

Social Cohesion, Ethnicity and Well-Being: Results from an Intervention Study in Kyrgyzstan

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When looking at important indicators of well-being, there is extensive evidence that levels of life satisfaction differ between ethnic groups, such that minority groups by and large tend to report lower levels of life satisfaction than majority ethnic groups. A growing body of literature has begun investigating the relationship between an individual's community and their own levels of life satisfaction. While community deprivation and community ethnic composition are important factors for understanding individual ethnic disparities in life satisfaction, there is a gap in understanding the role of community social cohesion, as well as the effect on change in life satisfaction over time. Using panel survey data from 5,207 adults living in 30 sub-districts of rural Kyrgyzstan, we conduct a multilevel analysis of whether social cohesion serves as a moderator for the relationship between ethnicity and change in life satisfaction. While results do not demonstrate a positive effect of community social cohesion on change in life satisfaction, they do indicate that higher levels of community social cohesion minimize the ethnic group disparities in change in life satisfaction. These findings imply that social cohesion may be one additional piece of the puzzle in understanding ethnic disparities in life satisfaction.

Keywords: ethnicity, ethnic disparities, Kyrgyzstan, life satisfaction, change in life satisfaction, social cohesion, well-being.

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Социальная сплоченность, этническая принадлежность и изменения благополучия: результаты интервенционного исследования в Кыргызстане

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Исследования психологического благополучия свидетельствуют о том, что этнические группы в сообществе различаются по уровню удовлетворенности жизнью таким образом, что группы этнических меньшинств, как правило, менее удовлетворены жизнью, чем группы этнического большинства. Растет количество научных работ, посвященных изучению взаимосвязи удовлетворенности жизнью на индивидуальном уровне и сообществом индивидуума. Хотя депривация и этнический состав сообщества являются важными факторами для понимания индивидуальных этнических различий в удовлетворенности жизнью, существует пробел относительно роли социальной сплоченности сообщества в их взаимосвязи, а также относительно ее влияния на изменение удовлетворенности жизнью с течением времени. На основании данных панельного опроса 5 207 взрослых, проживающих в 30 сельских районах Кыргызстана, был проведен многоуровневый анализ того, служит ли социальная сплоченность модератором взаимосвязи между этнической принадлежностью и изменением удовлетворенности жизнью. Хотя результаты не демонстрируют положительного влияния социальной сплоченности сообщества на изменение удовлетворенности жизнью, они показывают, что более высокий уровень социальной сплоченности сообщества сводит к минимуму различия этнических групп в изменении удовлетворенности жизнью. Таким образом, социальная сплоченность может быть одним из объясняющих элементов в комплексной картине этнических различий в удовлетворенности жизнью.

Ключевые слова: этническая принадлежность, этнические различия, Кыргызстан, удовлетворенность жизнью, изменения в удовлетворенности жизнью, социальная сплоченность, благополучие.

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Introduction

As an important dimension of well-being, life satisfaction attracts a large body of empirical work to examine its causes and correlates. E. Angner [1] defined life satisfaction as the cognitive component of subjective well-being in that it is made up of individual evaluations about overall quality of life. According to the R. Veenhoven's [36] sequence model of life evaluation, these evaluations are reactions to both big and small events in daily life, which in turn, are systematically related to people's social position (e.g., income, employment, marital status), their individual abilities (e.g., health, intelligence), and societal resources (e.g., economic welfare, social equality, political freedom). Life satisfaction is understood by many as an important indicator for measuring group inequalities and policy outcomes exactly because it reflects individuals' own judgments of their overall well-being [1; 8; 9; 13].

Ethnic disparities in life satisfaction

There is an increasing amount of research showing that those who belong to minority racial and ethnic groups tend to have lower life satisfaction as compared to majority groups [19; 32; 37], though this may not be the case for all ethnic groups [22] or for all age groups [33]. Often the differences that do exist in life satisfaction are partially explained by ethnic disparities in the individual-level factors associated with life satisfaction (e.g., employment, income, deprivation) [2]. However, even when these relevant aspects of individual disadvantage are controlled for, the ethnic disparities in life satisfaction appear to persist [19].

The role of community context

A small but growing body of research uses multi-level analytical models to examine the community-level determinants of life satisfaction in general, while also taking into account the nested structure of the data (i.e., individuals living within communities). These studies are partially informed by institutional theories that individual life satisfaction is impacted by the quality of services and amenities available to the individual at the community level [7], as well as social competition theories that posit that life satisfaction is impacted when individuals are competing for limited resources within the community [11]. Whereas some studies tend to find a negative association between individual life satisfaction and various measures of community deprivation and poverty [18; 21; 30; 34], not all community measures of deprivation (e.g., levels of unemployment or homeownership) seem to play a role [34].

Social cohesion also seems to have a positive relationship with individual life satisfaction. J. Delhey and G. Dragolov [6] investigated this at the national level in the EU, and concluded from their results that living in a cohesive setting increases positive life events, which influences individual life satisfaction above and beyond national affluence and income distribution. M.A. Shields

and colleagues [34] found similar results at the community level in Australia, such that community measures of increased social support and interaction go along with increased levels of individual life satisfaction. On the opposite end of the spectrum, C. Y. Hsu and colleagues [18] found a negative relationship in Hong Kong between life satisfaction and community levels of social fragmentation. Moreover, they noted that social fragmentation has different effects on individual life satisfaction according to individual welfare status.

With regards to ethnic disparities in life satisfaction in particular, community deprivation levels may be part of the explanation, both because it has been shown to be a determinant of well-being [20], and because ethnic minority groups tend to be overrepresented in these communities [38]. G. Knies and colleagues [22] provide evidence that community deprivation levels in the UK are negatively associated with the life satisfaction of minority ethnic groups, helping explain the disparity in life satisfaction between majority and minority ethnic groups.

Moreover, there is some reason to believe that the ethnic composition of communities may have a positive relationship with life satisfaction. The share of own ethnic group members in a community may be a source of support and solidarity [3] and may shield against discrimination [2]. Along these same lines, G. Knies and colleagues [22] found a positive association between neighborhood concentration of own ethnic group and individual life satisfaction for certain ethnic groups, even after accounting for community-level deprivation.

While evidence is growing about the roles of community deprivation and ethnic composition in explaining ethnic disparities in life satisfaction, to our knowledge, there still remains a gap in research about the role of social cohesion in this relationship. Given the evidence of its positive effect on life satisfaction, we propose that it could be part of the explanation in ethnic group differences in life satisfaction.

The case of Kyrgyzstan

Kyrgyzstan offers itself as a particularly interesting case to consider the role of social cohesion in ethnic disparities in life satisfaction. This landlocked and mountainous Central Asian country of 6.2 million people shares borders with China, Kazakhstan, Tajikistan, and Uzbekistan. Almost a quarter of the population lives below the poverty line, making it one of the poorest countries in Central Asia [27]. Formerly a Soviet Republic, Kyrgyzstan gained full independence in 1991. Its population is multi-ethnic, with the largest groups being Kyrgyz (73%), Uzbek (15%), and Russian (5%) [27]. Notably, these numbers represent a dramatic shift since independence, when the Kyrgyz represented 52% of the population, followed by Russians at 22%, and Uzbeks at 13%. Against a backdrop of political unrest, violent ethnic clashes between Kyrgyz and Uzbeks took place in 2010 in Osh city and the surrounding areas, home to large numbers of the Uzbek ethnic minority. Altogether, several hundred were killed, thousands injured, and hun-

dreds of thousands were displaced [24; 29]. While there is currently a certain level of stability in the country, including relatively peaceful transitions of presidential power in 2017 and 2020, ethnic reconciliation following the clashes has been slow [17; 26; 28].

With this in mind, the panel data collected under the “Social Cohesion through Community-Based Development Project” in 30 sub-districts (*Ayil Aimaks*)¹ in the Naryn and Osh regions (*oblasts*) of Kyrgyzstan between 2014 and 2017 may be especially relevant [15]. The Naryn region is predominantly rural, mountainous and sparsely populated, with a largely mono-ethnic population of Kyrgyz. Osh, on the other hand, is a densely populated and ethnically diverse region where the Uzbek ethnic minority make up approximately one-third of the population. Not only is it possible to investigate whether social cohesion can mitigate ethnic disparities in life satisfaction, but we can do so from a perspective of *change* in overall life satisfaction across time, which has been found to be an important indicator for key outcomes [16]. Focusing on a change in life satisfaction over time serves to extend the literature on ethnic disparities in life satisfaction.

To do so, we developed a series of hypotheses. Firstly, due to more negative life events, we hypothesize that individuals in the minority ethnic group (i.e., Uzbek, Russians, and others) will demonstrate less positive change in life satisfaction over time as compared to those in the majority ethnic group (i.e., Kyrgyz) (H1). Secondly, we hypothesize social cohesion of sub-districts will be positively related to changes in life satisfaction over time, even when controlling for individual and community determinants (H2). Finally, we hypothesize that community social cohesion will have a protective effect on ethnic disparities in changes in life satisfaction, such as that the gap between majority and minority ethnic groups will decrease (H3).

Method

The dataset

The panel study mentioned above collected data at three separate time points (baseline, midline, and endline) between 2014 and 2017. Thirty sub-districts were randomly chosen from a sampling frame of the Naryn and Osh regions as part of a community-driven development project. The sampling frame was created such that only the following types of sub-districts were included: those without previous participation in intervention activities of the implementing NGO, those with small to medium population size (between 1,000-30,000 residents), and those with at least 10% non-Kyrgyz ethnicity in the Osh sub-districts². Sub-districts deemed to be geographically inaccessible by project staff were generally excluded.

Cluster sampling was then applied within the sub-districts to allow for a random selection of approximately 2,000 households in total. Individuals within these households then took part in face-to-face interviews in either Kyrgyz, Uzbek, or Russian. The survey data used in this paper were collected from 5,269 adults over 18 years of age with interviews at both baseline and endline. After listwise deletion was applied to the individual-level variables, an individual-level sample size of $N_1 = 5,207$ cases was procured. The working sample sizes of sub-districts ($N_2 = 30$) ranged from 32 to 567 individuals.

Community-level predictor

We built an empirical measure of sub-district *social cohesion* at baseline using the comprehensive conceptualization of social cohesion developed by G. Dragolov and colleagues [12] containing nine dimensions: social networks, trust in people, acceptance of diversity, identification, trust in institutions, perception of fairness, solidarity and helpfulness, respect for social rules, and civic participation. Exploratory factor analysis was used to select indicators from the data for each of the nine dimensions. For an indicator to be selected, an absolute factor loading of 0.40 or greater had to be met, though a cut-off of 0.25 was allowed in rare cases. In the end, each dimension had a total of three to eight indicators which demonstrated sufficient quality as measured by Cronbach's alpha. A total of 42 indicators were selected, and examples for each of the nine dimensions can be found in tab. 1.

In order to bring the selected indicators to a common scale ranging from 0 to 10, scale standardization was carried out on the response scales of the selected indicators. Dimension scores were calculated as an average of the selected indicators for that dimension. An overall social cohesion score (on a scale from 0 to 10) was calculated for each of the 30 sub-districts as an average of the respective nine dimension scores. Higher scores indicated greater levels of community social cohesion.

Community-level covariates

We controlled for three community-level variables that have been shown to play a role in ethnic disparities in life satisfaction. Two variables were used as controls for community deprivation in the sub-districts. The first has to do with an estimate of the proportion of households in the community *without access to clean water*, which was then aggregated to the sub-district level. The second variable is the percentage of the sub-districts reporting *frequent disruption to the power supply*. This was measured at the household level, where those who indicated experiencing disruption to their power supply at least “once a week” or more often were coded as experiencing it frequently and those who experienced disruption less often were not. This was then aggregated to the

¹ The *Ayil Aimak* is the smallest administrative level in the rural areas of Kyrgyzstan, and usually consists of several villages.

² It should be noted that the ethnic clashes of 2010 took place primarily in Osh city and the surrounding suburbs, as well as other nearby cities. As such, the sampling frame criteria precluded these areas from being included in the study.

Table 1

Example indicators used for measuring the nine dimensions of cohesion

Dimension of cohesion	Example indicator
Social networks	How likely is it that you will easily ask for help from your neighbours, friends or co-workers?
Trust in people	In general, you can trust people
Acceptance of diversity	I have meaningful interactions with people from different backgrounds
Identification	I see myself as a citizen of Kyrgyzstan
Trust in institutions	How much do you generally trust the <i>Rayon</i> administration and services?
Perception of fairness	I think the <i>Ayil Kanesh</i> and <i>Ayil Okmotu</i> treat all types of people fairly
Solidarity and helpfulness	Did you give any non-financial help (e.g., homework or baby care, repairing house, preparing celebrations) during the last 12 months?
Respect for social rules	I feel safe when walking alone in the neighborhood during the night
Civic participation	In general, how interested in politics are you?

Note: *Rayon* = district; *Ayil Kanesh* = village parliament; *Ayil Okmotu* = village executive body. The reader is referred to Tables A1-A9 of Larsen and Boehnke [25, pp. 46–48] for the entire list of 42 indicators.

sub-district level. In order to control for the role that the ethnic composition of communities has on life satisfaction of individuals, an indicator of sub-district *minority ethnic composition* was included in the model. This was based on the percentage of various minority ethnic groups (Uzbek, Tajik, Russian, others) at the community level. These were combined into one category, and then aggregated to the sub-district level.

Individual-level variables

A baseline dichotomous measure of *ethnic group* was used as the independent variable of interest, with those individuals indicating that they belonged to the majority Kyrgyz ethnic group serving as the reference group in comparison to the overall minority (Uzbek, Russian, Tajik, and others). It was decided to combine the minority groups together due to the small numbers of minority groups other than Uzbeks.

The dependent variable of interest was a measure of *change in overall life satisfaction* from baseline to endline. Overall life satisfaction was measured at each time point using a single item asking “How satisfied are you with your life, all things considered?” on a scale from 0 (Completely dissatisfied) to 10 (Completely satisfied). This single item measurement has been demonstrated to perform remarkably similar to the well-known five-item Satisfaction with Life Scale [4; 10]. The individual change score was then calculated by subtracting each individual’s baseline life satisfaction from their endline life satisfaction score. A positive change score indicates an improvement in life satisfaction from baseline to endline, while a negative change score indicates a decline in life satisfaction.

Individual-level covariates

Baseline personal characteristics known to both differ across ethnic groups and be associated with change in life satisfaction were controlled for in the model. These included *gender* (dichotomous) with males as the reference group, as well as *age* and its quadratic effect (continuous). Likewise, a dichotomous measure of *marital status* was included, with cohabiting, separated, widowed, divorced, and single respondents forming the reference group in comparison to those who are mar-

ried. Education was measured using number of *years of education* in total. Respondents were categorized as being *employed* rather than non-employed if the respondent indicated having worked for someone else, farming, fishing, hunting or gathering, or doing any sort of work to which they would return in the past week. *Monthly household income* equalized according to household size was also included.

In order to disentangle the contextual relationships of social cohesion with change in life satisfaction from the individual compositional differences in cohesion-related indicators, we controlled for an *individual social cohesion indicator* score at baseline, as suggested by W. Poortinga [31]. This score consisted of the 42 scale-standardized indicators described above. An average of these indicators (on a scale from 0 to 10) was calculated for each individual and then included in the model as a covariate.

Finally, given that our primary research question of interest is a cross-level interaction between an individual- and community-level variable, we follow the advice of I.G.G. Kreft, J. de Leeuw, and L.S. Aiken [23] and C.K. Enders and D. Tofighi [14] in centering the continuous individual-level covariates on their sub-district means for the analyses.

Descriptive information for all included variables is provided in tab. 2.

Analyses

A series of three multilevel linear regression models was fit for the change in life satisfaction score using the *mixed* command of Stata 17 [35]. Multilevel regressions account for the nested structure of the data: individuals nested within sub-districts. In the first model, all individual-level variables were entered which were expected to be related to change in life satisfaction, with a specific interest in ethnic group to see if disparities were found with regards to change in life satisfaction over time. This also included the individual social cohesion indicator score in order to account for its individual compositional differences. The second model then added all community-level variables in order to test whether social cohesion is

Table 2

Descriptive information on variables used

	Mean	Standard Deviation	Minimum	Maximum
<i>Level: Sub-District (N_j = 30)</i>				
Social cohesion	6.54	0.40	5.55	7.22
% minority ethnic group	25.63	18.19	0	57.80
% without access to clean water	29.61	27.18	0	100
% frequent power disruptions	30.37	21.81	0	90.74
<i>Level: Individual (N_i = 5,207)</i>				
Change in life satisfaction	0.07	2.10	-8.00	8.00
Minority ethnic group	0.28	0.45	0	1
Age in years	41.84	15.77	18	92
Years of education	10.87	2.07	0	20
Employed	0.50	0.50	0	1
Married	0.79	0.41	0	1
Female	0.52	0.50	0	1
Monthly household income per household member in thousands (Soms)	3.65	2.19	0.17	21.4
Social cohesion indicator score	6.54	0.90	1.49	9.67

Note: Som is the currency of Kyrgyzstan. In 2014, approximately 58 Soms were equal to 1 U.S. Dollar.

related to change in life satisfaction of individuals, while controlling for individual- and community-level determinants. Finally, a cross-level interaction between ethnicity and community social cohesion was added to the model in order to determine whether it moderates the effect of ethnic group on change in life satisfaction. To help with the interpretation of the interaction, adjusted predictions were calculated to determine the probability of certain life satisfaction change scores for different scores of social cohesion and ethnic groups, while holding all other variables in the model at their mean.

Results

The “empty” model is an intercepts-only model, which provides information about the percentage of total variation in change in life satisfaction that is related to the community context. This is also known as the intra-class correlation *r*. The assumption that the sub-districts are similar with regards to the dependent variable decreases as the intra-class correlation increases. We found moderately sized context effects for change in life satisfaction (*r* = .26). That is, 26% of the variation in change in life satisfaction stems from differences at the sub-district level, which supports our continued examination of community-level determinants.

In the next step (Model 1) (see tab. 3 for complete results), we added all individual-level variables to the model. As expected, even when other determinants are taken into account, ethnic group is significantly related to change in life satisfaction. Specifically, those who belong to the ethnic minority demonstrate a half-point decrease in life satisfaction (*p* < .001). The composition of the population explains 8% of the sub-district differences in change in life satisfaction. These results confirm Hypothesis 1 that ethnic disparities exist for change in life satisfaction.

In the next step (Model 2), we added all community-level variables to the model. Contrary to expectations, community social cohesion is *not* significantly related to individual change in life satisfaction. This addition to the model did not improve the prediction of change in life satisfaction, though including the macro-level variables allows us to explain 25% of the sub-district differences in change in life satisfaction. Overall, these results do not confirm Hypothesis 2.

For the final step (Model 3), we added a cross-level interaction between individual ethnic group status and community social cohesion in order to determine whether social cohesion moderates the relationship between ethnic group and changes in life satisfaction. The results indicate a slight statistically significant interaction ($\beta = 0.34$; *p* < .05), and model fit improved significantly ($\chi^2(1) = 3.93$; *p* < .05). This significant interaction is perhaps easiest to understand by examining adjusted predicted probabilities (see fig. 1). When holding all other variables at their means, it is predicted that those living in sub-districts with the lowest level of social cohesion at baseline and who belong to the majority ethnic group demonstrate improvement in life satisfaction over time (0.57 points), while those who belong to a minority ethnic group demonstrate slight decreases (-0.27 points). However, for those living in sub-districts with the highest levels of social cohesion at baseline, there is very little difference in change in life satisfaction between majority (0.01 points) and minority (-0.16 points) ethnic groups. This would seem to indicate that greater social cohesion offers something of a protective effect in ethnic disparities in change in life satisfaction. Moreover, it appears that there is very little difference in change in life satisfaction for minority groups, regardless of social cohesion. However, for majority groups, higher levels of social cohesion are related to less improvement over time.

These results generally confirm Hypothesis 3.

Table 3

Multilevel linear regression of change in life satisfaction

	Model 1 b(se)	Model 2 b(se)	Model 3 b(se)
Intercept	0.55 (0.21)*	2.07 (3.11)	-2.52 (3.13)
<i>Level: Sub-District (N_s = 30)</i>			
Social cohesion		-0.21 (0.46)	-0.28 (0.47)
% minority ethnic group		-0.03 (0.01)*	-0.03 (0.01)*
% without clean water		0.02 (0.59)	0.06 (0.59)
% experience frequent power disruptions		1.57 (0.99)	1.67 (1.00)
<i>Level: Individual (N_i = 5.207)</i>			
Minority ethnic group	-0.50 (0.07)***	-0.49 (0.07)***	-2.69 (1.11)*
Age in years	0.01 (0.01)	0.01 (0.01)	0.01 (0.01)
Age in years squared	-0.00 (0.00)	-0.00 (0.00)	-0.00 (0.00)
Years of education	0.01 (0.01)	0.01 (0.01)	0.01 (0.01)
Employed	-0.18 (0.06)**	-0.17 (0.06)**	-0.17 (0.06)**
Married	-0.09 (0.07)	-0.09 (0.07)	-0.10 (0.07)
Female	-0.14 (0.06)*	-0.13 (0.06)*	-0.13 (0.06)*
Monthly household income per person in thousands (Soms)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)
Social cohesion indicator score	-0.19 (0.03)***	-0.19 (0.03)***	-0.18 (0.03)***
<i>Cross-level interaction</i>			
Minority ethnic group*Social cohesion			0.34 (0.17)*
<i>Variance components</i>			
Sub-district variance	1.14	0.93	0.94
Individual variance	3.48	3.48	3.48
<i>Explained variance</i>			
Sub-district R ²	0.08	0.25	0.24
Individual R ²	0.02	0.02	0.02
<i>Model comparison</i>			
Akaike information criterion	21.413.08	21.415.06	21.413.13
Bayesian information criterion	21.491.77	21.519.98	21.542.61
Likelihood-ratio test	92.08**	6.02	3.93*

Note: Random intercept model, * p < .05, ** p < .01, *** p < .001; all regression coefficients are unstandardized, Standard errors in parentheses.

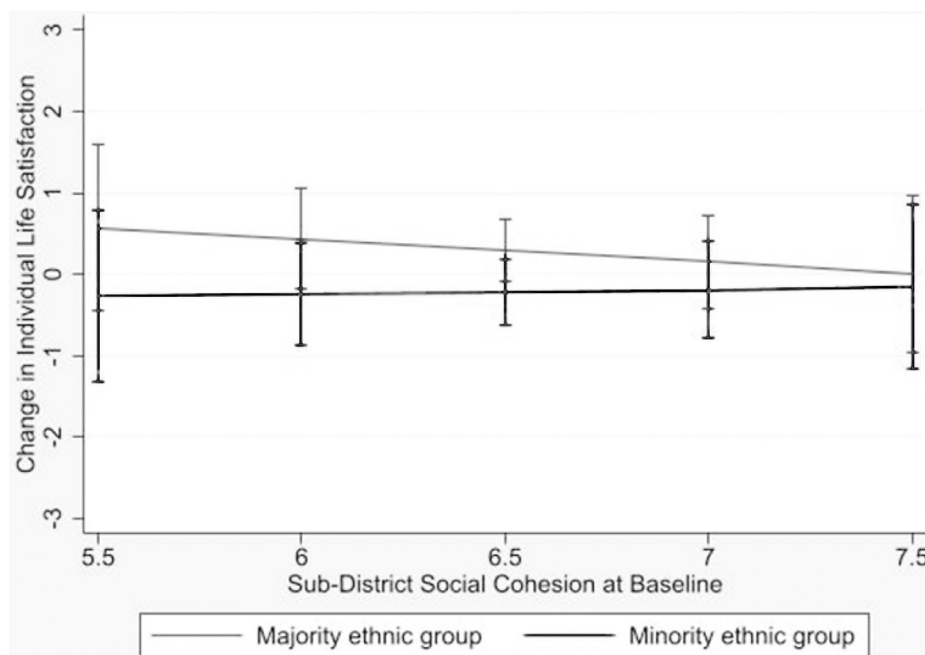


Fig. 1. Adjusted predictions of change in life satisfaction (95% CI) according to sub-district social cohesion scores at baseline

Discussion

Our study examined whether community social cohesion could have a protective effect on ethnic disparities in changes in life satisfaction in rural communities in Kyrgyzstan. Using multilevel analyses, we found evidence of a decrease over time in life satisfaction for minority ethnic groups, as compared to the majority, even while taking into account other individual factors related to life satisfaction. This falls in line with expectations based on research showing ethnic disparities in levels of life satisfaction [19; 32; 37] and with expectations that minority ethnic groups are exposed to more negative life events. While we did not find contextual effects of social cohesion on its own, we did find evidence that it serves as a moderator in the relationship between ethnic group and changes in life satisfaction. In other words, higher levels of community social cohesion appear to minimize the ethnic group disparities in change in life satisfaction. In this sense, our research contributes a new piece to the puzzle of how to alleviate differences in change in life satisfaction among ethnic groups.

However, it is not clear why social cohesion did not directly impact change in life satisfaction as expected based on previous literature. In accordance with the findings of J. Delhey and G. Dragolov [6], who used a similar measure of social cohesion as in our study, we would have expected that those living in communities with higher social cohesion would have experienced more positive life events (other things being equal), which would result in positive changes in life satisfaction. However, research has shown that while people react strongly to life events, the impact on life satisfaction is modest because to some degree, people tend to adapt to events over time and return to their baseline levels of life satisfaction [5; 9]. This could be a potential explanation for our insignificant results in this regard.

While the panel data used for this analysis offered a unique opportunity to examine both individual and community determinants, as well as the change in life satisfaction from baseline to endline, it does not purport to be a nationally representative dataset. While the underlying population characteristics at the Naryn and Osh regional levels do seem to match the sample characteristics, the sample is indeed quite specific with regards to excluding semi-urban and urban areas, as well as very remote rural communities [15]. In this regard, caution should be exercised when making generalizations to the wider population.

It should also be noted that the possibility exists that respondents living in the same sub-district may make an implicit comparison of themselves to their immediate community, resulting in a reference-group bias in their self-reporting of life satisfaction [34]. This would essentially mean that a community's social cohesion serves as the reference point in biasing the measurement of life satisfaction. This may play a role in change in life satisfaction as well.

Taken together, our findings support initial evidence that social cohesion moderates the relationship between ethnicity and change in life satisfaction. In Kyrgyzstan, a significant interaction seems to imply that greater social cohesion may provide a protective effect. Whereas it does not appear to influence positive changes in the life satisfaction of minority groups as we had expected, it does seem to decrease interethnic inequalities in life satisfaction changes by reducing the advantage of the majority ethnic group. These results contribute an additional piece of the puzzle to understanding ethnic disparities in changes in life satisfaction.

Conclusion

With our research, we expand the body of literature on ethnic disparities in levels of life satisfaction by examining changes in life satisfaction over time using panel data, as well as including community social cohesion as a potential moderator. Our results show that in rural communities in Kyrgyzstan, being part of the minority Uzbek, Russian, and other ethnic groups is associated with a negative relationship to change in life satisfaction from baseline to endline. Moreover, while community social cohesion does not directly impact change in life satisfaction, higher social cohesion does serve as a moderator by closing the gap between Kyrgyz and minority ethnic groups. Our research also contributes to the limited non-Western literature on this topic [18; 30].

Even so, there remain important questions still to be addressed. Future research should incorporate the individual experience of shocks or positive events experienced over time in order to examine whether this may play a role in the lack of a direct relationship between social cohesion and change in life satisfaction. Furthermore, including larger samples of ethnic groups in order to differentiate between the different minority groups in examining these relationships [22] should also be undertaken.

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