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An in-depth comparison of well-being among Latinx and non-Latinx White adults: A cautionary tale

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ABSTRACT

Understanding how to optimize the health and well-being of Latinxs is crucial and will aid in informing actions to address inequities. Latinxs' unique cultural backgrounds and lived experiences could have implications for their well-being, which may differ from other racial/ethnic groups. We compared overall and domain-specific well-being and their socio-demographic correlates among two samples of Latinxs and a sample of non-Latinx Whites.

Cross-sectional samples were independently drawn from the Stanford WELL Initiative (n = 217 Latinxs, n = 943 non-Latinx Whites) and the On the Move Trial (n = 238 Latinxs), both recruiting in Northern California. Well-being was assessed using the Stanford WELL scale, a novel multifaceted measure. Propensity score matching and mixed effect regressions were employed to compare well-being between samples.

Overall well-being levels did not differ between groups. However, when examining constituent domains of well-being, several differences were found. Both Latinx samples reported experiencing more stress, having worse physical health, and being more religious than did the matched non-Latinx White sample. However, on four other well-being domains, only one of the Latinx samples differed from the non-Latinx White sample. Moreover, the two Latinx samples differed from each other in four out of nine domains examined.

When evaluating well-being across racial/ethnic groups, we recommend employing multidimensional measures and multiple samples to promote greater confidence in the conclusions. This approach can better inform future research and the tailoring of public health efforts by furthering our understanding of the nature of group well-being differences. Our methods offer a blueprint for similar studies examining well-being in multi-ethnic groups.

In the U.S. and globally, well-being has been given significant attention by government, funders, and non-profit agencies (Kobau et al., 2010; Healthy People, 2020; Robert Wood Johnson Foundation, 2018). While there are many ideas about the nature of well-being, we define it as "a holistic synthesis of a person's biological, psychological, and spiritual experiences, resulting from interplay between individuals and their social, economic, and physical environments, that promote living a fulfilling life" (Stanford Prevention Research Center, 2019). A focus on well-being offers new possibilities for defining the promotion of community health beyond the absence of disease and informing actions to address inequities (Robert Wood Johnson Foundation, 2018). Well-being is associated with longevity and health maintenance (Steptoe et al., 2015), lower risk of all-cause mortality (Keyes & Simoes, 2012), cardiovascular health (Boehm & Kubzansky, 2012), and lower risk of future mental illness (Keyes et al., 2010). Thus, well-being has tremendous implications for the promotion of physical and mental health.

Latinxs, the largest racial/ethnic minority group in the U.S., are expected to account for nearly 30% of the general population by 2060 (U.

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S. Census, 2018). A better understanding of how to optimize their health and well-being is crucial. Latinxs are a heterogenous group with regards to ancestry, socio-demographics, and acculturation (e.g., nativity, language preference), creating the need to explore potential differences within and across various Latinx samples. Latinxs' unique cultural backgrounds and lived experiences as a racial/ethnic minority group in the U.S. could have key implications for their well-being. The roles of culture and context in the pursuit of well-being have been shown to differ across cultures (Oishi, 2018; Ryff, Boylan, & Kirsch, 2020). Thus, a better understanding of how such factors influence the well-being of Latinx populations is needed. In the U.S., Latinxs face multiple socio-economic challenges, including income inequality, discrimination, and systemic barriers (Velasco-Mondragon et al., 2016), all of which have been linked to poorer well-being (Du, King, & Chi, 2019; French & Chavez, 2010; Karunamuni et al., 2020). Hence, both cultural factors and lived experiences as a minority group may shape well-being among Latinxs, highlighting the importance of examining unique features of their well-being in comparison to other populations.

1. Well-being among Latinxs

Emerging evidence comparing well-being between Latinxs and other populations appears mixed. Some studies find higher well-being levels among Latinxs compared to non-Latinx Whites (Marquine et al., 2015; Tay et al., 2014), with differences being driven, in part, by higher levels of spirituality among Latinxs (Marquine et al., 2015). Higher well-being was also found among Latinx workers with respect to life satisfaction and positive affect compared to non-Latinx White workers (Tay et al., 2014). However, other studies point to either lower well-being among Latinxs (Barger et al., 2009; Coverdill et al., 2011) or to similar levels of well-being among Latinxs and non-Latinx Whites (Kobau et al., 2010).

Mixed findings may be attributed to sampling and measurement differences. Convenience, idiosyncratic, and small samples are common in this arena. Studies have employed convenience samples of Spanish speakers (Hernandez et al., 2016), Latinxs over the age of 50 (Marquine et al., 2015), rural Spanish speaking immigrant mothers (Stacciarini et al., 2015), or college students (French & Chavez, 2010). Such samples differ in their socio-demographic characteristics, which, in turn, have been associated with well-being. Age, socioeconomic status, gender, and marital status all have demonstrated (albeit sometimes complex) associations with well-being (Barger et al., 2009; Du et al., 2019; Lansford, 2018).

Investigators typically have controlled statistically for these socio-demographic factors when comparing well-being between groups. However, these statistical controls often do not fully account for the differences (Barger et al., 2009; Coverdill et al., 2011). Other research suggests a more complex story, with the associations between socio-demographic characteristics and well-being differing by ethnicity. While research typically supports a U-shape relationship between age and well-being (Lansford, 2018), with higher reported well-being both earlier and later in life, Latin American countries have exhibited consistent declines in well-being with age (Steptoe et al., 2015). If relationships between socio-demographic characteristics and well-being differ across ethnic groups, either in terms of direction or magnitude, then (1) the procedure typically used to control for socio-demographic characteristics may be lacking, and (2) the idiosyncratic samples may have limited generalizability. Thus, it is important to more fully examine the influence of socio-demographics on well-being separately by ethnicity.

In terms of measurement, a wide array of measures and conceptualizations of well-being have been used, from those solely focusing on life satisfaction or experience of positive emotions, to those that include a broader set of constituent constructs such as purpose and meaning, social connectedness, and others (Diener, Oishi, & Tay, 2018; Ryff & Keyes, 1995). Larger studies using nationally-representative samples are often limited by their use of single items, or brief general well-being measures (Barger et al., 2009; Coverdill et al., 2011) that do not capture specific well-being domains (e.g., social connectedness, purpose and meaning). Thus, while we know well-being is a multidimensional construct (Diener et al., 2009; Hackert, Brouwer, Hoefman, & van Exel, 2019), measures are often not set up to examine its complexity (Ryff et al., 2020).

2. The current study

We use a multi-domain, comprehensive novel measure of well-being that allows us to better understand differences and similarities across groups. Using rigorous statistical analyses (i.e., propensity score matching) to ensure more accurate group comparisons (Stuart, 2010), we address the following questions: (1) How are socio-demographic characteristics associated with well-being in Latinxs and non-Latinx Whites? (2) To what extent do two samples of Latinxs, matched on socio-demographic characteristics, differ in their experience of well-being? and (3) Does the experience of well-being among these two Latinx samples differ from that of a non-Latinx White sample matched on socio-demographic characteristics?

3. Methods

3.1. Design and participants

Cross-sectional samples were drawn from two independent studies: the Stanford WELL Initiative (WELL) and the On the Move Trial (NCT 02385591). Stanford University School of Medicine Institutional Review Board approved both studies (protocols 32,814 and 31845, respectively). All study materials, including informed consent and measures, were available in both English and Spanish.

WELL is a global research initiative with the mission of accelerating the science of well-being (Heaney et al., 2017). As part of this initiative, a cohort was created via an online registry in 2016. Recruitment occurred via research registries and email lists within Stanford University; via social media, emails and webpages; through local community partnerships; and via community events. Data ($N = 2{,}049$) were drawn from the WELL registry in January 2019. For the purposes of this study and to match the inclusion criteria for On the Move as closely as possible, while maximizing sample size, we included participants who met the following criteria: (1) self-identified as Latinx/Hispanic or non-Latinx White, (2) $>$ 24 years old, (3) California resident, and (4) insufficiently physically active (i.e., not meeting current physical activity guidelines). We obtained two samples from the WELL registry, a Latinx and a non-Latinx White sample. Fig. 1 displays a flowchart with exclusion and inclusion criteria.

On the Move (OTM) was a 12-month randomized controlled trial among Latinxs that tested the effectiveness of a culturally-appropriate physical activity intervention (King et al., 2013) delivered via text-messaging or phone (King et al., 2020). Recruitment occurred between 2015 and 2017 via geographically defined targeted mass mailings and emails, community email lists, social media, community outreach activities, newspaper ad, and referrals. For the present study, we combined all arms to investigate well-being at baseline. The inclusion criteria were as follows: (1) self-identified Latinx, (2) $\geq$ 35 years old, (3) living in one of five northern California counties, and (4) insufficiently physically active.

Socio-demographic characteristics are shown in Table 1. Final samples consisted of 238 Latinxs from On the Move, 217 Latinxs from WELL, and 943 non-Latinx Whites from WELL. The Latinx participants were primarily of Mexican descent. Among WELL Latinx participants, 69% of the US-born and 35% of the foreign-born were of Mexican descent. Among the OTM participants, 70% of the foreign-born were from Mexico (unfortunately ancestry data for those born in the US is not available). Much smaller percentages of the foreign-born were from Central America (18% in OTM and 17% in WELL) and South America (10% in OTM and 36% in WELL).

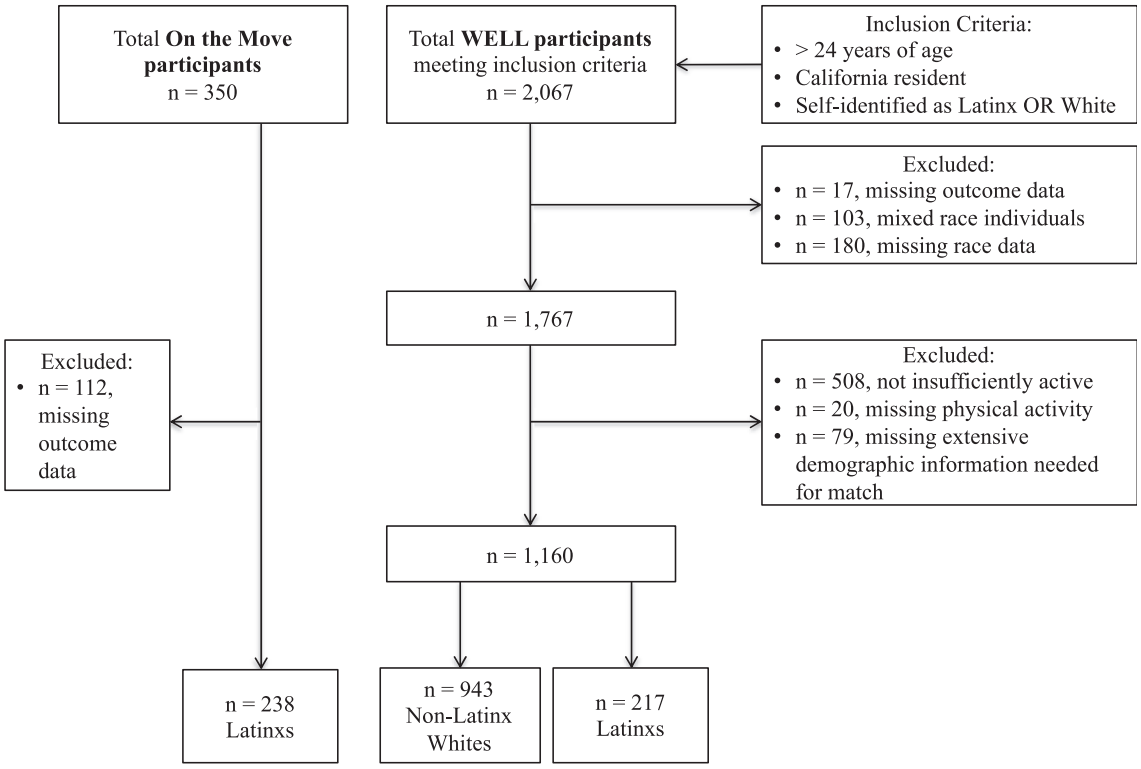


Fig. 1. Flowchart of Inclusion and Exclusion Criteria. Note. On the Move started data collection prior to collaborations with the WELL Initiative and well-being measures were added later. Thus, 112 On the Move participants who completed baseline before the start of data collection on well-being were excluded from the present analysis.

3.2. Measures

Participants from both studies completed socio-demographic questionnaires at baseline. Having been diagnosed with chronic conditions (e.g., hypertension, diabetes, cancer) was also assessed. Number of chronic conditions was grouped into none, 1, or 2 or more. WELL participants completed materials online via REDCap, while On the Move participants completed materials in person, through mailed questionnaires, or over the phone.

3.2.1. Well-being measure

Well-being was assessed using the Stanford WELL scale, a 53-item self-report questionnaire assessing nine well-being domains including experience of emotions (both positive and negative), social connectedness, sense of self, spirituality/religiosity, purpose and meaning, stress and resilience, physical health, financial stability, and exploration/creativity (Chrisinger et al., 2019; Ahuja et al., 2020). Each domain is scored from 0 to 10, with higher scores indicating optimal outcome (e.g., higher well-being, less stress or negative emotions). An unweighted overall well-being score is calculated by summing the domain scores. Measurement development included qualitative in-depth interviews (n = 100, 18% Latinx) and inclusion of items/scales previously validated with Latinx/Spanish speaking samples (Blanco et al., 2019; Lucas-Carrasco, Laidlaw, & Power, 2011). More details can be found in the Supplemental Materials including comparable reliability across language and ethnicity (Supplemental Tables 1 and 2).

3.3. Statistical analyses

Data analyses were conducted using R and SPSS (v25). We employed propensity score matching to rigorously analyze group differences using observational data (Rosenbaum & Rubin, 1983; Stuart, 2010), which allows for improved balance in the covariate distribution across samples. More traditional methods for addressing covariates often control for them in regression models and rely on modeling assumptions (e.g., linearity, heterogeneity, normality) that may not hold when comparing different samples (Stuart & Green, 2008). Regression models have also been shown to underperform compared to matching techniques when there is little overlap in covariate distribution across samples (Stuart, 2010). Nonetheless, the two methods are complementary and can be used in combination.

Full matching makes use of all available data by creating matched sets of individuals from the different samples (Stuart & Green, 2008). This matching method is ideal for conserving sample size while optimizing balance in the propensity score (Stuart, 2010). We conducted three full matches: (1) On the Move Latinxs with WELL Latinxs, (2) On the Move Latinxs with non-Latinx Whites from WELL, and (3) WELL Latinxs with WELL non-Latinx Whites. Known well-being covariates were included in the full match and calculation of the propensity score: age, race (for the Latinx-to-Latinx match), gender, education, marital status, and number of chronic conditions. Matching on chronic conditions allowed us to further control for physical health. Cases with missing data on matching variables (less than5% of sample) were excluded due to violations of the strongly ignorable treatment assignment, a critical assumption in matching methods (Rosenbaum, 1984).

Table 1
Socio-Demographic Characteristics of the Three Samples Before Matching.

Socio-Demographic Characteristics	On The Move Latinxs (n = 238)	WELL Latinxs (n = 217)	WELL Non-Latinx Whites (n = 943)
Age in years[1]			
• 25–34	0%	37%	19%
• 35–44	26%	30%	14%
• 45–54	41%	15%	16%
• 55–64	24%	13%	25%
• ≥65	8%	4%	26%
Gender (% female)	74%	82%	81%
Race			
• White	62%	39%	100%
• Racial minority[2]	4%	33%	0%
• Mixed race or other[3]	34%	28%	0%
Marital status (% married)	73%	47%	55%
Education			
• High school or less	33%	11%	2%
• Some college, associate, technical/vocational degree	28%	30%	15%
• College	17%	30%	38%
• Post-graduate/ professional	22%	29%	45%
Chronic conditions			
• None	49%	54%	34%
• One	31%	27%	32%
• Two or more	20%	19%	34%
US born	34%[4]	72%	88%
Completed measures in Spanish	49%	2%	0%

Notes. [1]In order to preserve sample size, we used a younger age cutoff for the WELL samples than was in effect for the OTM sample. [2]Racial minority includes African American, Asian, Pacific Islander groups, and Native American/Alaska Native. [3]Respondents who selected one or more races or indicated Latinx as their race using an Other category that allowed for open-ended responses. [4]Average time in the US for immigrants is 29 years. Latinx foreign-born participants were primarily born in Mexico. Among non-Latinx White foreign-born participants, countries of origin included the United Kingdom, Germany and Canada.

We used Cobalt (Greifer, 2019) and Optmatch (Hansen & Klopfer, 2006) R packages for matching.

Quality of each of the matches was assessed by comparing absolute standardized mean differences (SMDs) on the matching variables. The standardized difference is not influenced by sample size and is used to compare balance in covariates before and after the match, ensuring that systematic differences have been removed after matching. We employed a threshold of ≤ 0.10 as indicative of acceptable match quality (Stuart et al., 2013) and used the Cobalt package and love plots (Greifer, 2019; Love, 2004) for this diagnostic tests.

3.4. Outcome analyses

To explore the role of key socio-demographic correlates, we conducted a series of linear regression analyses predicting overall well-being. These were conducted separately for each of the three samples: On the Move Latinxs, WELL Latinxs, and WELL non-Latinx Whites. Next, we employed matching methods described previously, followed by mixed effects models to assess group differences in both the overall- and domain-specific well-being scores. Mixed effects models account for the nested nature of the data as a result of a full match by allowing intercepts to vary across matched groups, with level 1 being the individual and level 2 the corresponding matched group.

Although we matched on key socio-demographics, these variables were also controlled for in the mixed effects models to adjust for any potential remaining differences (Stuart et al., 2008). To explore overall and domain-specific well-being differences between our matched samples, a binary categorical variable (e.g., 1 = On the Move Latinx compared to 0 = WELL Latinx) was used as the key independent variable. Separate models were specified with overall- and domain-specific well-being subscales as the dependent variables.

4. Results

4.1. Socio-demographic correlates of well-being

Table 2 shows the correlates of overall well-being for each sample. For both Latinx samples, older age was associated with higher levels of overall well-being, after controlling for covariates. However, for WELL non-Latinx Whites, a quadratic or U-shape relationship was found between age and overall well-being. For all three samples, greater number of chronic conditions was associated with lower overall well-being. Being married was a positive correlate of overall well-being for On the Move Latinxs and WELL non-Latinx Whites. Finally, higher educational attainment and being born in the U.S. were positively associated with overall well-being for the WELL non-Latinx White sample only.

Absolute SMDs in covariates across samples (see Fig. 2) show expected reductions across all covariates after the match procedures. After matching, all SMDs decreased to below 0.10, indicating a successful match (Stuart et al., 2013).

4.2. Mixed effect results for matched samples

Table 3 presents results for primary outcome analyses using the full matches. Average intraclass coefficients are also shown.

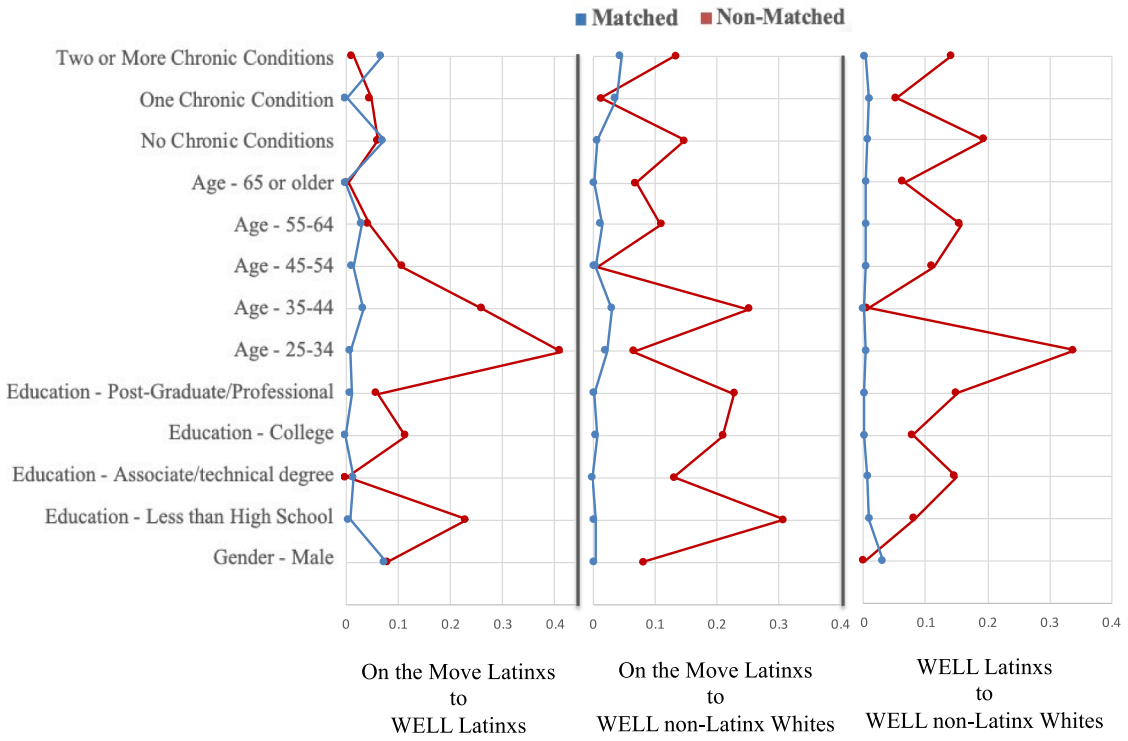
4.2.1. Latinx-to-Latinx match

When comparing our two matched Latinx samples, no significant overall well-being differences were found. However, differences emerged

Table 2
Regressions for Overall Well-Being Score, Including Key Correlates by Group.

Socio-Demographic Characteristics	On The Move Latinxs (n = 238)	WELL Latinxs (n = 217)	WELL Non-Latinx Whites (n = 943)
	β	β	β
Age	0.18*	0.15†	-0.35†
Age squared [1]	–	–	0.64**
Female	0.06	-0.01	-0.002
Race (Reference = Latinx Whites) [2]			
• Racial minority [3]	-0.08	0.03	–
• Mixed race or other [4]	-0.03	-0.06	–
Marital status (married)	0.14*	0.06	0.11***
Education (Reference = High school or less)			
• Some college, associate, technical/vocational degree	0.15†	-0.12	0.14†
• College	0.08	0.01	0.19*
• Post-graduate/ professional	0.14†	0.01	0.32**
Chronic conditions (Reference = None)			
• One	-0.08	-0.15*	-0.19***
• Two or more	−0.16*	-0.30***	-0.27***
US born	0.05	0.07	0.07*
Spanish speaker [5]	0.08	0.10	–
R-squared (R^2)	0.08	0.11	0.13

Notes. † p < .10, * p < .05, ** p < .01, *** p < .001. Table entries are adjusted standardized coefficients. [1] A quadratic relationship with age was only found for the WELL non-Latinx White model and hence only retained in this model shown in the third column. [2] Given the lack of variability, race was not included in the non-Latinx White models shown in the third column. [3]Racial minority includes African American, Asian, Pacific Islander groups, and Native American/Alaska Native. [4] Respondents who selected one or more races or indicated Latinx as their race using an Other category that allowed for open-ended responses. [5] There was no variability in the Spanish speaking variable for WELL non-Latinx Whites (100% of participants were English speakers); thus, variable not included in the model for this group.



Note. Love plot. Although differences of less than .10 to .25 are indicative of acceptable balance, we used the more conservative .10 threshold to assess matching quality.

Fig. 2. Covariate Balance Before and After Matching. Note. Love plot. Although differences of less than 0.10 to 0.25 are indicative of acceptable balance, we used the more conservative 0.10 threshold to assess matching quality.

for several domain-specific well-being scores. On the Move Latinxs scored significantly lower in physical health, purpose/meaning, resilience, and exploration/creativity compared to their matched WELL Latinx counterparts, but higher on religion/spirituality. Given these differences, we kept the Latinx samples separate when comparing them to non-Latinx Whites.

4.2.2. On the Move Latinxs to WELL non-Latinx Whites match

When comparing On the Move Latinxs with their matched WELL non-Latinx White counterparts, no differences were found for overall well-being; however, differences emerged for domain-specific scores. On the Move Latinxs scored significantly lower in physical health, sense of self, resilience, and creativity, compared to their matched non-Latinx White counterparts and had higher levels of religion/spirituality and stress.

4.2.3. WELL Latinxs to WELL non-Latinx match

Within our third matching comparison, we also found no differences in overall well-being between Latinxs and non-Latinx Whites from the WELL study. However, Latinxs scored significantly lower in physical health and finances compared to their matched non-Latinx White counterparts. Consistent with the other group comparisons, Latinxs from WELL reported significantly higher levels of religion/spirituality and stress than their matched non-Latinx White counterparts, and in contrast with the other sample comparisons, they also scored significantly higher in purpose/meaning and exploration/creativity.

5. Discussion

Using rigorous matching methods, we found that group differences did not emerge for overall well-being, but domain-specific well-being differences were found, including four of nine domains differing between the two Latinx samples. This more nuanced multi-domain examination provided key information about the nature and differences in well-being across groups and can be used to inform future research and efforts to optimize well-being among Latinxs.

Our results extend the literature on well-being differences across racial/ethnic groups. Both Latinx samples reported significantly higher stress and stronger religiosity than the non-Latinx White sample, yet scored lower in physical health and resilience. Findings are supported by existing literature indicating that Latinxs often face additional stressors linked to acculturation, discrimination, poor physical health, and financial barriers (Finch & Vega, 2003; Sanchez & Johnson-Esparza, 2014). Studies have also highlighted the importance of religiosity for many Latinxs. Older adult Latinxs have been found to score higher in daily spirituality and religious practices compared to non-Latinx Whites (Marquine et al., 2015), a finding that our results replicate. Thus, a complex picture emerges when considering various sources of cultural, risk and resilience factors, and their roles in well-being. Our findings support primarily a picture of disadvantage for Latinxs in terms of added stress, lower resilience, and poor physical health, potentially highlighting inequities in access to resources and social determinants of health. Whether religiosity and spirituality buffer this combined risk should be explored further.

For two of the domains, exploration/creativity and purpose/meaning, the Latinx groups differed from non-Latinx Whites in opposite directions. On the Move Latinxs scored the lowest on exploration/creativity, while WELL Latinxs scored the highest. Given our matching methods, the extent to which socio-demographic differences accounted for these findings is likely minimized. While creativity has been positively associated with mental and physical health (Stuckey & Nobel, 2010), to our knowledge, no studies have investigated the role of creativity in promoting well-being for Latinxs, nor have they delved into group comparisons (Plucker, 2017). We hope our findings serve to generate additional research in this area.

Table 3
Mixed Effect Regression Models Using Matched Groups.

Well-Being Domains	On the Move Latinxs to WELL Latinxs (ref)	On the Move Latinxs to WELL Non-Latinx Whites (ref)	WELL Latinxs to WELL Non-Latinx Whites (ref)
	B	B	B
Overall well-being score	−1.79	-0.34	1.72†
Domain specific well-being subscales			
• Physical health	-0.82***	−1.13***	-0.24*
• Purpose and meaning	-0.65*	-0.18	0.39*
• Sense of self	−26	-0.31*	0.12
• Experience of emotions	-0.01	0.14	-0.05
o Positive emotions	-0.03	0.14	0.09
o Negative emotions[1]	-0.09	0.14	-0.19
• Stress and resilience	-0.18	-0.38**	-0.09
o Stress[1]	-0.08	-0.36*	-0.35**
o Resilience	-0.44*	-0.39*	0.19
• Exploration/ Creativity	−1.75***	−1.05***	0.48**
• Religion/ spirituality	1.51***	2.85***	1.66***
• Finances	0.21	-0.13	-0.42*
• Social connectedness	-0.06	-0.29*	-0.07
Average null model ICC[2]	2%	7.7%	7.3%
Average full model ICC	1.5%	0.6%	0%

Note. † $p < .10$, * $p < .05$, ** $p < .01$, *** $p < .001$. Table showing beta coefficient for group variable; reference group identified as ref. All models included covariates (e.g., education, gender, marital status, race). [1] Higher scores correspond to more optimal outcomes, meaning less negative emotions and lower levels of stress. [2] Intraclass correlation coefficient. Sample size: On the Move Latinxs n = 238, WELL Latinxs n = 217, and WELL non-Latinx Whites n = 943.

Our results also indicated lower levels of social connectedness for Latinxs compared to non-Latinx Whites, a key protective factor for health and well-being (Austen et al., 2020; Holt-Lunstad, Smith, Baker, Harris, & Stephenson, 2015). This finding appears contrary to literature suggesting high levels of social support and social cohesion among Latinxs (Alegria et al., 2007). It is possible that higher levels of acculturation in our sample (our foreign-born Latinxs had been in the U.S. on average nearly three decades), could account for this finding, given research suggesting differences in social connectedness across generations (Chang et al., 2013).

Our findings also shed light on the role of socio-demographic correlates of well-being across populations. Being married and the absence of chronic conditions were associated with higher well-being for both Latinxs and non-Latinx Whites, corroborating past research (Hernandez et al., 2016). Our results support racial/ethnic differences in the relationship between age and well-being, with a U-shape relationship (Lansford, 2018) only found among non-Latinx Whites. Education was associated with well-being only among non-Latinx Whites, underscoring differences in the protective nature of education. Possibly due to structural barriers, racial/ethnic minorities are less able to convert educational achievements into capital (House & Williams, 2000), thus having a smaller impact on well-being. Findings underscore the need to better understand and develop wellness promotion and interventions that go beyond individual-level characteristics. For instance, a previous study using the same well-being measure as this study, found positive associations between individual-level well-being and neighborhood-level indicators such as median household income and the proportion of community residents having attained a college education (Chrisinger et al., 2019).

Our results offer a cautionary tale for comparative studies using single or convenience samples when making inferences about racial/ethnic differences. Nonetheless, employing fully representative samples is unlikely the sole answer as measures employed in larger-scale population-derived samples are often not sufficiently nuanced or multidimensional. Our findings highlight the benefits of multidimensional measures to understand the nature of well-being differences across groups. Moreover, community engaged research approaches and qualitative research are also needed to better understand contextual and cultural meaning around well-being, its domains, and the factors that influence them.

6. Implications

Governmental and philanthropic organizations have identified well-being as key to redefine progress in improving health and health equity (Healthy People, 2020; Robert Wood Johnson Foundation, 2018). Organizations that conduct health promotion programs such as public health departments, employers, and health care providers could potentially benefit from more comprehensive and holistic views of well-being. Promisingly, the Veterans Administration's Whole Health initiative prioritizes some well-being domains, such as relationships, personal and work life, and spirituality (Gaudet & Kligler, 2019). This approach can shift focus from a narrower disease-specific framework towards a more comprehensive health promotion strategy.

From a clinical and research perspective, focusing on well-being presents additional advantages, including identifying both deficits and assets of individuals and communities, and shifting the conversation to what really matters to individuals. For instance, using a precision medicine lens, identifying specific areas of risk and resilience can be used to tailor interventions. "Leaning in" to nuances and differences in well-being domains can serve as an opportunity for learning how to leverage those differences to reduce inequities.

7. Study strengths and limitations

Our study has several strengths, including a large racially/ethnically diverse sample recruited from two independent studies, the use of rigorous propensity score matching, and a multidimensional measure of well-being. This measure allowed for the exploration of domain-specific group differences often missed by more limited measures. Nonetheless, several limitations existed. The cross-sectional nature of the data, along with geographic limitations, restrict our ability to make causal and generalizable inferences. We also were limited with respect to variability in acculturation, country of origin, and age, with predominantly midlife and older adults represented. Given the heterogeneity of the Latinx population, future investigations should assess the potential impact of nativity and acculturation on well-being. Although there was significant overlap in geographic residency, WELL participants were recruited from a larger catchment area than On the Move participants, potentially adding heterogeneity in terms of neighborhood socio-demographics. Finally, our findings should be interpreted keeping in mind our conceptualization and measurement of well-being. While our broad comprehensive multi-faceted measure of well-being is a strength of our study, it does not capture all the ways of cross-culturally conceptualizing or operationalizing the various constituent well-being domains.

8. Future Directions

The variety of well-being domains explored offers rich hypothesis-generating data concerning differences across racial/ethnic populations. Given the nuanced roles of culture and socio-demographics, developing and testing interventions that leverage those differences are needed. For example, studies with Latinxs that can disaggregate by country of origin are crucial. Latinxs are a heterogenous group, creating

a need to explore potential within-group differences. For instance, studies have found significant differences among Mexican Americans and other Latinx groups (e.g., Cubans) in overall happiness and financial well-being (Coverdill et al., 2011). Well-being as a framework also represents an opportunity for Latinx-related research to build on areas of strengths and resilience, which are less emphasized in the literature.

Future studies should include younger age groups, a growing segment of Latinx communities (Pew Research Center, 2016), and explore potential differences based on gender to illuminate within-population nuances that can be leveraged in health promotion and prevention efforts. Further, future studies using both careful sampling and multi-dimensional measures of well-being could help to disentangle whether differences can be attributed to cultural and population characteristics versus sample-specific features. Comparative well-being research can help to identify areas in need of cultural adaptation and those in which adaptations are not warranted. Finally, researchers using non-representative samples should allow for better replication and validation of findings by providing thorough descriptions of their sample, recruitment efforts, measures, and procedures.

9. Conclusions

Understanding how to enhance well-being across racial/ethnic groups is a key research frontier. The emergence of domain-specific differences—but not differences in overall well-being—underscores the need for multidimensional well-being measures that can better inform interventions and guide future research. Our findings offer a cautionary tale for comparative research and highlight the need for increased transparency to enhance replicability. Exploring the nature of well-being differences across racial/ethnic groups can enhance our ability to leverage such differences to optimize well-being and reduce health inequalities.

CRediT authorship contribution statement

Patricia Rodriguez Espinosa: Conceptualization, Data curation, Formal analysis, Investigation, Methodology, Resources, Software, Supervision, Validation, Visualization, Writing - original draft, Writing - review & editing. **Michele L. Patel:** Investigation, Visualization, Writing - original draft, Writing - review & editing. **Abby C. King:** Conceptualization, Data curation, Funding acquisition, Investigation, Resources, Supervision, Writing - original draft, Writing - review & editing. **Ines Campero:** Data curation, Investigation, Project administration, Supervision. **Mark Freeman:** Formal analysis, Validation, Visualization. **Dulce M. Garcia:** Data curation, Investigation, Project administration, Software. **Sandra J. Winter:** Data curation, Funding acquisition, Investigation, Project administration, Supervision, Writing - original draft, Writing - review & editing. **Catherine A. Heaney:** Conceptualization, Data curation, Formal analysis, Funding acquisition, Investigation, Methodology, Supervision, Validation, Visualization, Writing - original draft, Writing - review & editing.

Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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Appendix A. Supplementary data

Supplementary data to this article can be found online at https://doi.org/10.1016/j.pmedr.2021.101513.

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