). Similarly, as early as 1948 the World Health Organization (WHO) defined health as "a state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity" (WHO 1948:100). In the context of the stress process, positive mental health may be considered a salient and understudied outcome for AI populations.

## POSITIVE MENTAL HEALTH CONTINUUM

Keyes's (2009b) Positive Mental Health Continuum (MHC) is an increasingly used measure of positive mental health outcomes in sociology and psychology. The MHC defines positive mental health as not just the absence of mental illness but as "a syndrome of symptoms of positive feelings and positive functioning in life" (Keyes 2002:207). This construct has been used in multiple studies across various cultural groups and is operationalized as a scale that measures emotional, psychological, and social well-being (Keyes 2009b). This view of mental health incorporates a continuum that focuses on *positive* mental health in addition to negative affective states (Keyes 2002, 2005a). According to this perspective, mental health and mental illness are separate but correlated unipolar dimensions (see also Payton 2009). Keyes argues that positive mental health can be "diagnosed" and ranges from languishing to moderate to flourishing. Flourishing mental health is the highest level of emotional, psychological, and social well-being. The Mental Health Continuum Short Form (MHC-SF) appears to have cross-cultural utility (Joshanloo et al. 2013; Keyes et al. 2008; Lim 2013).

Keyes's analysis of midlife Americans (using the MHC long form and sample-specific tertile cutoffs) revealed that 17.2 percent of individuals in the study were flourishing without depression and 56.6 percent were moderately mentally healthy (Keyes 2002). Additionally, a major depressive episode was two times more likely in languishing individuals than in moderately mentally healthy people, and there was a six times greater likelihood of depression among languishing than flourishing (Keyes 2002). The study illustrated that as positive mental health improved, mental illness decreased. Additional research has shown that those in "complete mental health" (defined as flourishing and free of a mental disorder for the last 12 months) experienced a number of positive outcomes that included fewest health limitations to activities of daily living, fewest half-day work cutbacks and missed days of work, the healthiest psychosocial functioning (as defined by low helplessness, clear life goals, and high intimacy and resilience), lower risk of cardiovascular disease, fewer chronic diseases, and decreased health care utilization (Keyes 2004, 2005a, 2005b). Additionally, people with flourishing mental health had a decreased incidence of mental illness over time (Grant, Guille, and Sen 2013; Keyes, Dhingra, and Simoes 2010), were less likely to have suicidal behavior (Keyes et al. 2012), and had a lower likelihood of dying prematurely (Keyes and Simoes 2012). Those with complete mental health, therefore, experienced the greatest overall health and well-being.

Interestingly, some racial/ethnic minority populations in the United States appear to experience paradoxically higher levels of positive mental health compared to the majority population, despite differential exposure to societal stressors, including discrimination and poverty, that are known correlates of increased psychological distress across numerous sociological studies (Kessler et al. 1999; Turner and Avison 2003; Turner and Lloyd 1995). As an example, an analysis of the 1995 Midlife in the United States study showed that despite frequent reports of discrimination (60.9 percent prevalence day-to-day), lower life expectancies, and increased risk of chronic physical disease, black Americans had lower rates of some mental disorders and had higher rates of flourishing mental health than whites: 27 percent more blacks than whites were flourishing and free of mental illness (Keyes 2009a). Controlling for discrimination increased this "black advantage" in 12 out of 13 signs of flourishing (social coherence, social growth, social integration, self-acceptance, autonomy, environmental mastery, positive affect, positive relations with others, personal growth, social contribution, life satisfaction, and purpose in life; social acceptance was the only sign that did not show black advantage; Keyes 2009a). In other words, blacks would have had "even better mental health" if no discrimination had occurred (Keyes 2009a:1677). Mexican Americans in Chicago and African Americans in New York have also been noted to have higher levels of mental well-being, and Hispanics<sup>1</sup> have been shown to express a protective resiliency that promotes both physical and mental health (Gallo et al. 2009; Ryff et al. 2003) despite experiencing discrimination. Evidence of paradoxically high positive mental health among minority groups in the face of disparate mental distress and social stressors underscore the significance and need for additional research on positive mental health.

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<sup>1</sup>*Hispanic* was the term used by the authors.

## PURPOSE AND HYPOTHESES

The extant literature suggests that a greater understanding of the prevalence of positive mental health (PMH) and its social antecedents in AI people is necessary (Mohatt et al. 2004). A number of studies report paradoxically high MHC-SF scores among a variety of racial/ethnic minority populations. Although aspects of positive mental health have been studied in indigenous peoples (Filbert and Flynn 2010; Fleming and Ledogar 2008), we were unable to locate any published studies specifically utilizing the MHC-SF. Thus, the first purpose of our study is to examine the prevalence of PMH. Because of the high rate of comorbid mental illness with chronic diseases, including diabetes in the AI population, and because various aspects of positive psychological states (resilience, self-efficacy, optimism, positive affect) are associated with fewer diabetes-related complications, better glycemic control, and a lower rate of mortality (Celano et al. 2013), the implications of studying PMH are important for both individual and community health.

The stress process model provides context for PMH in the presence of both discrimination and engagement in traditional cultural activities. The second purpose of this study is to examine two culturally salient correlates of PMH. Given prior research documenting the positive effects of traditional cultural involvement and negative effects of discrimination on well-being, we explore the relationship between engagement in cultural activities, discrimination, and positive mental health by testing the following hypotheses in our analysis:

*Hypothesis 1:* Perceived discrimination will be negatively associated with positive mental health.

*Hypothesis 2:* Greater engagement in traditional cultural activities will be associated with more positive mental health.

In addition, we examine an underexamined proposition highlighted in Walters et al.'s (2002) Indigenist stress coping model where engagement in traditional cultural activities buffers the negative effects of stressors (e.g., perceived discrimination) on well-being. Prior research suggests that perceived discrimination is negatively associated with positive mental health (Ryff et al. 2003) and engagement in traditional cultural activities buffers the stress-distress relationship among AI adults (Whitbeck et al. 2002). Likewise, Whitbeck et al. (2004b) found that while enculturation did not buffer alcohol abuse, it did have an independent negative effect as it was associated with a decrease in alcohol abuse; enculturation also mediated historical loss's effect on discrimination. Further, Bombay, Matheson, and Anisman (2010) found that various aspects of ethnic identity buffered depression. Whether or not such buffering effects extend to positive outcomes is not clear. Thus, we examine the possibility that engagement in traditional cultural activities buffers the negative association between perceived discrimination and positive mental health.

*Hypothesis 3:* Engagement in traditional cultural activities will moderate (buffer) the negative association between discrimination and positive mental health.



## METHODS

The Mino Giizhigad (A Good Day) Study was a community-based participatory research (CBPR) project with the Lac Courte Oreilles (LCO) and Bois Forte (BF) Bands of Chippewa<sup>2</sup> and the University of Minnesota Medical School-Duluth. Both tribal communities consented to be named in public dissemination of research findings. The purpose of the study was to identify and describe the impact of mental and behavioral health factors on diabetes treatment and outcomes among Ojibwe adults with type 2 diabetes. Tribal resolutions from both communities were obtained prior to application submission for funding. The project began with community feasts and forums to discuss the study goals, obtain community feedback, and establish Community Research Councils (CRC). CRC and university team members were active participants in the entire research process, from methodological planning to final data collection and analysis. The University of Minnesota Institutional Review Board and Indian Health Services National Institutional Review Board reviewed and approved the methodology included in this study.

## SAMPLE

Potential participants were randomly selected from each reservation's health clinic records. Inclusion criteria were patients 18 years or older, type 2 diabetes diagnosis, and self-identified as American Indian. Clinic partners were trained on probability sampling methods to generate a random sample of 150 patients from their lists. Selected patients were mailed a welcome letter, an informational project brochure, and a contact information card with mail and phone-in options to decline participation. Trained community interviewers contacted non-declining recruits to schedule interviews. Consenting participants were given a pound of locally cultivated wild rice and a \$30 cash incentive. Paper-and-pencil interviewer-administered surveys were completed in participants' location of choice, most often in private spaces within homes. The time to complete each survey ranged between approximately 1.5 and 3 hours.

Identifying information linked to surveys (i.e., names, address) was removed and replaced with an identification number by the onsite project coordinator prior to sending to the university-based team. All survey data were entered and verified in electronic format by university research assistants. Out of a total initial eligible sample of 289 individuals, 218 participants completed surveys, for a final study response rate of 75.4 percent.

## MEASURES

### Dependent Variable

The MHC-SF (Keyes 2009b) consists of 14 items that measure emotional, social, and psychological well-being, all indicators of positive mental health. The measure includes 3 emotional items (happy, interested in life, satisfied with life), 5 social items (that you had

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<sup>2</sup>While the term *Chippewa* is a corruption of *Ojibwe*, *Chippewa* has been used by the federal government in all major treaty negotiations, government-to-government negotiations, and legal cases involving Ojibwe bands. Although many members of this group prefer the term *Anishinabe* or *Ojibwe*, the term *Chippewa* has been used in relatively recent court cases and is currently incorporated into a number of tribal and band names (Treuer 2010).

something important to contribute to society; that you belonged to a community [like a social group or your neighborhood]; that society is a good place, or is becoming a better place, for all people; that people are basically good; that the way our society works makes sense to you), and 6 psychological items (that you liked most parts of your personality, good at managing the responsibilities of your daily life, that you had warm and trusting relationships with others, that you had experiences that challenged you to grow and become a better person, confident to think or express your own ideas and opinions, that your life had a sense of direction or meaning to it). *Positive mental health symptoms* were measured by scored responses (0 to 5, where 0 = never, 1 = about once a week, 3 = 2 or 3 times a week, 4 = almost every day, and 5 = every day) and assessed symptoms of positive mental health experienced in the two weeks prior to survey participation. Individuals were classified as having flourishing, moderate, or languishing mental health. To meet criteria for flourishing, participants had to report at least 1 of the 3 hedonic (emotional) well-being symptoms and 6 or more of the 11 positive functioning (social and psychological well-being) symptoms “every day” or “almost every day.” Individuals who met criteria for languishing had to report at least 1 of the 3 hedonic (emotional) well-being symptoms and 6 or more of the 11 positive functioning (social and psychological well-being) symptoms “never” or “once or twice.” Those who did not meet criteria for either “languishing” or “flourishing” were classified as having “moderate” mental health. Cronbach’s  $\alpha = .93$  in this sample. We used this measure in two ways: (1) the three part score of languishing, moderate, and flourishing, coded as 0, 1, and 2, respectively, and (2) as a continuous measure with a maximum score of 70.

### Independent Variables

The Patient Health Questionnaire (PHQ-9; Kroenke, Spitzer, and Williams 2001; Spitzer, Kroenke, Williams, and the Patient Health Questionnaire Primary Care Study Group 1999) consists of nine questions and can be used to identify depression. The items included the following: little interest or pleasure in doing things; feeling down, depressed, or hopeless; trouble falling or staying asleep or sleeping too much; feeling tired or having little energy; poor appetite or overeating; feeling bad about yourself—or that you are a failure or have let yourself down; trouble concentrating on things, such as reading the newspaper or watching television; moving or speaking so slowly that other people have noticed, or the opposite—being fidgety or restless that you have been moving around a lot more than usual; and thoughts that you would be better off dead, or of hurting yourself in some way. *Depressive symptoms* were measured by scored responses (0 to 3, where 0 = not at all, 1 = several days, 2 = more than half the days, 3 = nearly every day) assessing symptoms of depression experienced in the two weeks prior to survey participation. The final summed score of all nine items included a possible range of 0 to 27. A score of 10 or more was used as a threshold for depression (Gilbody, Richards, and Barkham 2007). Cronbach’s  $\alpha$  was .90 in this sample.

The summed *discrimination* scale consisted of nine items regarding participants’ perceptions of discrimination they experienced in the past year as a result of being Anishinabe (Ojibwe). The items included the following discriminatory experiences: someone said something derogatory or insulting to the individual; a store owner, sales clerk, or person working at a place of business treated the individual disrespectfully; police hassled the individual;



someone yelled a racial slur or racial insult at the individual; someone suspected the individual of doing something wrong; the individual experienced discrimination in job placements; the individual felt unfairly treated by television programs, news, or other forms of media; people acted as if they think the individual is not smart; and people acted as if they are afraid of the individual. Possible responses to each item were “never happened,” “happened several times” “happened a lot of the time,” and “always happened.” Responses were recoded from 0 (never happened) to 3 (always happened). Cronbach’s  $\alpha = .84$  in this sample.

The summed *traditional activities scale* was composed of 17 yes/no format questions that asked about the participants’ engagement in a variety of traditional cultural activities (e.g., played traditional games, gathered traditional medicines, engaged in traditional food gathering, etc.). The responses of “no” and “yes” were recoded to 0 and 1, respectively. The final summed score included a range of 0 to 17. Cronbach’s  $\alpha$  was .81 in this sample.

### Control Variables

Several control variables were included. *Gender* was coded 0 = male, 1 = female. Although all participants in this study sought medical care at clinics located on reservation, some lived off reservation lands. This was controlled for with a dummy variable where 0 = off reservation and 1 = on reservation. *Location* was coded as a dummy variable 0 and 1 to control for the location of participants. This variable was included to account for possible differences by study location; however, we do not identify which community is associated with each code to avoid potentially stigmatizing or labeling one community compared to the other. Participants’ *per capita household income*, which was measured by asking participants to indicate their overall household income within \$10,000 ranges, was also controlled for. The final income measure included the midpoints of these ranges divided by the number of people living within households. *Number of years the participant had diabetes* and self-reported *age* in years were also controlled for.

## RESULTS

Descriptive information for study variables is presented in Tables 1, 2, and 3. About 17 percent of participants met the PHQ-9 cutoff indicative of depression with a score of 10 or greater. Overall, most individuals were identified as being in flourishing or in moderate mental health. Table 2 contains a further breakdown of the distribution of MHC-SF levels. Within the sample, 1.6 percent of people were considered languishing, 32.1 percent were in moderate mental health, and 50.3 percent were flourishing while not meeting depression criteria, whereas 1.6 percent of people were languishing, 13.5 percent were in moderate mental health, and 1 percent were flourishing while meeting depression criteria.

Table 3 displays bivariate correlations among all study variables. A score of 10 or higher on the PHQ-9 was negatively correlated with the positive mental health summed score ( $r = -.35, p < .001$ ) and diagnosis ( $r = -.40, p < .001$ ). The number of years a person had diabetes was also negatively correlated with the MHC-SF summed score ( $r = -.14, p < .05$ ).

The multivariate effects of the control variables on positive mental health are displayed in the first model of Table 4. Number of years with diabetes was negatively associated with positive mental health ( $\beta = -.19, p = .01$ ), with those living with type 2 diabetes longer reporting lower levels of positive mental health. Location ( $\beta = .14, p = .05$ ) and living on reservation land ( $\beta = .13, p = .09$ ) were associated with increased positive mental health.

Model 2 in Table 4 displays the effects of discrimination and participation in cultural activities (net the effects of control variables) on positive mental health. As hypothesized, discrimination was negatively associated ( $\beta = -.19, p = .02$ ) with positive mental health, whereas the summed traditional cultural activities scale ( $\beta = .24, p = .00$ ) was positively associated with well-being, net of controls. Living on the reservation ( $\beta = .14, p = .05$ ) remained positively associated with well-being. The coefficient for number of years living with diabetes in the second model increased by 46 percent and is only marginally significant ( $p < .10$ ), which suggests that the negative effect of years living with type 2 diabetes on positive mental health may operate, in part, through discrimination and traditional activities. The coefficient for location ( $\beta = .16, p = .03$ ) was also a significant factor in this model and increased in size from Model 1, suggesting a slight suppression effect. We also tested the interaction of discrimination by participation in cultural activities (Model 3 in Table 4); however, contrary to our third hypothesis, we did not find evidence of statistically significant moderation effects.

## DISCUSSION

Despite discriminatory experiences, ongoing marginalization, and high rates of depression and chronic disease, a disproportionately large number of racial and ethnic minorities experience flourishing mental health (Gallo et al. 2009; Keyes 2009a; Ryff et al. 2003). Mental health research with AI people, however, has overwhelmingly focused on disparities in negative mental health outcomes such as suicide, substance abuse, and psychological distress (Bridges and Kunselman 2005; Rieckmann et al. 2012). This preoccupation on negative outcomes precludes the examination of how various social conditions and arrangements impact the full range of mental health outcomes (Aneshensel 2005). To address this issue, the first purpose of this article was to examine the prevalence of positive mental health among a sample of AI adults living with type 2 diabetes. Our findings indicate that the AI adults in this sample report high levels of PMH compared to previously published studies. The second purpose was to examine culturally salient correlates of PMH. We found that perceived discrimination was associated with decreased levels of PMH, while participation in traditional activities was associated with increased PMH. We further tested for the stress-buffering effects of traditional activities on PMH, a positive outcome. We did not find evidence of moderation in these analyses.

### Prevalence of PMH

Despite a 17.1 percent prevalence of meeting criteria for depression in this sample of AI adults living with type 2 diabetes, 51.5 percent of participants were considered to be experiencing flourishing mental health. This is important to note in comparison to recent results from another study, in which 48.3 percent of adults engaged in regular yoga practice

were considered to be in flourishing mental health (based on the MHCSF; Ross et al. 2013). A study of 5,689 college students showed that 51.8 percent met criteria for flourishing mental health (Keyes et al. 2012). The rates of flourishing in our study is on par with or higher than documented in these two separate studies of adults who would be less likely to be exposed to the types and range of stressors described for AI communities. Further, we would expect the yoga sample to be even “healthier” than our population given prior evidence documenting the healthful effects of yoga practice (Ross et al. 2013).

It is also useful to consider these results in light of the benchmark results of the MIDUS study (using the MHC-LF and tertile cutoffs) in which 17.2 percent of white and 20.7 percent of African American respondents were flourishing and not depressed (Keyes 2009a). This also stands in contrast to a sample of Setswana-speaking South Africans, in which only 20 percent were identified as having flourishing mental health (Keyes et al. 2008). However, caution needs to be used in these comparisons because each of the aforementioned studies used the long form of the MHC (which utilizes sample-specific tertile cutpoints; Keyes 2002), whereas we used the short form in our study (which utilizes a specific categorization of levels of mental health; see Measurement section for details).

Noteworthy is the fact that our sample consisted of people living with a chronic disease: type 2 diabetes. As a result, we would have expected less positive mental health in this population (people with diabetes are more likely to be depressed or have depressive symptoms; Anderson et al. 2001; Kruse, Schmitz, and Thefeld 2003; Lloyd et al. 2003; Musselman et al. 2003). Thus, the high rates of PMH in this population are particularly striking given the characteristics of our sample. A unique paradox appears to exist for AI people even more so than that documented for other minority groups: Despite discrimination, endured historical trauma, ongoing marginalization, and high rates of depression and chronic diseases, a disproportionately large number of AI people report experiencing flourishing mental health.

### **Correlates of PMH**

In addition to our prevalence estimates, we examined two potential correlates of PMH. With regard to our first hypothesis (Hypothesis 1), we found that discrimination was negatively associated with positive mental health, which aligns with the stress process framework (Pearlin 1989) as well as prior research (Ryff et al. 2003; Whitbeck et al. 2002). Ryff et al. (2003) noted that racial and ethnic minority groups would experience greater levels of well-being than whites if discrimination had not occurred. Additionally, due to the slightly higher levels of discrimination at one of the locations, we found mild suppression of the effect of location on PMH. Consequently, the more discriminated location would have reported even higher levels of PMH if they had not reported greater discrimination. Thus, it may be that our estimates of disproportionate positive mental health for AI people are actually muted in light of ongoing exposure to culturally and minority-specific social stressors like discrimination.

In support of our second hypothesis (Hypothesis 2), participation in traditional cultural activities was positively associated with well-being and increased levels of PMH. This finding adds to a growing area of research indicating that engagement in traditional activities serves as a protective factor for AI/AN people (Chae and Walters 2009; Gone 2013; Torres

Stone et al. 2006; Yoder et al. 2006). Our results, in concert with prior work, lend support to the promise of ongoing cultural immersion and reclamation efforts and culturally meaningful intervention, prevention, and treatment programs in AI/AN communities (Whitbeck, Walls, and Welch, 2012).

Contrary to our third hypothesis (Hypothesis 3), we found no evidence of stress-buffering effects of traditional activities on discrimination in relation to positive mental health. Our findings suggest that engagement in traditional cultural activities has a direct protective effect but not a stress-buffering effect. This result contrasts with prior research among AI adults showing engagement in traditional cultural activities as moderating the positive effect of perceived discrimination on depressive symptoms (Whitbeck et al. 2002). Further, our lack of support for Hypothesis 3 opposes stress process frameworks (Pearlin 1989; Walters and Simoni 2002) that posit general and cultural stress-buffering effects. It is possible that moderation effects were not found due to measurement limitations (i.e., we may be missing important aspects of cultural involvement). It is also possible that our understanding of the iterative effects of stressors and buffers is less clear when the dependent variable is positive in nature. This finding raises an issue to be explored in subsequent research: Do stress buffers operate to offset the impact of stressors on reducing positive outcomes? Or, do stress buffers primarily operate to reduce the effects of stress on negative outcomes?

These findings should be interpreted with several study limitations in mind. First, this study focused on AI adults with type 2 diabetes. It has been widely documented that those living with chronic conditions like diabetes tend to report higher levels of depression (Anderson et al. 2001) and that some people who have higher glycosylated hemoglobin levels (a marker for diabetes) may report lower levels of psychological wellness (Ryff, Singer, and Dienberg Love 2004). As a result, our estimates of depression may be high and positive mental health low relative to AI people living without a chronic condition. Second, our sample was somewhat “aged.” Because wellbeing tends to increase as people age (Gove, Ortega, and Style 1989), this may account for some of the high PMH in this sample. Third, because this study was cross-sectional, temporal ordering among the study variables could not be established.

The MHC-SF may not fully assess AI interpretations of positive mental health, and thus the paradox presented here may not reflect actual mental health levels in this population. AI and indigenous people worldwide may incorporate a focus on balance, spirituality, and harmony as important in mental wellness (Canadian Institute for Health Information 2009). As such, understanding how notions of health and wellness are socially constructed within a racially stratified society (Brown 2003) and the meaning that is attributed to these notions (Conrad and Barker 2010) may be fruitful areas for future research among AI populations.

## CONCLUSION

Health research in general and research with AI populations in particular has conventionally focused on negative health outcomes as opposed to community strengths and health promotion (Mohatt et al. 2004). Our findings demonstrate a notable mental health paradox in two AI communities. Despite experiencing a disproportionate burden of stressors, AI people

in these two communities have a paradoxically high prevalence of positive mental health. Evidence of disproportionately high positive mental health highlights a source of strength and wellness for AI people in this study. Further, our finding that discrimination is negatively and traditional activity involvement positively associated with positive mental health underscores the importance of conceptualizing and measuring culturally unique sources of stress and resilience across racial/ethnic minority communities. Future research on this topic should explore how Keyes's model of positive mental health is reflective of AI perspectives of wellness. This is important not only for understanding the antecedents of PMH but also for understanding the ways in which all groups can learn lessons about wellness and resilience through cross-cultural research.

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**Table 1**

Frequency of Patient Health Questionnaire (PHQ-9) Score of 10 or Greater and Mental Health Continuum Short Form (MHC-SF) Three-category Diagnosis of Positive Mental Health.

<b>Measure</b>	<b>n</b>	<b>Percentage</b>
<i>Depression</i>		
Depressed	180	17.1
Not depressed	37	82.9
Total	217	100.0
<i>Positive mental health</i>		
Languishing	6	3.1
Moderate	88	45.4
Flourishing	100	51.5
Total	194	100.0

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**Table 2**

Cross-tabulation of Patient Health Questionnaire (PHQ-9) Score of 10 or Greater by Mental Health Continuum Short Form (MHC-SF) Three-category Diagnosis of Positive Mental Health.

	Languishing Percentage (n)	Moderate Percentage (n)	Flourishing Percentage (n)	Total Percentage (n)
Not depressed	1.6 (3)	32.1 (62)	50.3 (97)	83.9 (162)
Depressed	1.6 (3)	13.5 (26)	1.0 (2)	16.1 (31)
Total	3.1 (6)	45.6 (88)	51.3 (99)	100.0 (193)
<i>Percentage depressed by level of positive mental health</i>				
Not depressed	50.0 (3)	70.5 (26)	98.0 (97)	83.9 (162)
Depressed	50.0 (3)	29.5 (26)	2.0 (2)	16.1 (31)
Total	100.0 (6)	100.0 (88)	100.0 (99)	100.0 (193)

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Table 3

Correlations for All Study Variables.

	1	2	3	4	5	6	7	8	9	10	11
1. Positive Mental Health sum score	1										
2. MHC-SF category diagnosis	.79***	1									
3. Depressed (PHQ9 >10)	-.35***	-.40***	1								
4. Gender	.05	.03	.03	1							
5. Income	.01	-.03	-.14*	.00	1						
6. Location	.12 <sup>a</sup>	.08	.06	.00	.05	1					
7. Age	-.04	.06	-.19**	.12 <sup>a</sup>	.08	-.05	1				
8. Number of years diabetic	-.14*	-.08	.02	.09	.03	.00	.33***	1			
9. On reservation	.05	.03	-.05	.04	-.19**	-.30***	.00	.14*	1		
10. Discrimination	-.07	-.10	.24***	-.07	-.03	.10	-.18**	.10	.08	1	
11. Traditional cultural activities	.17*	.12 <sup>a</sup>	.08	-.13*	.00	.06	-.17*	-.15*	-.03	.44***	1
Mean (SD) or percentage	45.18 (13.63)	1.48 (.56)	17	56	10,331 (9,365)	54	56.54 (13.67)	14.73 (12.16)	78	2.93 (3.43)	3.56 (3.18)

Note. MHC-SF = Mental Health Continuum Short Form; PHQ-9 = Patient Health Questionnaire.

\*  $p < .05$ .

\*\*  $p < .01$ .

\*\*\*  $p < .001$ .

<sup>a</sup>  $p < .10$ .



**Table 4**  
Results of Ordinary Least Squares Regression Analysis: Mental Health Continuum Short Form (MHC-SF) Summed Score.

Variable	Model 1		Model 2		Model 3	
	B (SE)	$\beta$	B (SE)	$\beta$	B (SE)	$\beta$
Constant	38.87 (4.93)		38.09 (4.87)		37.37 (4.88)	
Gender	2.06 (1.92)	0.08	2.61 (1.89)	0.10	2.43 (1.89)	0.09
On reservation land	4.18 (2.43)	0.13 <sup>a</sup>	4.61 (2.38)	0.14 <sup>a</sup>	4.75 (2.38)	0.15 <sup>**</sup>
Location	3.86 (1.99)	0.14 <sup>a</sup>	4.26 (1.96)	0.16 <sup>*</sup>	4.82 (1.99)	0.18 <sup>*</sup>
Age	0.05 (0.08)	0.05	0.03 (0.08)	0.03	0.03 (0.08)	0.03
Number of years with diabetes	-0.21 (0.08)	-0.19 <sup>*</sup>	-0.15 (0.08)	-0.13 <sup>a</sup>	-0.16 (0.08)	-0.14 <sup>a</sup>
Income	0.03 (0.11)	0.02	0.02 (0.10)	0.01	0.02 (0.10)	0.02
Discrimination			-0.76 (0.31)	-0.19 <sup>*</sup>	-0.85 (0.32)	-0.22 <sup>**</sup>
Traditional cultural activities			1.03 (0.33)	0.24 <sup>**</sup>	0.85 (0.35)	0.20 <sup>*</sup>
Traditional cultural activities × discrimination					0.13 (0.08)	0.11

\*  $p < .05$ .

\*\*  $p < .01$ .

<sup>a</sup>  $p < .10$ .