The Role of Individual, Community and Societal Gender Inequality in Forming Women's Attitudes toward Intimate-Partner Violence against Women: A Multilevel Analysis

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Abstract

Background: Establishing risk factors for intimate partner violence against women (IPVAW) is crucial for addressing women's health and development. Acceptance of IPVAW has been suggested as one of the strongest predictors of IPVAWs. The aim of this study was to examine the independent contributions of individual, community, and societal measures of gender inequality in forming women's attitudes toward IPVAW.

Methods: We applied multivariable multilevel logistic regression analysis to Demographic and Health Survey data for 120,467 women nested within 7,463 communities from 17 countries in sub-Saharan Africa.

Results: We found that women whose husband had higher education (odds ratio [OR] = 1.06; 95% confidence interval [CI] 1.02 to 1.10) and women whose husband had more than one wife (OR = 1.14; 95% CI 1.09 to 1.19) were more likely to accept IPVAW than other women. Unemployed women with an unemployed partner were more likely to justify IPVAW than employed women with working

partners (OR = 1.32; 95% CI 1.08 to 1.61). Both community and societal measures of gender inequality were associated with women's attitudes toward IPVAW, even after controlling for gender inequality at the individual level. There was evidence of clustering of women's attitudes within communities and within countries.

Conclusion: We provide evidence that community and societal forms of gender inequality influence women's attitudes toward IPVAW beyond individual factors. Choices women make are important, but community and society also impose restraints on women's attitudes toward IPVAW. Thus, policies and programs aimed at reducing or eliminating IPVAW must address people, the communities and societies in which they live in order to be successful.

Introduction

Intimate-partner violence against women (IPVAW) appears to have occurred from the beginning of societies (Sarkar 2008). A recent study by the World Health Organization confirmed that IPVAW is widespread and a serious form of human rights abuse as well as a public health issue (Ellsberg et al. 2008; Garcia-Moreno et al. 2006). Violence places a serious health burden on women and their children, and its role is amplified through its connection to the rising tide of HIV (Dunkle et al. 2004, 2006; Garcia-Moreno and Watts 2000). Establishing risk factors for IPVAW is crucial for addressing women's health and development. A consensus is emerging that a combination of personal, economic, social and cultural factors may be associated with IPVAW (Naved and Persson 2005). Despite this consensus, most studies of IPVAW explore individual-level factors, whereas community or societal factors remain generally unexplored (Naved and Persson 2005). Acceptance of IPVAW is a factor that has been suggested as one of the strongest predictors of IPVAW (Faramarzi et al. 2005). A troubling aspect of IPVAW is its benign social and cultural acceptance in several parts of the world as a means of physically chastising women – the husband's right to "correct" an erring wife (Counts et al. 1992; Visaria 2000). Available research suggests that women's susceptibility to IPVAW is greatest in societies where the use of violence in many situations is a socially accepted norm (Jewkes 2002). A large proportion of women in these societies considered "arguing with husband" and "refusing sex" as valid reasons for wife beating (Rani and Bonu 2009). Women's own condemnation of this behaviour may, therefore, be an important element in changing it (Schuler and Islam 2008). If women do not confront men because of the threat of domestic violence, the widespread acceptance of IPVAW may also become a major hurdle to the success of other initiatives. These include reproductive health programs (i.e., family planning), care seeking for sexually transmitted diseases or voluntary testing and counselling for HIV, and condom use for prevention of HIV/AIDS.

Drawing largely on feminist theory (Lenton 1995a, 1995b) and imbalance theory of resources and power (Choi and Ting 2008; Cubbins and Vannoy 2005; Goode 1971), we developed a working conceptual framework to help choose variables for exploring the role of proximate and distal gender inequalities in forming women's attitudes toward IPVAW. Variables included here relate to the larger society, immediate social context, immediate family context, spousal relation factors and individual factors concerning both partners. Our approach to understanding the origins of women's attitudes toward IPVAW focused on the dynamics of men's and women's behaviours and the resources that each partner brings to the conjugal union. We identified five general domains that reflect underlying power disparities or restrictions on women's options within unions: (1) age, (2) education, (3) occupation, (4) decision-making autonomy, and (5) household stressors. Within these five domains, gender inequality in marriages or societies may create the terms for the kind of "sexual contract" that places women at a disadvantage (Dunkle et al. 2004; McCloskey et al. 2005), setting the stage for acceptance of IPVAW. Effective programming for gender inequality and IPVAW requires a comprehensive approach that incorporates strategic linkages to facilitate and reinforce the goals of the UN Millennium Project's Task Force on Gender Equality (UN Millennium Project 2005, United Nations Population Fund 2007). Seven strategic priorities have been advocated to achieve Millennium Development Goal 3, "Promote gender equality and empower women." These

include reducing gender inequality and disadvantage in terms of education; sexual and reproductive health and rights; time burden; property and inheritance rights; employment and wages; political participation in parliament and local governments; and violence against women (UN Millennium Project 2005; United Nations Population Fund 2007).

To our knowledge, no multilevel study to date has examined the independent contributions of individual, community and societal gender inequality in forming attitudes toward IPVAW among women in sub-Saharan Africa. Thus, the aim of this study is to fill this research gap. Without objective information about the important factors forming women's attitudes towards IPVAW, it is difficult to plan substantial public health programs that could prevent the occurrence of IPVAW.

Subjects and Methods

Data

This study used data from 17 Demographic and Health Surveys (DHS) conducted between 2003 and 2007 in sub-Saharan Africa. Methods and data collection procedures have been published elsewhere (Measure DHS 2008). The survey's questionnaires were similar across countries, yielding inter-country comparable data. Only countries with available data on attitudes toward IPVAW were included in the study; they were Benin, Burkina Faso, Ethiopia, Ghana, Kenya, Lesotho, Liberia, Madagascar, Malawi, Mozambique, Namibia, Nigeria, Rwanda, Swaziland, Tanzania, Uganda and Zimbabwe. For the purpose of our study, we pooled data from these 17 countries into one data set. Country-level data (gender-related development index) were collected from the reports published by the United Nations Development Program (UNDP 2008).

Outcome Variable

The analysis presented in this study was restricted to ever-married women. The category "ever married" includes women currently married, formally married women and unmarried women who are living with a man as if married. To assess the degree of acceptance of wife beating, respondents were asked the following question: "Sometimes a husband is annoyed or angered by things which his wife does. In your opinion, is a husband justified in hitting or beating his wife in the following situations?" The five scenarios presented to respondents for their opinions were (1) "If the wife burns the food," (2) "If the wife argues with the husband," (3) "If the wife goes out without informing the husband," (4) "If the wife neglects the children," and (5) "If the wife refuses to have sexual relations with the husband." A binary outcome variable was created for acceptance of wife beating, coded as zero (0) if the respondent did not agree with any of the situations when the husband is justified in beating the wife or did not have any opinion on the issue, and coded as one (1) if the respondent agreed with at least one situation where the husband is justified in beating the wife.

Explanatory Variables

To explain the role of proximal and distal gender inequalities in forming women's attitudes toward IPVAW, we adopted an ecological framework in which the propensity to justify IPVAW is a function of individual-, community-, and societal-level variables. Seven variables characterizing individual-level measures of gender inequality were included. They were (1) spouses' relative education, (2) spousal age gap, (3) employment discrepancy, (4) polygamy, (5) parity, (6) early marriage, and (7) decision-making power. Birth cohort was included as a partial control for a period trend to control for effects of unknown factors that may have been introduced due to different timing of surveys across countries. In terms of community-level measures of gender inequality, we considered (1) community median age of marriage, (2) average household size, (3) average spousal age gap, and (4) ratio of educated and employed men to women in the community. Place of residence was also included as a control variable at the community level. The Gender-related Development Index (GDI), which reflects gender disparities in basic human capabilities, was used as a measure of societal-level gender inequality. The full definition for each explanatory variable is given in Table 1.

Table 1. Variables and definitions

Variable	Definition
Individual-level factors	
Birth cohort	Self-reported year of birth was categorized into (1) 1936 to 1945, (2) 1946 to 1955, (3) 1956 to 1966, or (4) 1966 to 1975
Spouses' relative education	Categorized into (1) wife has same, (2) wife has less, (3) wife has more, or (4) both uneducated
Spousal age gap	Calculated from respondent report of her own and husband's age
Employment discrepancy	Categorized into (1) both working, (2) only man working, (3) only woman working, and (4) both unemployed
Polygyny	Husband has other wives (yes or no)
Parity	Self-reported number of children ever born.
Early marriage	Married before the age of 18 (yes or no)
Decision-making power	Women's decision autonomy was assessed by inquiring about who bore the responsibility of making decisions on household purchases including small and large ones, visiting relatives and friends, spending the wife's earnings, and the number of children to have. For these variables, response options were "husband," "wife" or "both husband and wife." We created an additive scale (from 0 to 5) that counted the number of domains in which each (husband/partner alone, wife alone and couple) had the final word.
Community-level factors	
Place of residence	Cluster classification: urban or rural areas
Median age of marriage	Median age of marriage in community
Average household size	Mean number of household members in community
Average spousal age gap	Mean difference in reported age between husband and wife in community
Ratio of educated men to women in the community	Ratio of percentage of men with at least primary education to percentage of women with at least primary education in community
Ratio of employed men to women in the community	Ratio of percentage of men currently employed to percentage of women currently employed in community
Societal-level factors	
Gender-related development index	Measures gender disparities in the areas of life expectancy at birth; education, by adult literacy rate combined with the primary, secondary, and tertiary gross enrolment ratio; and estimated earned income (purchasing power, parity of US dollars). These areas of measurement refer to the "gendered gap" that exists between men and women in their access to economic and social resources and services due to women's disadvantaged position in society

Statistical Analyses

We used multilevel multivariable logistic regression to analyze the association between attitudes toward IPVAW and proximal and distal measures of gender inequality. We specified a 3-level model for binary response reporting acceptance of IPVAW or not, for individuals (Level 1), living in a community (Level 2), from a country (Level 3). We fitted a model that included individual, community and societal gender inequality measures (the "full model"). Prior to examining the full model, an unconditional model (i.e., an "empty model") was specified to decompose the amount of variance between community and country levels. Measures of random effects included intracluster correlation (ICC).

The ICC was calculated by the linear threshold according to the formula used by Snijders and Bosker (1999). We checked for multi-collinearity among exposure variables examining the variance

inflation factor (VIF) (Tu et al. 2004, 2005). Regression estimates were calculated by means of the reweighted iterative generalized least square algorithm using MLwiN 2.10 (Rashbash et al. 2004). In the multilevel logistic regression models, second-order penalized quasi-likelihood (PQL) estimation was used (Goldstein 2003). The statistical significance of covariates was calculated using the Wald test (Rashbash et al. 2008). All significance tests were two-tailed, and statistical significance was defined at the 5% alpha level.

Results

Sample Characteristics

The countries, year of data collection, final sample and number of communities sampled per country are listed in Table 2. The median number of communities sampled was 405, ranging from 274 in Swaziland to 750 in Benin. The percentage of women with acceptance of IPVAW in at least one situation varied across countries, from 20% in Swaziland to almost 80% in Ethiopia. Table 3 presents descriptive statistics for the final pooled sample. For this analysis, information on 120,467 women (Level 1) nested within 7,463 communities (Level 2) from 17 countries (Level 3) in sub-Saharan Africa was pooled into one data set. The overall percentage of women with a positive attitude toward IPVAW was 55%. Only 10% of the women had more education than their partners. The median spousal age gap was 6 years (interquartile range 7). About 40% of women's husbands had another wife. Half of the women had married before the age of 18 years.

Table 2. Description of Demographic and Health Surveys data 2003–2007 in sub-Saharan Africa among women by country, survey year, sample size, response rates and attitudes toward intimate-partner violence against women (IPVAW)

Country	Survey year	Number of women	Number of communities	Justified IPVAW (%)
Benin	2006	14,338	750	51.6
Burkina Faso	2003	10,042	400	74.6
Ethiopia	2005	10,240	535	79.7
Ghana	2003	4,182	412	54.0
Kenya	2003	5,729	399	70.6
Lesotho	2004	4,737	405	49.6
Liberia	2007	5,186	298	60.3
Madagascar	2004	6,036	300	28.5
Malawi	2004	9,801	521	29.2
Mozambique	2003	10,157	604	54.5
Namibia	2007	4,259	500	38.4
Nigeria	2003	5,533	362	66.4
Rwanda	2005	6,993	462	47.0
Swaziland	2006	2,501	274	20.0
Tanzania	2004	7,805	475	57.6
Uganda	2006	6,473	368	72.0
Zimbabwe	2006	6,455	398	49.7

Table 3. Summary of sample characteristics

Variable	Number (%)
Acceptance of IPVAW	
No	54,065 (44.9)
Yes	66,402 (55.1)
Level 1: Individuals	120,467 (100)
Birth cohorts	25,132 (20.9)
1936–1945	24,772 (20.5)
1946–1955	26,982 (22.4)
1956–1965	23,682 (19.7)
1966–1975	19,899 (16.5)
Spouses' relative education	
Wife has same	40,420 (33.6)
Wife has less	32,200 (26.7)
Wife has more	13,063 (10.8)
Both uneducated	30,726 (25.5)
Spousal age gap (years), median (IQR)	6.0 (7)
Employment discrepancy	
Both working	89,038 (73.9)
Only man working	27,966 (23.2)
Only woman working	558 (0.5)
Both not working	717 (0.6)
Polygyny	
No	73,183 (60.8)
Yes	47,284 (39.2)
Decision-making indices	
Respondent alone (0–5)	
0	40,080 (33.3)
1	31,360 (26)
2	21,074 (17.5)
3	10,984 (9.1)
4	5,793 (4.8)
5	11,176 (9.3)

Table 3. Continued.

Variable	Number (%)
Husband/partner alone (0–5)	
0	63,769 (52.9)
1	18,345 (15.2)
2	12,704 (10.6)
3	9,677 (8)
4	4,989 (4.1)
5	
Husband–wife (0–5)	
0	55,920 (46.4)
1	14,757 (12.2)
2	13.647 (11.3)
3	13,733 (11.4)
4	13,413 (11.1)
5	8,997 (7.5)
Number of children, median (IQR)	3.0 (3)
Early marriage	
No	60,927 (50.6)
Yes	59,540 (49.4)
Level 2: Communities	**Median (IQR)**
Place of residence , number (%)	
Urban	35,739 (29.7)
Rural	84,728 (70.3)
Median age of marriage	17.5 (2.5)
Average household size	5.8 (1.9)
Average spousal age gap	7.2 (3.7)
Ratio of educated men to women	1.1 (0.5)
Ratio of employed men to women	1.3 (1.1)
Level 3: Countries	**Number (%)**
GDI	
Low	61,571 (51.1)
Medium	31,995 (26.6)
High	21,715 (18.0)

GDI = Gender Development Index; IQR = interquartile range.

Measures of Variations (Random Effects)

The results of the unconditional model showed that approximately 20% and 14% of the variance in the log odds of justifying IPVAW could be attributed to the community (τ= 0.695; p = .004) and country levels (τ= 0.989; p < .0001), respectively. Variations across communities and countries remained statistically significant, even after controlling for individual-, community-, and country-level factors (Table 4), thereby lending support for the use of multilevel modelling to account for community and country variations.

Table 4. Individual-, community- and country-level gender inequality associated with attitudes toward intimate-partner violence against women (IPVAW) identified by multivariable multilevel logistic regression, sub-Saharan Africa

Variable	Empty Model[a]	Full model[b]
		OR (95% CI)
Level 1: Individuals		
Birth cohorts		0.66 (0.62, 0.72)***
1936–1945		0.69 (0.64, 0.73)***
1946–1955		0.76 (0.71, 0.80)***
1956–1965		0.84 (0.80, 0.89)***
1966–1975		1 (reference)
Spouses' relative education		
Wife has same		1 (reference)
Husband has more		1.06 (1.02, 1.10)**
Wife has more		1.00 (0.95, 1.05)
Both uneducated		1.24 (1.17, 1.31)***
Spousal age gap (years)		1.00 (0.94, 1.11)
Employment discrepancy		
Both working		1 (reference)
Only man working		1.02 (0.98, 1.07)
Only woman working		0.97 (0.77, 1.21)
Both not working		1.32 (1.08, 1.61)**
Polygyny		1.14 (1.09, 1.19)***
Decision-making indices		
Women alone (0–5)		0.97 (0.95, 0.99)*
Husband–wife (0–5)		0.93 (0.91, 0.96)***
Husband/partner alone (0–5)		1.04 (1.02, 1.06)**
Number of children		1.03 (1.02, 1.04)***
Early marriage		1.12 (1.08, 1.16)***

Table 4. Continued.

Variable	Empty Model[a]	Full model[b]
		OR (95% CI)
Level 2: Communities		
Rural (versus urban)		1.56 (1.47, 1.66)***
Median age of marriage		0.89 (0.88, 0.91)***
Average household size		1.08 (1.06, 1.10)***
Average spousal age gap		1.01 (1.00, 1.02)
Ratio of educated men to women		0.98 (0.96, 1.00)
Ratio of employed men to women		1.00 (1.00, 1.01)
Level 3: Countries		
GDI		
Low		1.62 (0.81, 3.23)
Medium		2.39 (1.16, 4.93)*
High		1 (reference)
Measures of variation		
Country level		
Variance (standard error)	0.695 (0.239)	0.337 (0.120)
Intra-class correlation (%)	14.0	7.9
Community level		
Variance (standard error)	0.989 (0.022)	0.665 (0.019)
Intra-class correlation (%)	19.9	15.5

GDI = Gender Development Index; OR = Odds Ratio; CI = Confidence Interval
*$p < .05$. **$p < .01$. ***$p < .001$.
[a]Empty model – null model; baseline model without any exposure variable.
[b]Full model – adjusted for individual, community and societal-level measures of gender inequality.

Measures of Associations (Fixed Effects)

The results of fitting the model including individual-, community-, and country-level gender inequality appear in Table 4 (full model). Birth cohorts had a statistically significant association with odds of justifying IPVAW. Older women were less likely to justify IPVAW than younger women (odds ratio [OR] = 0.66; 95% confidence interval [CI] 0.62 to 0.72). Women whose husband had higher education were more likely to justify IPVAW than women with the same level of education as their partner (OR = 1.06; 95% CI 1.02 to 1.10). Similarly, uneducated women with uneducated partners were more likely to justify IPVAW than women with some education and the same level of education as their partner (OR = 1.24; 95% CI 1.17 to 1.31). There was no association between spousal age gap and odds of justifying IPVAW. Compared to working women with working partners, unemployed women with unemployed partners were more likely to justify IPVAW (OR = 1.32; 95% CI 1.08 to 1.61). Women in polygamous families were 14% more likely to justify IPVAW

than women in monogamous families. Women who reported having the final say in most household decisions were 3% less likely to justify IPVAW.

Similarly, women reporting joint decision making with their partners were significantly less likely to justify IPVAW than women reporting individual decision making (OR = 0.93; 95% CI 0.91 to 0.96). Women were 4% more likely to justify IPVAW if their partner alone had the final say in more household decisions than they did. An increase in the number of children ever born increased the odds of justifying IPVAW by 3%. Women who married early (younger that 18 years of age) were 12% more likely to justify IPVAW than those who did not marry early.

Three significant community-level associations were identified. Women from rural areas were 56% more likely to justify IPVAW than their urban counterparts. Justification of IPVAW decreased as the median age of marriage increased above the community median age of marriage. An increase in the number of people living in a household above the community average household size was associated with an 8% increase in women justifying IPVAW. After controlling for the associations of individual- and community-level gender inequality, country-level gender inequality was statistically significantly associated with odds of justifying IPVAW. Women from countries with high GDI were 139% more likely to justify IPVAW (OR = 2.39; 95% CI 1.16 to 4.93) than those from countries with low GDI.

Discussion

This study is the first we are aware of that examines how proximate and distal gender inequalities are associated with women's attitudes toward IPVAW. We found that community and societal measures of gender inequalities were associated with women's acceptance of IPVAW independently of individual-level inequality. Our findings provide support for the growing body of research suggesting that contextual factors are important in explaining people's perceptions. The study adds to the literature by demonstrating that community and societal forms of gender inequality factors influence women's attitudes toward IPVAW beyond individual factors. We found that choices women make are important, but the community and society factors may also imposed willpower and restraints on women's attitudes to IPVAW. A few people believe that women's attitudes are of their own choosing; however, we found that women's attitudes may be depended on people around them and circumstances they found themselves in.

Our novel finding of geographical clustering in women's attitudes toward IPVAW had never been reported before. Women living in the same neighbourhood tended to have similar attitudes. This is in part because women in the same neighbourhood are subject to common contextual influences (Merlo et al. 2005) that express themselves as clustering of women's attitudes within the community.

The results of studies in sub-Saharan Africa (Abrahams et al. 2006; Choi and Ting 2008; Jewkes et al. 2003; Karamagi et al. 2006; McCloskey et al. 2005) and other parts of the world (Kim and Emery 2003; Palitto and O'Campo 2005; Straus et al. 1988; Yodanis 2004) have suggested that the risk of violence is higher in husband-dominated families than in egalitarian families. The reasons explaining why IPVAW continues to thrive in patriarchal societies and societies that encourage gender inequality may include the patriarchal structure of the most sub-Saharan African family, where society gives men considerable authority. (Haj-Yahia 2005; Straus 1980). Firstly, men are considered to have an advantage in resources and perceived as enjoying superior personal characteristics. They supposedly possess – exclusively – skills and abilities such as intelligence, wisdom, discretion, knowledge, professional prestige and the ability to make a living. Furthermore, men are expected to dominate women. Secondly, patriarchal societies tend to encourage socialization and education for compulsive masculinity. From a very young age, boys are educated to preserve their masculinity and are ashamed of behaviours that society perceives to be feminine or childish. Thirdly, women are subject to economic constraints and discrimination, which are usually imposed on them to a greater degree than on men, both within and outside the family. The repressive economic and occupational structure of patriarchal societies leaves women with very few alternatives. In general, the objective and perceived status of occupations and jobs open to women are inferior to those available to men. And, finally, the patriarchal, non-democratic and sexist structure poses a risk – or at

least a potential risk – of fostering a negative self-image among women. This threat to the woman's self-image can be attributed largely to society's emphasis on achievements and competitiveness, which are associated more with masculinity than femininity (Haj-Yahia 2005).

Study Strengths and Limitations

This large, population-based study with national coverage from 17 countries with high response rates makes several key contributions to the existing literature. The Demographic and Health Surveys have some important advantages when compared with other surveys. They are often nationally representative, allowing for conclusions that cover the entire nation. In addition, variables are operationalized in the same way, making it possible to compare numerical values across countries. Overall, the number of countries included, and their geographic and socioeconomic diversities, constitutes a good yardstick for the region and helps strengthen the findings from the study.

The findings of our study were based on a cross-sectional survey and, therefore. we were not able to determine whether the effects of neighbourhood characteristics on attitudes toward IPVAW were due to cumulated effects. Furthermore, neighborhoods used in the analyses were administrative boundaries, which may not adequately capture the social context important for individual attitude. However, this issue is not supported by the high neighborhood variances found.

Policy Implications

Given the societal and community factors that shape the attitudes of women toward IPVAW, we believe, like others (Harvey et al. 2007), that structural interventions hold great promise for significant achievements in the prevention of IPVAW. For nearly four decades, feminist researchers have argued that in order to stop men's use and women's experience of violence on the personal level, structures of gender inequality at the societal level must change (Brownmiller 1975; Dobash and Dobash 1979; Hester et al. 1996; Yodanis 2004). Multi-faceted interventions tackling structural determinants of IPVAW may represent a potentially effective approach for addressing issues related to IPVAW. Program components could include socio-economic development, promotion of higher education, youth development, media campaigns, educational interventions, male involvement initiatives and legislative reform efforts. A recent cluster randomized trial provides encouraging evidence that combined microfinance and training interventions can lead to reductions in levels of IPVAW in program participants (Pronyk et al. 2006). Structural interventions focusing on improving the coverage and dissemination of information to the general public may be beneficial in changing women's attitudes toward IPVAW, alongside a review of the educational system, which may seem to reinforce gender inequity (Uthman et al. 2009). Building on advocacy for shared autonomy in the domestic domain, and the provision of basic education for all, may prove paramount in changing women's distorted attitudes about IPVAW (Uthman et al. 2009). Interventions that promote joint decision making might be a promising strategy for increasing women's view toward equality while promoting men's views that household disputes should be settled with negotiation, not violence (Uthman et al. 2009).

Conclusion

We have provided evidence that community and societal forms of gender inequality factors may be associated with women's attitudes toward IPVAW beyond individual factors. Choices women make are important, but community and society factors may also imposed willpower and restraint on women's attitudes toward IPVAW. Thus, policies and programs aimed at reducing or eliminating IPVAW must address people, the communities and societies in which they live in order to be successful.

Acknowledgement

The authors are grateful to Measure DHS for providing them with the DHS data.

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