


Strengths-Based Assessment for Suicide Prevention: Reasons for Life as a Protective Factor From Yup'ik Alaska Native Youth Suicide

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Abstract

Suicide is the second leading cause of death among American Indian and Alaska Native youth, and within the Alaska Native youth subpopulation, the leading cause of death. In response to this public health crisis, American Indian and Alaska Native communities have created strategies to protect their young people by building resilience using localized Indigenous well-being frameworks and cultural strengths. These approaches to suicide prevention emphasize promotion of protective factors over risk reduction. A measure of culturally based protective factors from suicide risk has potential to assess outcomes from these strengths-based, culturally grounded suicide prevention efforts, and can potentially address several substantive concerns regarding direct assessment of suicide risk. We report on the Reasons for Life (RFL) scale, a measure of protective factors from suicide, testing psychometric properties including internal structure with 302 rural Alaska Native Yup'ik youth. Confirmatory factor analyses revealed the RFL is best described through three distinct first-order factors organized under one higher second-order factor. Item response theory analyses identified 11 satisfactorily functioning items. The RFL correlates with other measures of more general protective factors. Implications of these findings are described, including generalizability to other American Indian and Alaska Native, other Indigenous, and other culturally distinct suicide disparities groups.

Keywords

suicide prevention, American Indian and Alaska Native, suicide assessment, protective factors, suicide prevention outcomes assessment

While there exists significant variation in the rate of suicide among American Indians and Alaska Natives by region and tribal/ethnocultural group, suicide represents a significant, ongoing public health crisis across this diverse demographic group. American Indian and Alaska Native suicide occurs at much higher rates than the U.S. general population, where it disproportionately affects youth, young adults, and those living in nonmetropolitan areas (Leavitt et al., 2018). While suicide is the second leading cause of death among American Indian and Alaska Native youth, it is the leading cause of death among Alaska Native youth, with rural Alaska Native youth at highest risk (Allen, Levintova, & Mohatt, 2011).

In response, building on strengths within, American Indian and Alaska Native communities have developed locally directed, culturally grounded youth suicide preventative interventions (Goldston et al., 2008; Gone & Trimble, 2012). Drawing from a rich tapestry of cultures, these interventions provide instruction and experiences in local

practices, traditions, values, and beliefs to build protection from youth suicide and to promote well-being.

The measure reported in this study was developed to fill a void for a culturally and strengths-based suicide prevention outcome measure for American Indian and Alaska Native groups as part of the *Qungasvik* (phonetic: qoo ngaz vik; Tools for Life) suicide prevention intervention science research program. Qungasvik is a culturally based

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intervention to prevent youth suicide developed by Yup'ik Alaska Native communities in southwest Alaska. The intervention is based in a Yup'ik understanding of culture-specific protective factors (Ayunerak, Alstrom, Moses, Charlie, & Rasmus, 2014) and a culturally grounded implementation model (Rasmus, Charles, & Mohatt, 2014). Similar to other locally directed, culturally grounded American Indian and Alaska Native youth suicide prevention efforts, Qungasvik focuses on promotion of protection over reduction of risk (Allen, Mohatt, Fok, Henry, & Burkett, 2014). Reasons for this are based in community preferences, and include greater alignment with cultural values and community priorities that encourage development of healthy cultural identities in youth. Furthermore, emphasis on community strengths rather than risk can address concerns about community stigmatization, and self-stigmatization of at-risk communities. In light of these considerations, American Indian and Alaska Native researchers have repeatedly called for development of flexible, culturally tailored suicide preventative interventions (Clifford, Doran, & Tsey, 2013; Harlow, Bohanna, & Clough, 2014).

However, similar to current status in the substance abuse prevention literature (Whitbeck, Walls, & Welch, 2012), much of the most innovative Indigenous suicide prevention work involves grassroots efforts that are rarely formally evaluated and seldom reported in the literature. Two recent international reviews of Indigenous suicide prevention research in the United States, Canada, New Zealand, and Australia together located only nine programs that had been systematically evaluated (Clifford et al., 2013; Harlow et al., 2014). One limitation slowing evaluation efforts is a lack of measures validated with Indigenous groups. Another is a paucity of assessment instruments tapping constructs of interest to communities and these community-initiated efforts. Outcomes from these community-level and culturally based interventions often focus on increasing strengths and well-being. This aligns with similar need in the general suicide literature for measures of protective factors from suicide. A measure of culturally based protective factors from suicide can facilitate evaluation of outcomes from culturally grounded American Indian and Alaska Native suicide prevention efforts.

Additionally, substantive concerns with conventional approaches to suicide assessment that directly assess ideation, plan, and attempts can emerge in their application with American Indian and Alaska Native communities. Concerns can include community discomfort and cultural incongruences associated with this type of direct questioning. Additionally, the potential impact of direct assessment of ideation, plan, and attempt in communities experiencing high rates and particularly, clusters of youth suicide has not been sufficiently studied, and may constitute an undue burden or create harm. While the general research has not supported concerns that direct questions about suicide increase

risk, their impact on risk during cluster suicide epidemics along with other concerns, including potential for retraumatization of youth who may have lost friends and family to suicide in a cluster event is unexplored in the literature.

Moreover, a number of ongoing, unresolved basic measurement questions persist in the suicide literature regarding assessment within high-risk settings. Concerns include the underreporting among some at-risk groups as well as item equivalence of ideation endorsement in high-risk settings. A common concern with face valid, self-report measures of suicidality is the tendency of some high-risk populations to underreport suicidal ideation; this has most recently emerged in research initiatives with the military and the aged (Anestis & Green, 2015; Cukrowicz, Jahn, Graham, Poindexter, & Williams, 2013). A separate concern involves over estimation of risk. While ideation in young people is always a concern, in communities experiencing cluster suicide, youth reactions can include discussions and thinking about suicide as common place occurrence. Endorsement of selected ideation items may not have equivalent meaning in these settings. The potential impact of identifying entire communities of youth as at-risk on the basis of general population criteria may have unintended harmful consequences.

In response to these concerns, several recent efforts have sought to develop alternative suicide prevention assessments. One approach draws from the implicit bias research (Greenwald, Poehlman, Uhlmann, & Banaji, 2009) that has developed assessments of attitudes difficult to accurately measure through traditional self-report, and uses computer-based measures of reaction time to measure attitudes associated with suicide risk (Nock et al., 2010).

A second approach, in contrast to assessment of suicide ideation, intent, attempt, or completion, seeks to measure factors that inhibit suicide. The Reasons for Living Inventory (Linehan, Goodstein, Nielsen, & Chiles, 1983) measures beliefs hypothesized to contribute to the inhibition of suicidal behavior. Six factors tap survival and coping beliefs, responsibility to family, child-related concerns, fear of suicide, fear of social disapproval, and moral objections to suicide. Representative items include "Life is all we have and is better than nothing," "I am afraid of the unknown," "My religious beliefs forbid it," "It would not be fair to leave the children for others to take care of," and "I believe I have control over my life and destiny." These items suggest cultural influences, including spiritual, moral, and sociopolitical attitudes. The scale has stimulated significant research and contributed to development of a widely disseminated tertiary suicide preventive practice (Linehan et al., 2006). The Brief Reasons for Living-Adolescent (BRFL-A) scale adapted this measure for youth (Osman et al., 1996).

The Reasons for Life (RFL) scale draws from this second approach. The RFL is both a cultural adaptation and

a conceptual extension of the BRFL-A. Rather than focus on reasons why one would not end life if feeling suicidal, the RFL emphasizes attributes hypothesized to provide protection from developing suicide thoughts, from further elevation of risk should thoughts emerge, and from acting upon suicide thoughts if they do develop. The RFL differs from measures of general well-being and general protection through its focus on cultural beliefs, experiences, and other elements specifically protective from suicide. The RFL is intended to provide an outcome for suicide prevention efforts culturally congruent with Alaska Native well-being frameworks. The objectives of this study are to (a) test the structure of the RFL scale, (b) investigate item characteristics of the RFL item pool for functioning and optimal response levels, and (c) assess the convergent validity of the RFL with general protective factors variables associated with protection from suicide.

Method

Participants

Participants included 302 Alaska Native youth aged 12 to 18 years ($M = 14.80$, $SD = 2.52$), including 141 male and 161 female participants from the following grades: 6 (22%), 7 (12%), 8 (16%), 9 (11%), 10 (12%), 11 (13%), and 12 (14%). Youth described parental marital status as married (44%), divorced (11%), or unmarried (45%). Participants all self-identified as Alaska Native. To avoid use of an ethnic gloss and overgeneralization through use of a simplistic categorical label (Trimble & Bhadra, 2013), we follow the recommendation, “when describing racial and ethnic groups, be appropriately specific and sensitive to issues of labeling . . . it may be helpful to describe them by their nation or region of origin” (American Psychological Association, 2010, p. 71), and we define this ethnocultural group in more precise terms. While cultural linguistic group affiliation was overwhelmingly Yup’ik (98%), self-identification also included Inupiat (2%), Athabascan (1%), Aleut (.3%), Tlingit/Haida (.3%), and Tsimshian (.3%), and additional non-Alaska Native racial and ethnic identification included White (6%), American Indian (1%), Asian American (.3%), African American (1%), Pacific Islander (1%), and Hispanic (1%)—because participants could endorse affiliations with multiple groups, total exceeds 100%. All participants were Yup’ik–English bilingual or English monolingual. Participants resided in two rural Southwestern Alaska communities. The communities are off the road system and only accessible by boat, plane, or snow machine, exceed 95% Yup’ik ethnicity, and possess a mixed subsistence/wage economy. A primary element of diet includes locally harvested fish, marine and land mammals, tundra plants, and berries. A very limited

number of paid work jobs exist, primarily in education, health, and tribal government.

Measures

Names of measures are first introduced through their Yup’ik terms with accompanying translation, then described using a nearest equivalent term from the general psychological literature, which we adopt for use with this scientific audience. This highlights ways local understandings of these concepts fit within a culturally distinct Yup’ik theory of change (Rasmus, Trickett, Charles, John & Allen, 2019) and model of prevention (Rasmus et al., 2014).

Yuuyaraqegtaar/A Way to Live a Very Good, Beautiful Life: Reasons for Life (11 Items). The RFL comprises three subscales: *Cultural and Spiritual Beliefs*, *Efficacy Over Life Problems*, and *Others’ Assessment* (see Appendix A). Higher scores on the RFL are hypothesized to indicate more positive attitudes toward life and higher levels of protection from suicide. Representative items include “My Yup’ik Elders taught me that my life is valuable” and “I had the courage to face life’s hardest moments.”

Convergent Validity Measures

Elluarrluni piyugngarilunillearning in the mind of doing things in a masterful way: Mastery (13 items). This measure uses the *Mastery-Family* and *Mastery-Friends* communal mastery subscales from the Multicultural Mastery Scale (Fok, Allen, Henry, & Mohatt, 2012), along with a newly developed subscale, *Mastery-Role Model*. The measure taps control over goal achievement using strategies focused on joining with other significant figures in the social environment and through adoption of culturally sanctioned roles in these interactions. Representative items include “I can do what I set my mind to do because I have the support of my family” and “With the help of my friends I can change many of the important things in my life.” Accompanying citations for this and the other convergent validity measures to follow provide reports of adequate to excellent psychometric properties and validity evidence.

Elluarrluteng ilakelriit/nurturing family: Family relationship (25 items). The Brief Family Relationship Scale (Fok, Allen, & Henry, 2014) is a cultural adaptation of the Family Environment Scale relationship dimension (Moos & Moos, 1994) and includes subscales tapping *Cohesion*, *Expressiveness*, and *Conflict*, providing a measure of qualities of the family relationship. Recently, we refined item wording and expanded the scale to include two new subscales: *Affection and Praise* and *Family Role Models*. Representative items include “There is a feeling of togetherness in my family,” “In my family, I can talk about my problems,” “My parents make a special effort to help me feel close to them,”

and “My family teaches good values.”

Nunamta/our community: Community resilience (13 items). The Youth Community Protective Factors Scale is an adaptation and extension of the adult Yup'ik Protective Factors Scale (Allen et al., 2006). The scale taps youth perceptions regarding elements of protective communities through four subscales: *Support*, *Opportunities*, *Connections with Elders*, and *Community Role Models*. Representative items include “People support me,” “People are available to me for advice,” and “There is an Elder who I look up to and who knows me.”

Yuuyaraq/way of the human being: Awareness of connectedness (11 items). Connectedness has been identified in the suicide prevention literature as a protective factor, defined as a sense of interpersonal closeness with the social world characterized by feelings such as caring, belonging, and trust, or structurally through social network density, ties, or sharing of resources (Whitlock, Wyman, & Moore, 2014). The Awareness of Connectedness Scale (Mohatt, Fok, Burket, Henry, & Allen, 2011) is a culturally based protective factor measure for Yup'ik youth, tapping awareness of ways in which welfare of the individual is interrelated with that of family, community, and natural environment. This study used a revised version that retains the scale's original factor structure. Items were rewritten to enhance understandability, particularly for younger adolescents, and to increase item difficulty through item response theory (IRT) scale development procedures. Representative items include “When I do good things for my community, good things happen to me,” “I like to share without expecting things back,” and “I treat animals and the land with respect, like they are family.”

Procedures

We undertook a cultural and linguistic adaptation, and a conceptual extension of the BRFL-A for Alaska Native adolescents. Cultural and linguistic adaptation focused on appropriateness, understandability, and contextual relevance of items to rural Alaska Native youth. Cultural adaptation procedures used principles associated with achieving cultural measurement equivalence (Trimble & Vaughn, 2013). At each stage of this process, careful attention was given to content, format, and metric equivalence. Community collaborators provided feedback that addressed functional, conceptual, metric, linguistic, and stimulus equivalence. Several focus groups assisted us in the adaptation process, consisting of cultural experts that included elders, community leaders, and youth.

Conceptual extension emphasized adaption of reasons why one would not end life when feeling suicidal into a broader focus on strengths and positive attributes hypothesized protective from suicide behavior, ideation, feelings, and

intent. This construct elaboration effort suggested new item content, and new and modified domains of subscale composition.

Procedures used a sequential, iterative approach to measurement development. This involved sequences of (a) collaborative item and subscale development with focus groups and cultural expert advisors, (b) administration of each new version to an independent sample of rural Yup'ik youth, (c) postadministration community research staff and youth participant debriefings, (d) psychometric testing, then (e) return to item and subscale revision, in repeated iterations of this cycle. The RFL version tested in this report built on 7 previous versions consisting of 9 to 18 items. Each sequence of item creation and refinement was followed by psychometric testing using samples ranging from 130 to 450 rural Yup'ik youth aged 12 to 18 years. The item pool tested across all versions totaled 33 items. Items were originally organized into five initial subscales: Others' Assessment, Cultural and Spiritual Beliefs, Personal Efficacy, Family Responsibility, and Self-Assessment. In psychometric testing, internal structure was identified using exploratory factor analytic procedures in Wave 1 and confirmatory procedures beginning with Version 2. IRT procedures identified poor functioning items. Iterative postadministration debriefings with local staff and youth participants, and focus groups/cultural expert review provided input to revision of poor functioning items and to addition of new items to more adequately map domains of interest. This was repeated until an item functioned adequately, or all possible rewrites were exhausted, in which case the item was discarded. Through this process, the Self-Assessment and Family Responsibility subscales were ultimately abandoned. The resulting current 11-item version of the RFL tested here is composed of best functioning items from this previous work. More detailed description of our community-based participatory construct elaboration process for development of measures is found in Gonzalez and Trickett (2014), with accompanying supplemental materials that provide additional technical details.

Participants were recruited using active parental consent procedures. Parents were contacted through schools, community media campaign, and face-to-face invitation to enroll their child in a study of the effectiveness of a prevention program designed to enhance RFL and sobriety. Youth were offered \$20 to complete the RFL as part of a larger set of outcome measures (this amount is consistent with wages and costs in the arctic, where a gallon of milk can cost \$8). Following parental consent, youth completed assent. Youth were informed of purpose, risks, and benefits, then completed the survey online individually or in groups of up to 15 individuals. Trained research assistants administered surveys. Computer administration occurred using local school-based computer labs via an encrypted, secure web-based server housed at the University of Alaska Fairbanks. The response format used an analog scale with a pointer in the

shape of a salmon that the respondent slid in a continuous motion across a horizontal blue water background, with three equidistant semantic anchors placed below, “*Not at all*,” “*Somewhat*,” and “*A lot*.” Informed consent and surveys were administered in English. The University of Alaska Fairbanks Institutional Review Board, University of Minnesota Institutional Review Board, Yukon Kuskokwim Health Corporation Human Studies Committee, and local Tribal Councils approved all procedures.

Results

Prior to analysis, we converted the continuous analog scale into 20 equal intervals. Because 20-point response data would not produce meaningful and interpretable IRT option probability curves, we next converted these 20-point data into a 5-point scale such that the resulting scores were approximately normally distributed, using the following coding scheme: 1-6 = 1, 7-10 = 2, 11-14 = 3, 15-18 = 4, 19-20 = 5. We used this 5-point rating scale in all analyses. Though we have effectively used this coding scheme across all versions of the RFL, we recommend users make local inspection of the resulting distributions for potential adjustments.

Objective 1: Assessment of the RFL Internal Structure

Analytic Strategy. We used confirmatory factor analysis (CFA) to evaluate internal structure. We first compared three essentially tau-equivalent models of the 11 RFL items to test which underlying structure best fit the data (Lee, Dunbar, & Frisbie, 2001). We compared a unidimensional model, first-order three orthogonal factor model, and second-order three-factor model (see Supplemental Figure 1 available online). Although not suggested by theory, the unidimensional model is most parsimonious and therefore must be rejected before a more complex model is retained. In the first-order three orthogonal factor model, each scale taps a separate unique dimension uncorrelated with other dimensions. The second-order three-factor model retains this multidimensionality but structures the three first-order factors within a single higher order factor.

Model Specification. Items were treated as categorical and weighted least square means and variance adjusted estimators were used to model parameters (Li, 2016). For the unidimensional model, item factor loadings are fixed at 1.0, leaving only the error variances and correlations among the factors free to vary. For both multidimensional models, correlations among factors were fixed to zero, while variances were free to vary. The final model was fit in the congeneric condition (e.g., freeing the item loadings) to obtain accurate

estimates of the factor loadings using the structure that was determined to be optimal in the first set of models.

Model fit was assessed using (a) chi-square to degree of freedom ratio ($\chi^2/\text{degrees of freedom } [df]$; Hatcher, 1994); (b) comparative fit index (CFI; recommended value greater than .95; Hu & Bentler, 1995); (c) Tucker–Lewis index (TLI; recommended value greater than .95; Brown, 2015); (d) root mean square error of approximation (RMSEA; recommended value less than .06; Hu & Bentler, 1999); (e) standardized root mean square residual (SRMR; recommended value less than .08; Brown, 2015); and (f) chi-square difference testing using the Satorra–Bentler scaled chi-square (Satorra & Bentler, 2010). Analyses were conducted using *Mplus* version 8.2 (Muthén & Muthén, 1998-2017) and R 3.5.0 (R Core Team, 2018).

CFA Results. Table 1 reports fit statistics for all models, while Supplemental Figure 1 (available online) displays models tested. Under conditions of tau-equivalence, the first-order three orthogonal factor model shows poor fit to the data. We did not conduct model comparisons because of the poor fit of the data to the model. Other model comparisons produced significant results ($p < .001$). The second-order three-factor model fit better than either the unidimensional model, $\Delta\chi^2(3) = 35.2, p < .01$, or the first-order three orthogonal factor model, $\Delta\chi^2(1) = 144.6, p < .01$.

Having determined that the second-order model provided best fit to the data, we ran the model in the congeneric condition (e.g., freeing the item loadings). Using conventional cutoff value criteria (CFI > .95; TLI > .95; RMSEA < .06; SRMR < .08), the fit of the congeneric second-order model was acceptable, $\chi^2(42) = 71.9, \chi^2/df = 1.71$, CFI = .98, TLI = .97, RMSEA = .049, and SRMR = .038. First-order and second-order standardized factor loadings of this model, displayed in Figure 1, were .40 or greater; first-order factor loadings for Item 10 (People saw I live my life in a good way) were smallest (.50), whereas loadings for Item 9 (My religion taught me that my life is valuable) were highest (.82). The Efficacy Over Life Problems subscale had the highest loading (.99) on the second-order factor and was most highly associated with the underlying construct, and loadings for Other’s Assessment, and Cultural and Spiritual Beliefs were .78 and .79, respectively. Together, these results provide further support that RFL is composed of three factors, each essentially unidimensional and subsumed under a higher order factor. This finding of three unidimensional structures allows IRT testing of item functioning within subscales through implementation of Samejima’s (1996) graded response model.

Objective 2: Evaluation of RFL Item Functioning

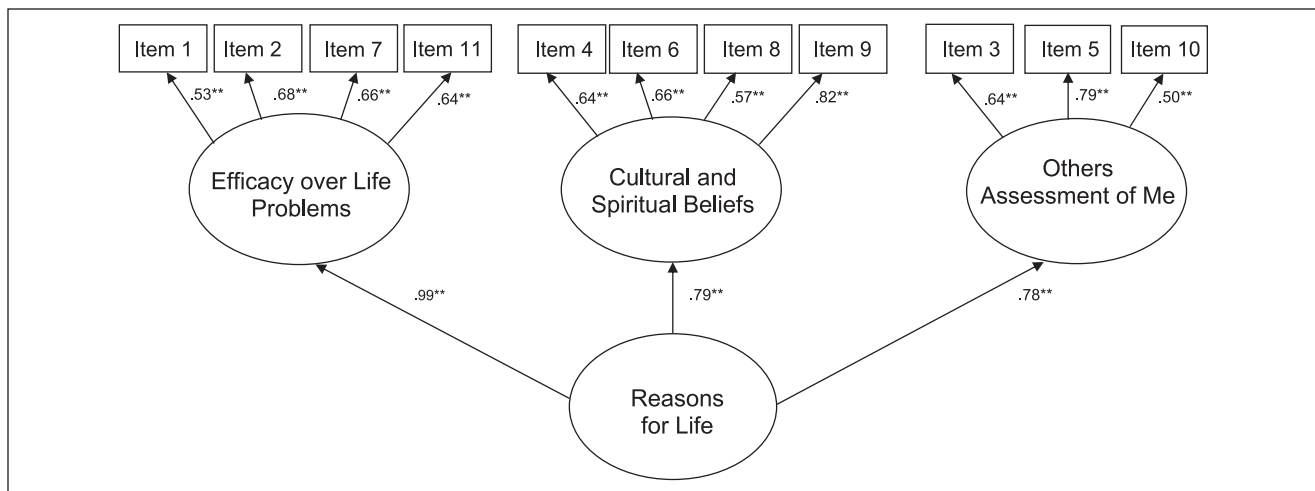
Analytic Strategy. The relationship of responses on individual items to the underlying latent construct measured by

Table 1. Model Fit Indexes for the Unidimensional, First-Order Three Orthogonal Factor, Second-Order Three-Factor, and Other Modified Models.

Model	No. of items	$\chi^2(df)$	χ^2/df	$\Delta\chi^2$	CFI	TLI	RMSEA	SRMR
Unidimensional ^a	11	170.5(54)	3.16		.904	.903	.085	.067
First-order three orthogonal factor ^a	11	857.5(52)	16.49		.340	.301	.226	.194
Second-order three factor ^a	11	131.7(51)	2.58	35.2 (3)	.934	.929	.072	.058
Final second-order three-factor ^b	11	71.9(42)	1.71	46.2 (9)	.976	.968	.049	.038

Note. *df* = degrees of freedom; CFI = comparative fit index; TLI = Tucker–Lewis index; RMSEA = root mean square error of approximation; SRMR = standardized root mean square residual.

^aTau-equivalent model. ^bCongeneric model.

**Figure 1.** Modified second-order three-factor confirmatory factor analysis model for the 11-item Reasons for Life Scale.

Note. *df* = degrees of freedom; CFI = comparative fit index; TLI = Tucker–Lewis index; RMSEA = root mean square error of approximation; SRMR = standardized root mean square residual. $\chi^2(42) = 71.9$, $\chi^2/df = 1.71$, CFI = .976, TLI = .968, RMSEA = .049, SRMR = .038.

** $p < .01$.

each subscale was modeled using IRT techniques. The probability of endorsing a response category at each level of latent trait was examined using option characteristic curves, or trace lines. Graded response models are often used when item response categories extend beyond dichotomous, or true and false, two ordered categories. Using a graded response model, a discrimination (slope) parameter and parameters for each response's location (intercept) was estimated to evaluate the coverage of the item on its relevant subscale. IRT analyses were conducted using the *ltm* package through *R* (Rizopoulos, 2006).

IRT Results. Parameter estimates for the 11 RFL items are reported in Table 2. The five-category calibration section shows the discrimination or slope parameters (a), and the location parameters (b_{1-4}) for each item. Discrimination parameters indicate Items 5 (People saw that I am strong and care about others) and 9 (My religion taught me that my life is valuable) provided best differentiation of individuals at different levels of the latent trait, whereas Item 10 (People saw I live my life in a good way) was poorest. Location

parameters indicate that Item 1 (I believed I can help others fix their problems) differentiated higher levels of the RFL latent trait, while endorsing a higher option for the remaining 10 items occurred at relatively lower levels of RFL. This shows how items generally provided more information for individuals with low RFL levels, while Item 4 (No matter how hard things got, I believed God wanted me to live) contributed information only at extremely low levels of RFL.

To further investigate item functioning, in Figure 2 we plot item information functions by subscale. These functions revealed Items 2, 6, 9, and particularly Item 5 (People saw that I am strong and care about others) provided the highest amount of information, but at predominately very low to slightly above-average levels of RFL. Items 3, 7, 8, and 11 supplied moderate information, while Items 1, 4, and 10 provided low information.

Examining the response category characteristic curves allowed us to also evaluate the performance of the five-category response coding, to determine an optimal calibration. For all 11 items, there was significant overlap between

Table 2. Item Parameters for Five-Category and Four-Category Calibrations.

		Five-category calibration					Four-category calibration			
Item		a	b_1	b_2	b_3	b_4	a	b_1	b_2	b_3
	<i>Efficacy Over Life Problems</i>									
1	I believed I can help others fix their problems	1.00	-3.30	-0.54	0.01	1.22	1.00	-3.32	-0.55	1.22
2	I believed I can make things work out for the best even when life gets difficult	1.93	-2.26	-0.78	-0.38	0.82	1.78	-2.35	-0.79	0.85
7	I believed I can fix my problems	1.54	-2.76	-1.30	-0.89	0.30	1.57	-2.73	-1.28	0.30
11	I had the courage to face life's hardest moments	1.47	-2.86	-0.89	-0.49	0.44	1.41	-2.93	-0.89	0.45
	<i>Cultural and Spiritual Beliefs</i>									
4	No matter how hard things got, I believed God wanted me to live	1.07	-4.52	-2.75	-1.69	-1.29	1.03	-4.64	-2.91	-1.32
6	My Yup'ik Elders taught me that my life is valuable	1.93	-2.21	-1.20	-0.93	-0.13	1.84	-2.25	-1.22	-0.14
8	I believed I must live to be an Elder	1.25	-3.87	-2.04	-1.66	-0.51	1.23	-3.92	-2.06	-0.52
9	My religion taught me that my life is valuable	2.32	-2.09	-0.90	-0.56	0.10	2.42	-2.06	-0.89	0.10
	<i>Others' Assessment of Me</i>									
3	People saw me do good things to help others	1.62	-2.40	-0.74	-0.29	0.69	1.51	-2.49	-0.75	0.70
5	People saw that I am strong and care about others	2.70	-2.27	-1.16	-0.74	0.20	2.92	-2.22	-1.13	0.19
10	People saw I live my life in a good way	0.88	-4.37	-1.58	0.05	0.57	0.83	-4.55	-1.81	0.60

Coding Categories 3 and 4 in the 5-point calibration. This suggests these two response categories are providing redundant information, and that participants instead discriminated through four response categories.

To test this, we reran the IRT analysis after recoding the data by collapsing Options 3 and 4, reported in the four-category calibration section of Table 2. Discrimination parameters (a) were closely aligned across these two calibrations. Location parameters at b_1 were very close in value across calibrations, and parameters for b_3 in the four-category calibration were nearly identical to b_4 in the five category calibration. This b_3/b_4 similarity is further seen in the option characteristics curves for Item 9 (My religion taught me that my life is valuable) in Figure 3.

Despite similarity of parameter estimates between the five-category and four-category item sets, collapsing across categories could still result in information loss. This would be indicated through increased standard error. To investigate this, Figure 4 reports standard error functions for the five and four category calibrations on each subscale. Standard error functions near completely overlap for all three subscales, suggesting the four category calibration offers a reasonable fit without significant loss of information.

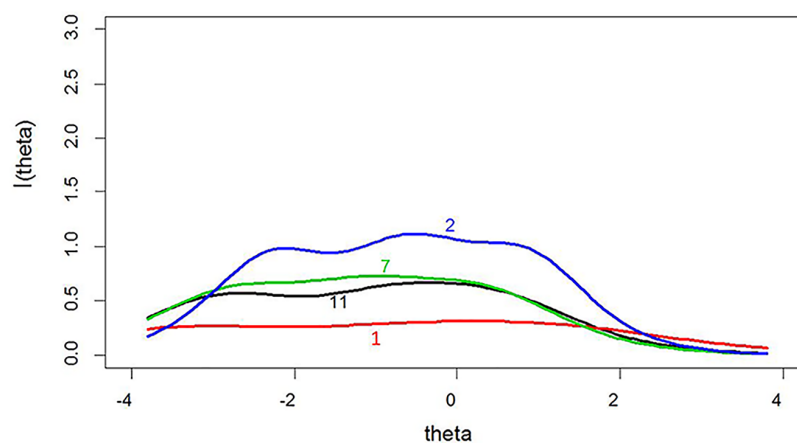
Final CFA Analyses. While Item 1, 4, and 10 provided limited information or had low discrimination parameters, we retained the items because of its capability to differentiate higher levels of the RFL latent trait. Table 3 reports descriptive statistics and Cronbach's α , categorical ω ,

item separation, and person separation reliability coefficients for the final 11-item scale and its subscale scores using five-category and four-category coding, estimated using the *lavaan* package through R (Rosseel, 2012). α and ω reliability is adequate, and item separation is excellent. However, closer examination of person separation reliabilities indicate the Cultural and Spiritual Beliefs subscale functions suboptimally in discriminating people at differing levels of the latent trait, leading to subscale items that are less sensitive to change. This finding is likely related to the aforementioned limitations in item difficulty in this subscale.

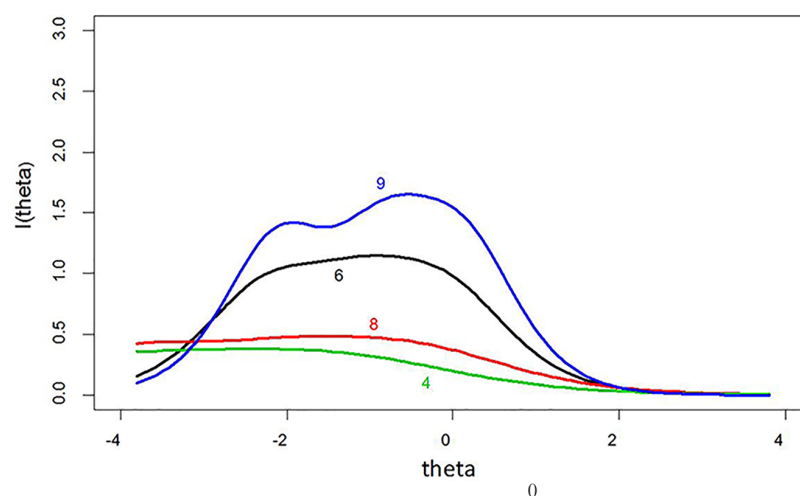
Objective 3: Convergent Evidence for Validity for RFL Score Interpretation

Finally, we evaluated evidence for validity of RFL score inferences by examining the convergence of RFL scores with more general protective factors measures. We predicted RFL scale scores would be associated with measures of Mastery, Family Relationship, Community Resilience, and Connectedness. As seen in Table 4, consistent with predictions, RFL scores correlated positively with Mastery ($r = .57, p < .01$), Family Relationship ($r = .58, p < .01$), Community Resilience ($r = .55, p < .01$), and Connectedness ($r = .50, p < .01$), providing evidence RFL score interpretations converge with those of these similar measures. On the subscale level, Efficacy Over Life Problems associated with Mastery ($r = .55, p < .01$), Family Relationship ($r = .49, p < .01$), Community Resilience ($r = .44, p < .01$),

Efficacy over Life Problems



Cultural and Spiritual Beliefs



Others' Assessment of Me

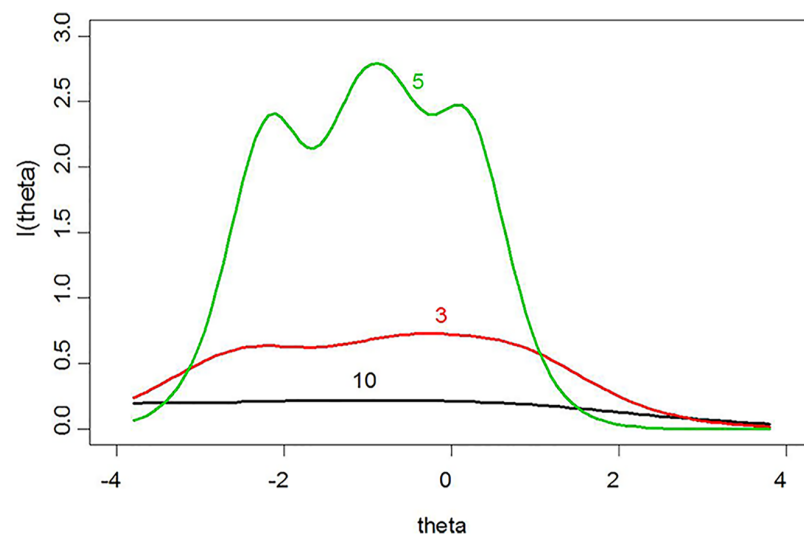


Figure 2. Item information functions by subscale from the five-category calibration.

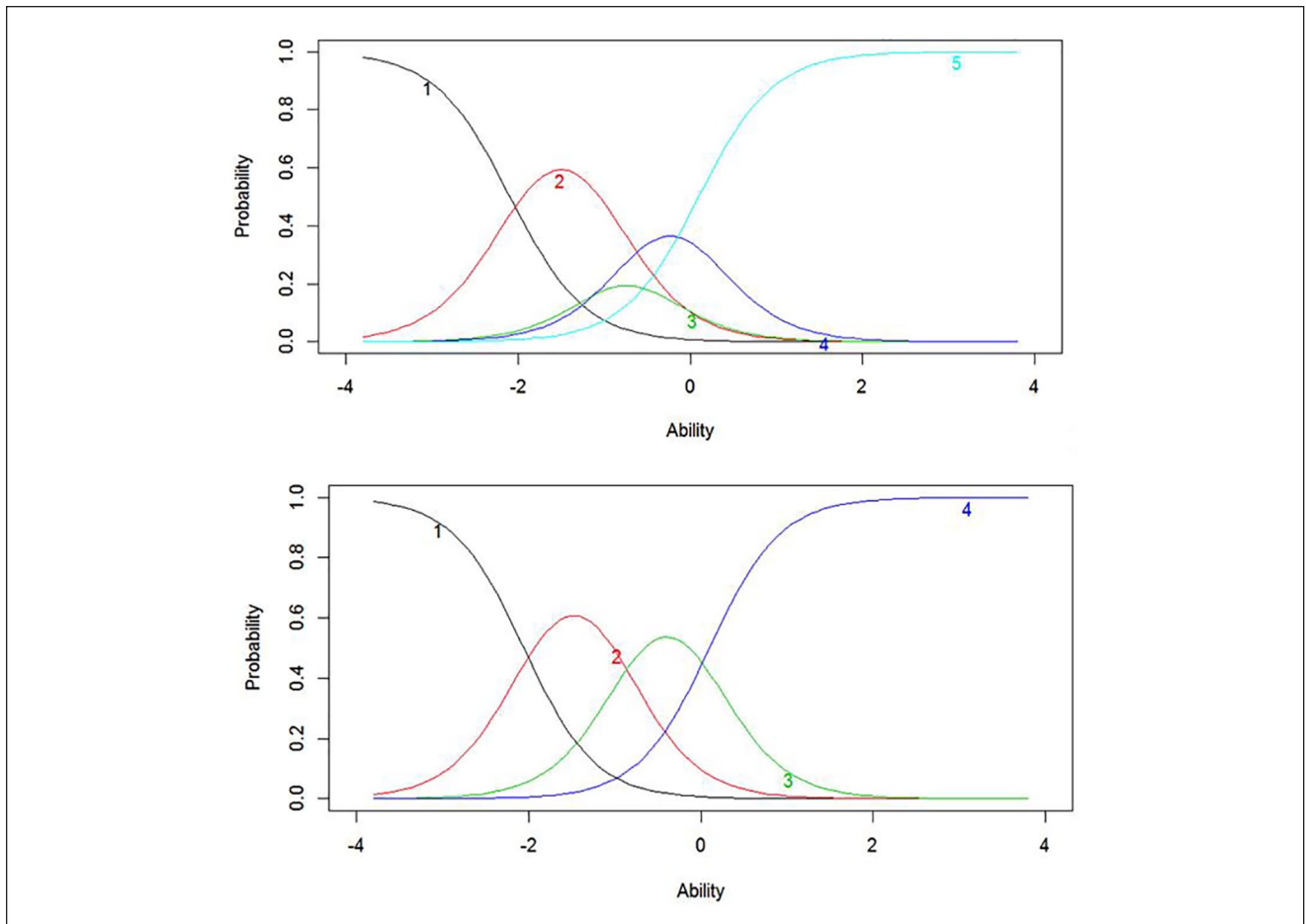


Figure 3. Comparison of trace lines for the five-category and four-category calibrations for Item 9 (My religion taught me that my life is valuable).

and Connectedness ($r = .50, p < .01$). Cultural and Spiritual subscale scores also positively correlated with Mastery ($r = .43, p < .01$), Family Relationship ($r = .50, p < .01$), Community Resilience ($r = .50, p < .01$), and Connectedness ($r = .42, p < .01$). However, the Others Assessment subscale displayed limited association with these measures of general protection, suggesting this subscale taps elements of more limited utility in the assessment of protection from suicide risk.

Discussion

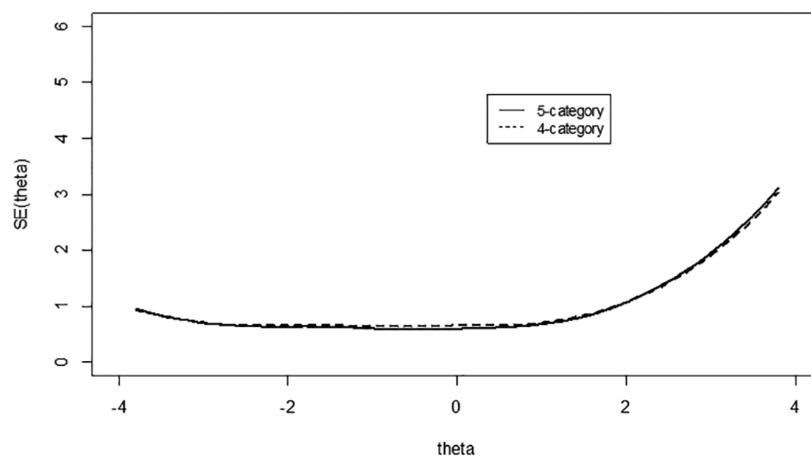
Findings demonstrate RFL, as a hypothesized protective factor from suicide, can be measured as a complex, multidimensional construct. A three-factor, second-order factor model provided the best fit to the data. This multidimensional construct, as measured by the RFL scale item content, describes protection associated with (a) beliefs in ability to surmount life's greatest difficulties, (b) cultural and spiritual beliefs about the value of one's life, and (c)

perceptions that people in one's social network view them as making positive contributions to others.

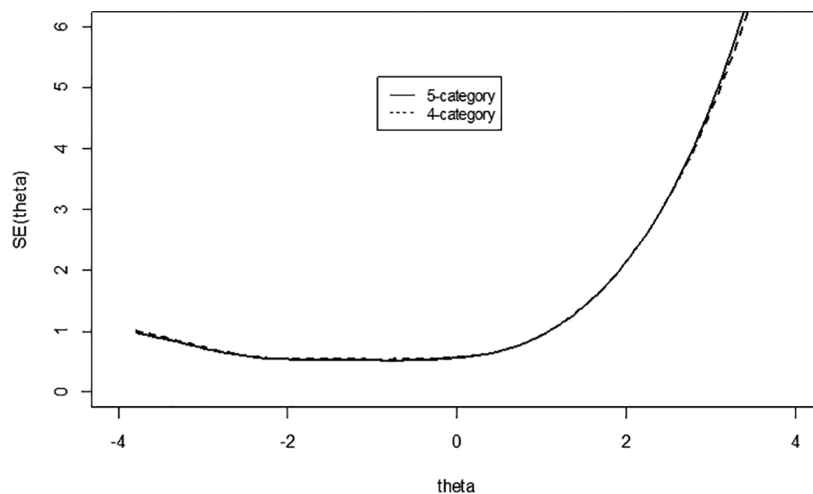
Item-level analyses indicated the RFL construct could be efficiently described with 11 items. In general, items best differentiated individuals at lower to slightly above-average levels of RFL. While five response category calibration functioned adequately, evidence suggests outcomes could be assessed using a four-category calibration with limited information loss.

RFL scale intercorrelation with other protective factors measures associated with general mental health outcomes provided evidence of convergent validity. The RFL scale displayed positive associations with measures taping (a) control over goal attainment using strategies focused on joining with others in the social environment, (b) positive family relationships, (c) community-level resilience factors, and (d) awareness of the interdependent connection of individual welfare with the well-being status of family, community, and natural environment. RFL subscale associations suggested that while the Efficacy Over Life Problems and

Efficacy over Life Problems



Cultural and Spiritual Beliefs



Others' Assessment of Me

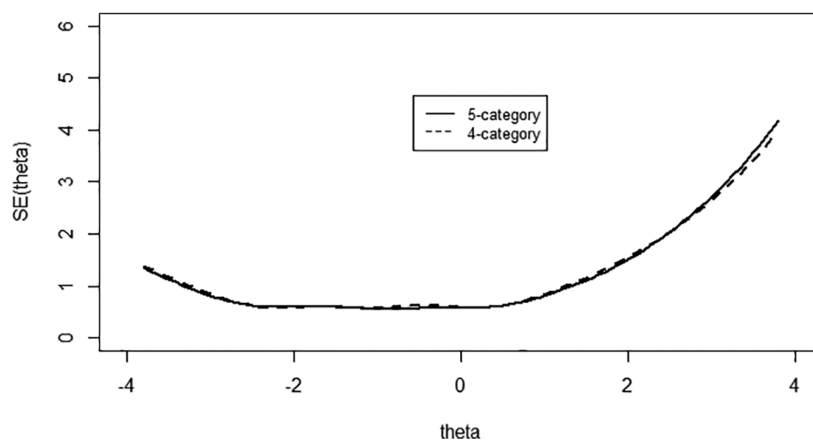


Figure 4. Standard error functions by subscale comparing the five-category and four-category calibrations.

Table 3. Descriptive Statistics of the Final 11-Item Reasons for Life Scale.

Scale	<i>n</i>	Five-category calibration					Four-category calibration				
		<i>M</i> (<i>SD</i>)	α [95% CI]	ω [95% CI]	Item separation reliability	Person separation reliability	<i>M</i> (<i>SD</i>)	α [95% CI]	ω [95% CI]	Item separation reliability	Person separation reliability
Reasons for Life	11	42.32 (7.76)	.80 [.75, .83]	.83 [.78, .86]	.97	.70	35.01 (5.18)	.79 [.74, .83]	.82 [.77, .86]	.97	.72
Efficacy Over Life Problems	4	14.46 (3.57)	.66 [.58, .72]	.67 [.59, .72]	.94	.58	12.01 (2.39)	.64 [.56, .70]	.65 [.57, .71]	.93	.58
Cultural and Spiritual Beliefs	4	16.74 (3.30)	.67 [.60, .74]	.71 [.63, .76]	.96	.22	13.66 (2.26)	.66 [.59, .72]	.70 [.62, .76]	.97	.35
Others' Assessment of Me	3	11.11 (2.78)	.57 [.47, .66]	.63 [.51, .70]	.93	.49	9.35 (1.83)	.56 [.45, .66]	.61 [.50, .69]	.91	.47

Note. *n* = number of items; α = coefficient *alpha*; ω = reliability coefficient derived from categorical items.

Table 4. Correlation Among the Reasons for Life Scale, Subscales, and Validity Measures.

	α	1	2	3	4	5	6	7
1. Reasons for Life	.79							
2. Efficacy Over Life Problems	.64	.81**						
3. Cultural and Spiritual	.66	.75**	.48**					
4. Others Assessment	.56	.78**	.46**	.31**				
5. Mastery	.88	.57**	.55**	.43**	.36**			
6. Family Relationship	.89	.58**	.49**	.50**	.37**	.62**		
7. Community Resilience	.86	.55**	.44**	.50**	.35**	.59**	.69**	
8. Awareness of Connectedness	.78	.50**	.50**	.42**	.28**	.60**	.54**	.58**

* $p < .05$. ** $p < .01$.

the Cultural and Spiritual subscales associated at similar levels with these four general protection variables, the Others Assessment subscale displayed limited associations, and may possess restricted utility in assessing protection. Future research is needed to better elaborate the Others Assessment subscale and test its utility as a protective construct.

While it may be of interest to test the association of RFL with measures of suicide ideation and intent, it is important to emphasize protection is not necessarily the inverse of risk. Protective factors may be better understood not as on a continuum with risk, but instead as orthogonal process to risk factors. In this way, an individual with a high-risk demographic and social history can also display high levels of protection, and a person experiencing suicide ideation can also exhibit high levels of RFL that moderate risk for suicide behavior. An explicit goal of the intervention for which RFL was designed as outcome is to intervene with youth who are at-risk by providing experiences that foster protective beliefs and attitudes. Protective factors measured by RFL are envisioned to provide a buffer moderating the impact of suicidal thoughts.

To date, protective factors have not been examined as extensively as risk factors in the suicide prevention literature. However, identifying and understanding protective factors provide several potential advantages. Foremost, protective factors provide a strengths-based alternative framework for prevention that can address a number of concerns. These concerns include further stigmatization and self-stigmatization of suicide impacted communities associated with ways risk focused interventions can unintentionally highlight community deficits. Additional concerns are associated with the risk-based assessment approaches themselves, and can include community discomfort and cultural incongruences with deficit-based measures, where direct questions about suicide may be judged through local community and cultural standards as intrusive or inappropriate. Ethical concerns include understudied questions about potential harmful impact of direct questions to assess ideation and intent in high-risk settings, particularly during ongoing suicide epidemics. These concerns include a lack of research in these specific settings on the impact of direct assessments on both risk and associated factors such as their

potential to retraumatize youth who may have experienced recent loss through suicide of close friends and relatives. Finally, a number of unresolved measurement issues persist with direct assessments of risk. These include underreporting among key at-risk populations, and the measurement or scalar equivalence of ideation items regarding their degree of association to risk in high suicide settings. The current study provides a first step in development of assessments for protective factors from suicide behavior. The RFL provides one promising model of outcome assessment for strengths-based suicide prevention efforts, and a point of departure for a program of research pursuing more detailed construct elaboration of protection in suicide research.

This version of the RFL scale was developed for a rural Yup'ik Alaska Native context. The scale is likely generalizable, through a process of local adaptation, to other Indigenous populations. Furthermore, the underlying protective construct, with adaptation, may be more broadly generalizable to other cultural groups. Somewhat paradoxically, the specificity of this instrument to a Yup'ik cultural context can guide thinking on RFL use across settings; while the underlying construct is potentially generalizable, precise framing of the item content may require it be specific to a local cultural context. The implication is that beliefs and attitudes about life meaning are often local to setting and context. For example, cultural and spiritual values protective in a military setting may differ in important ways from those operative in this Yup'ik context, and likewise among other civilian contexts. The value of this work with a culturally distinct group may in part be to remind us of the importance of cultural and contextual distinctiveness in understanding protection. Future research on local adaptations of the RFL construct can advance suicide prevention efforts with other Indigenous groups, other culturally distinct groups, and potentially, all suicide disparities groups.

In addition to providing a new outcome variable for suicide prevention efforts, RFL contributes to elaboration of the well-being construct from the cultural perspectives of Indigenous people. Assessment of well-being from a Western cultural framework typically involves an individually centered cognitive-affective evaluation that has been, and in some cases, still is purported to represent a universal basis for defining well-being (Diener, Oishi, & Lucas, 2015; Seligman, 2011). Well-being from other cultural perspectives, including many Indigenous viewpoints extends beyond life satisfaction and the presence of positive or absence of negative affective states (Allen, Rivkin, & Lopez, 2014). A view of well-being in a Yup'ik Alaska Native community will contain important variations in terms of practices, teachings, values, and everyday expectations and opportunities. In ways shared across many Indigenous cultures, "living life well" for Yup'ik involves the meaningful interconnection and interdependence of people living in communities of mainly kinship-based relationships, and

extends these relationships to the land, water, animals, and spirits. From this cultural perspective, young people learn to live well through engagement in *yuuyaraq* (ph. yoo-yar-ahk), the Yup'ik ancestral way of life (Napoleon, 1996). Over the past half-century, young people are no longer immersed in their traditional ways of living as their elders once were, and these changes have coincided with increased suicide and alcohol misuse. RFL, grounded in a Yup'ik well-being framework, provides a set of mutable prevention target outcomes associated with young people finding life meaning through realizing their potential to live a Yup'ik way of life. To achieve well-being in a Yup'ik Indigenous framework, young people must *ellangneq* (ph. eshl-law-ng'-nek), or come to an awareness that realizes their place and their purpose as part of a kinship (family and community) and ecological (environment and animal world) network. Living life well means maintaining harmony across these networks and the relationships that feed, sustain, and reproduce the people and world around them. The RFL items tap selected elements of this broader well-being construct providing protection from suicide through a culturally patterned set of beliefs that foster understanding life problems as solvable, a religious and spiritual connection, and an awareness that one's positive contributions are recognized by others in the community.

Limitations with this study suggest future research directions. A primary limitation is the poor performance of the Other's Assessment subscale. Additional work is needed to better elaborate this construct by identifying additional high functioning items to increase reliability and associations with validity measures. The Cultural and Spiritual Beliefs subscale displayed a more restricted form of limitation. This subscale displayed limitations in ability to differentiate persons at different levels of the latent trait, as sensitivity to change is an important attribute for a prevention outcome measure. This limitation is related to more general concern regarding somewhat restricted RFL item difficulty. Items best differentiated individuals at low to slightly above-average RFL levels, and differentiated less well among individuals at high levels. Future item refinement work can improve these two subscales and increase overall RFL item difficulty level. Further research is also needed to clarify the role of protective factors as moderator variables in the prediction of long-term suicide outcomes. There is additional need for research on protective factors such as RFL, hypothesized as more proximal in their impact on suicide. This contrasts with the current most widely studied protective factors that are instead associated with general health and mental health, and more distal to suicide-specific behaviors. Finally, the current study is limited to self-report instruments; future studies could include interviews or informant (e.g., peer, teacher, and parent) report methods to further increase understanding of the construct being measured and to provide cross-method validation.

The RFL offers an alternative measurement approach to assess effectiveness of suicide prevention efforts that can be more acceptable to at-risk community settings. The RFL potentially avoids inciting self-stigmatization as well as ethical concerns regarding direct assessment of suicidality in settings undergoing cluster suicide. Additionally, it has potential to address measurement issues among certain at-risk groups, including underreporting on direct assessments of ideation or intent.

Authors' Note

The Qungasvik Team includes past members of the Yupiucimta Asvairtuumallerkaa Council, the Ellangneq Council, the Yuuyaraq Council, the Yup'ik Regional Coordinating Council, the Ellangneq Advisory Group, and the Ellangneq, Yupiucimta Asvairtuumallerkaa, and Cuqyun Project staff. The Yupiucimta Asvairtuumallerkaa Council included Sophie Agimuk, Harry Asuluk, Thomas Asuluk, T. J. Bentley, John Carl, Mary Carl, Emily Chagluk, James Charlie, Sr., Lizzie Chimiugak, Ruth Jimmie, Jolene John, Paul John, Simeon John, Aaron Moses, Phillip Moses, Harry Tulik, and Cecelia White. The Ellangneq Council included Catherine Agayar, Fred Augustine, Mary Augustine, Paula Ayunerak, Theresa Damian, Lawrence Edmund, Sr., Barbara Joe, Lucy Joseph, Joe Joseph, Placide Joseph, Zacheus Paul, Charlotte Phillip, Henry Phillip, Joe Phillip, Penny Alstrom, Shelby Edmund, Dennis Sheldon, Isidore Shelton, Freddie Edmund, Josie Edmund, and Flora Patrick. The Yuuyaraq Council included the elders Ben Tucker, Phillip Yupanik, Andrew Kelly, Matrona Yupanik, Mike Andrews, Sr., Maryann Andrews, Evan Hamilton, Jr., Nick Tucker, Paul Crane, Clara Andrews, Bernice Redfox, Margaret Charles, Cecilia Redfox, Ray Waska, Sr., Peter Moore, and Martin Moore, Sr., and community members Ronald Trader, Fredrick Joseph, Marvin Kelly, Stephen Levi, Leandra Andrews, Malora Hunt, Dominic Hunt, Patrick Tam, Yolanda Kelly, Emily Crane, Grace Charles, Roberta Murphy, Ray Waska, Jr., Doug Redfox, Evan Charles Mark Tucker, Greg Fratis, and Wilbur Hootch. The Yup'ik Regional Coordinating Council included Martha Simon, Moses Tulim, Ed Adams, Tammy Aguchak, Paula Ayunerak, Sebastian Cowboy, Lawrence Edmunds, Margaret Harpak, Charles Moses, and Raymond Oney. The Ellangneq Advisory Group included Walkie Charles, Richard Katz, Mary Sexton, Lisa Rey Thomas, Beti Thompson, and Edison Trickett. The current Qungasvik Team members are Billy Charles, Cyndi Nation, Simeon John, Jorene Joe, Jennifer Nu, Georgianna Ningelook, Pamela Aguchak, Mark Tucker, Vanessa Lincoln, Travis Isadore, Jorg Edmund, Dennis Sheldon, Sam Joe, and Dhara Shah. We report how we determined our sample size, all data exclusions, all manipulations, and all measures in the study.

Declaration of Conflicting Interests


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Supplemental Material

Supplemental material for this article is available online.

References

- Allen, J., Levintova, M., & Mohatt, G. (2011). Suicide and alcohol-related disorders in the U.S. Arctic: Boosting research to address a primary determinant of health disparities. *International Journal of Circumpolar Health*, 70, 473-487.
- Allen, J., Mohatt, G. V., Fok, C. C. T., Henry, D., & Burkett, R. (2014). A protective factors model for alcohol abuse and suicide prevention among Alaska Native youth. *American Journal of Community Psychology*, 54, 125-139. doi:10.1007/S10464-014-9661-3
- Allen, J., Mohatt, G. V., Rasmus, S. M., Hazel, K., Thomas, L., & Lindley, S. (2006). The tools to understand: Community as co-researcher on culture-specific protective factors for Alaska Natives. *Journal of Prevention & Intervention in the Community*, 32, 41-59.
- Allen, J., Rivkin, I. D., & Lopez, D. S. (2014). Health and well-being. In F. Leong, J. Trimble, L. Comas-Diaz, G. Nagayama Hall, & V. McLloyd (Eds.), *APA handbook of multicultural psychology* (Vol. 1, pp. 299-312). Washington, DC: American Psychological Association.
- American Psychological Association. (2010). *Publication manual of the American Psychological Association* (6th ed.). Washington, DC: Author.
- Anestis, M. D., & Green, B. A. (2015). The impact of varying levels of confidentiality on disclosure of suicidal thoughts in a sample of United States National Guard personnel. *Journal of Clinical Psychology*, 71, 1023-1030. doi:10.1002/jclp.22198
- Ayunerak, P., Alstrom, D., Moses, C., Charlie, J., & Rasmus, S. M. (2014). Yup'ik culture and context in Southwest Alaska: Community member perspectives of tradition, social change, and prevention. *American Journal of Community Psychology*, 54, 91-99. doi:10.1007/s10464-014-9652-4
- Brown, T. A. (2015). *Confirmatory factor analysis for applied research* (2nd ed.). New York, NY: Guilford Press.
- Clifford, A. C., Doran, C. M., & Tsey, K. (2013). A systematic review of suicide prevention interventions targeting indigenous peoples in Australia, United States, Canada and New Zealand. *BMC Public Health*, 13, 463. doi:10.1186/1471-2458-13-463
- Cukrowicz, K. C., Jahn, D. R., Graham, R. D., Poindexter, E. K., & Williams, R. B. (2013). Suicide risk in older adults: Evaluating models of risk and predicting excess zeros in a primary care sample. *Journal of Abnormal Psychology*, 122, 1021-1030. doi:10.1037/a0034953

- Diener, E., Oishi, S., & Lucas, R. E. (2015). National accounts of subjective well-being. *American Psychologist*, 70, 234-242. doi:10.1037/a0038899
- Fok, C. C. T., Allen, J., & Henry, D. (2014). The Brief Family Relationship Scale: A brief measure of the relationship dimension in family functioning. *Assessment*, 21, 67-72. doi:10.1177/107319111425856
- Fok, C. C. T., Allen, J., Henry, D., & Mohatt, G. V. (2012). Multicultural Mastery Scale for youth: Multidimensional assessment of culturally mediated coping strategies. *Psychological Assessment*, 24, 313-327. doi:10.1037/A0025505
- Goldston, D. B., Molock, S. D., Whitbeck, L. B., Murakami, J. L., Zayas, L. H., & Hall, G. C. N. (2008). Cultural considerations in adolescent suicide prevention and psychosocial treatment. *American Psychologist*, 63, 14-31. doi:10.1037/0003-066x.63.1.14
- Gone, J. P., & Trimble, J. E. (2012). American Indian and Alaska Native mental health: Diverse perspectives on enduring disparities. *Annual Review of Clinical Psychology*, 8, 131-160. doi:10.1146/annurev-clinpsy-032511-143127
- Gonzalez, J., & Trickett, E. J. (2014). Collaborative measurement development as a tool in CBPR: Measurement development and adaptation within the cultures of communities. *American Journal of Community Psychology*, 54, 112-124. doi:10.1007/s10464-014-9655-1
- Greenwald, A. G., Poehlman, T. A., Uhlmann, E. L., & Banaji, M. R. (2009). Understanding and using the Implicit Association Test: III. Meta-analysis of predictive validity. *Journal of Personality and Social Psychology*, 97, 17-41. doi:10.1037/a0015575
- Harlow, A. F., Bohanna, I., & Clough, A. (2014). A systematic review of evaluated suicide prevention programs targeting indigenous youth. *Crisis*, 35, 310-321.
- Hatcher, L. (1994). *A step-by-step approach to using the SAS system for factor analysis and structural equation modeling*. Cary, NC: SAS Institute.
- Hu, L. T., & Bentler, P. M. (1995). Evaluating model fit. In R. H. Hoyle (Ed.), *Structural equation modeling: Concepts, issues, and applications* (pp. 76-99). Thousand Oaks, CA: Sage.
- Hu, L. T., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling: A Multidisciplinary Journal*, 6, 1-55. doi:10.1080/10705519909540118
- Leavitt, R. A., Ertl, A., Sheats, K., Petrosky, E., Ivey-Stephenson, A., & Fowler, K. A. (2018). Suicides among American Indian/Alaska Natives: National Violent Death Reporting System, 18 states, 2003-2014. *MMWR-Morbidity and Mortality Weekly Report*, 67, 237-242.
- Lee, G., Dunbar, S. B., & Frisbie, D. A. (2001). The relative appropriateness of eight measurement models for analyzing scores from tests composed of testlets. *Educational and Psychological Measurement*, 61, 958-975. doi:10.1177/00131640121971590
- Li, C. H. (2016). Confirmatory factor analysis with ordinal data: Comparing robust maximum likelihood and diagonally weighted least squares. *Behavioral Research*, 48, 936-949. doi:10.3758/s13428-015-0619-7
- Linehan, M. M., Comtois, K. A., Murray, A. M., Brown, M. Z., Gallop, R. J., Heard, H. L., . . . Lindenboim, N. (2006). Two-year randomized controlled trial and follow-up of dialectical behavior therapy vs therapy by experts for suicidal behaviors and borderline personality disorder. *Archives of General Psychiatry*, 63, 757-766. doi:10.1001/archpsyc.63.7.757
- Linehan, M. M., Goodstein, A. J., Nielsen, S. L., & Chiles, J. A. (1983). Reasons for staying alive when you are thinking about killing yourself: The Reasons for Living Inventory. *Journal of Consulting and Clinical Psychology*, 51, 276-286.
- Mohatt, N. V., Fok, C. C. T., Burket, R., Henry, D., & Allen, J. (2011). Assessment of awareness of connectedness as a culturally-based protective factor for Alaska Native youth. *Cultural Diversity & Ethnic Minority Psychology*, 17, 444-455. doi:10.1037/A0025456
- Moos, R. H., & Moos, B. S. (1994). *Family Environment Scale* (3rd ed.). Palo Alto, CA: Consulting Psychologists Press.
- Muthén, L. K., & Muthén, B. O. (1998-2017). *Mplus user's guide* (8th ed.). Los Angeles, CA: Muthén & Muthén.
- Napoleon, H. (1996). *Yuuyaraq: The way of the human being*. Fairbanks: University of Alaska Fairbanks Press.
- Nock, M. K., Park, J. M., Finn, C. T., Deliberto, T. L., Dour, H. J., & Banaji, M. R. (2010). Measuring the suicidal mind: Implicit cognition predicts suicidal behavior. *Psychological Science*, 21, 511-517. doi:10.1177/0956797610364762
- Osman, A., Kopper, B. A., Barrios, F. X., Osman, J. R., Besett, T., & Linehan, M. M. (1996). The brief Reasons for Living Inventory for adolescents (BRFL-A). *Journal of Abnormal Child Psychology*, 24, 433-443. doi:10.1007/Bf01441566
- R Core Team. (2018). *R: A language and environment for statistical computing*. Retrieved from <http://www.R-project.org/>
- Rasmus, S. M., Charles, B., & Mohatt, G. V. (2014). Creating *Qungasvik* (a Yup'ik intervention "toolbox"): Case examples from a community-developed and culturally-driven intervention. *American Journal of Community Psychology*, 54, 140-152. doi:10.1007/s10464-014-9651-5
- Rasmus, S. M., Trickett, E., Charles, B., John, S., & Allen, J. (2019). The qasgiq model as an Indigenous intervention: Using the cultural logic of contexts to build protective factors for Alaska Native suicide and alcohol misuse prevention. *Cultural Diversity & Ethnic Minority Psychology*, 25, 45-55. doi:10.1037/cdp0000243
- Rizopoulos, D. (2006). ltm: An R package for latent variable modelling and item response theory analyses. *Journal of Statistical Software*, 17(5), 1-25. doi:10.18637/jss.v017.i05
- Rosseel, Y. (2012). lavaan: An R package for structural equation modeling. *Journal of Statistical Software*, 48(2), 1-36. doi:10.18637/jss.v048.i02
- Satorra, A., & Bentler, P. M. (2010). Ensuring positiveness of the scaled difference chi-square test statistic. *Psychometrika*, 75, 243-248. doi:10.1007/s11336-009-9135-y
- Samejima, F. (1996). Graded response model. In W. J. van der Linden & R. K. Hambleton (Eds.), *Handbook of modern item response theory* (pp. 85-100). New York, NY: Springer.
- Seligman, M. E. P. (2011). *Flourish: A visionary new understanding of happiness and well-being*. New York, NY: Free Press.
- Trimble, J. E., & Bhadra, M. (2013). Ethnic gloss. In K. D. Keith (Ed.), *The encyclopedia of cross-cultural psychology* (pp. 500-504). New York, NY: Wiley Blackwell.

- Trimble, J. E., & Vaughn, L. (2013). Cultural measurement equivalence. In K. D. Keith (Ed.), *The encyclopedia of cross-cultural psychology* (pp. 313-319). New York, NY: Wiley Blackwell.
- Whitbeck, L. B., Walls, M. L., & Welch, M. L. (2012). Substance abuse prevention in American Indian and Alaska Native communities. *American Journal of Drug and Alcohol Abuse*, 38, 428-435. doi:10.3109/00952990.2012.695416
- Whitlock, J., Wyman, P. A., & Moore, S. R. (2014). Connectedness and suicide prevention in adolescents: Pathways and implications. *Suicide and Life-Threatening Behavior*, 44, 246-272. doi:10.1111/sltb.12071

Appendix

Reason for Life Scale

Efficacy Over Life Problems

1. I believed I can help others fix their problems.
2. I believed I can make things work out for the best even when life gets difficult.
7. I believed I can fix my problems.

11. I had the courage to face life's hardest moments.

Cultural and Spiritual Beliefs

4. No matter how hard things got, I believed God wanted me to live.
6. My Yup'ik Elders taught me that my life is valuable.
8. I believed I must live to be an Elder.
9. My religion taught me that my life is valuable.

Others Assessment

3. People saw me do good things to help others.
5. People saw that I am strong and care about others.
10. People saw I live my life in a good way.

Response scale. The response scale used for this measure was a continuous analog scale presented on a computer with equidistant semantic anchors of Not at all, Somewhat, and A lot.