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Factors Contributing to West Indian American Depression

Gregory A. Kanhai[1] · Doris F. Chang[2]

Abstract

This study explored factors that mediate the relationship between subjective wellbeing and depression in a sample of West Indian American immigrants. An intersectional theoretical framework was used to identify the relative contribution of psychological stressors—perceived discrimination, financial strain and acculturative stress—that mediate the relationship between subjective wellbeing and depression. A geographically diverse sample was recruited by an online survey ($N = 255$), consisting of 138 men, 115 women, 173 Indo-West Indians and 82 Afro-West Indians. Path analysis was used to identify the relative contribution of psychological stressors. Acculturative stress and financial strain were both statistically significant predictors of depression. Financial strain was identified as the major mediator between subjective wellbeing and depression in West Indian Americans. West Indian Americans are vulnerable to financial strain and acculturative stress. These sources of psychological stress are important contributors to depression in the community. More research is needed to clarify these relationships.

Keywords West Indian American · Financial strain · Acculturative stress · Perceived discrimination · Subjective wellbeing

Introduction

West Indian Americans (English-speaking Caribbean Americans) are a uniquely at-risk population for negative health outcomes due to multiple life domain pressures. This assessment is based on data from Afro-West Indian immigrants and economic data on West Indians [1, 2]. It is also consistent with the larger body of immigrant mental health literature showing that rates of depression in immigrant communities are more elevated than that in the general U.S. population [1, 2].

West Indian Americans are one of the largest immigrant communities in New York state, making up approximately 13% of the immigrant population. The three largest subgroups are Jamaican, Guyanese, and Trinidadian, who together account for the fourth, fifth and eighth largest immigrant groups in the state, respectively [3]. Despite their large size, West Indian Americans' English-speaking origins and racial diversity (including Afro-Caribbean, Indo-Caribbean, and multiracial individuals) create statistical invisibility among immigrant health profiles in the literature. This study adopts an intersectional theory approach to deepen our understanding of West Indian American wellbeing by examining the relationships between different intersectional stressors and mental health.

Intersectional Theory

Intersectional theory, borrowed from feminist and critical race theory [4, 5] posits that the intersectionality of life domains within which an individual resides in the host society allows the examination of the various forms of psychological stressors that are unique to immigrant groups. Two sets of influences are theorized to be related to mental health through intra-psychic and social domains of life that enhance or diminish aspects of wellbeing, such as a person's sense of belonging [6], social network density [7], language [5, 8, 9], economic barriers and perceived discrimination [4, 9, 10]. Torres et al. [11] describe these two categories of stressors as separate components of perceived stress—that which is due to adaptation (acculturative stress) and that due to social

✉ Gregory A. Kanhai
gregkanhai@gmail.com

Doris F. Chang
dfchang@nyu.edu

1   The New School for Social Research, Department of Psychology, 80 Fifth Avenue, New York, NY 10011, USA

2   Silver School of Social Work, New York University, 1 Washington Square North, New York, NY 10011, USA

and structural stressors. An intersectional theoretical framework as proposed by Viruell-Fuentes et al. (2012) provides a conceptual approach in which to explore these intersectional stressors and will be used to support understanding of the cultural and socio-structural factors in explaining mental health outcomes of West Indian Americans.

Afro-West Indians and Mental Health

Afro-West Indians may be a good indicator group of how language and culture may influence mental health of West Indians in general [2]. Using data from the National Study of American Life, Williams found differences in rates of depression between Haitian, Spanish and English-speaking Afro-Caribbeans (Afro-West Indians) [2, 12]. Lifetime and 1-year depressive rates were 19.9% and 10.8% for U.S.-born Afro-West Indians, and 12.9% and 6.9% for their foreign-born counterparts [2, 13, 14]. Afro-West Indians were also less likely to use mental health resources than their Spanish-speaking counterparts [12]. Importantly, the number of years of U.S. residency was associated with lifetime risk for psychiatric disorders, and U.S.-born individuals were at higher risk than foreign-born individuals for all Afro-Caribbeans.

Subjective Wellbeing

Subjective wellbeing is a measure of the overall assessment of one's life experience and life trajectory [15]. It has been validated across cultures as a robust assessment of host society integration and quality of life [16]. Subjective wellbeing has been shown to be related to economic welfare [17], social connections [18] and access to public services [19]. As such, subjective wellbeing is an important assessment of an immigrant community's sense of place in their host society. Most importantly, subjective wellbeing has been validated as a measure of positive health outcomes [20] and inversely, with depression [21].

Acculturative Stress

Immigrants' well-being is also likely to be impacted by stressors associated with adaptation to the host society [22]. The construct of acculturative stress has been described as an agglomeration of various stressful experiences encountered by immigrant communities. An important component of acculturative stress is acculturation pressure from family and society [23].

Perceived Discrimination

Perceived discrimination is defined as the belief that one has been unfairly treated because of one's group identification [24] and has been identified as a potently deleterious factor affecting mental health outcomes in immigrant communities [24–27]. The intersection of being monolingual English-native and a racial minority may expose West Indian Americans to discrimination that may be less readily perceived by immigrant groups with limited English proficiency, with adverse impacts for mental health. Explicit and subtle forms of discrimination are pervasive and normative in U.S. society [26, 28, 29], with 46.5% of non-Hispanic Black Americans reporting *regular* experiences of perceived discrimination, and almost 25% reporting *frequent* occurrences.

Financial Strain

Min [30] found that language and socio-economic position separated South Asians from Indo-West Indians despite cohabitation in the same neighborhoods in New York City. Indo-West Indian average income was reported to be between $39,000–$49,000. This is similar to that reported for Afro-Caribbean immigrants [31]. The average U.S. income during the same period was reported to be $52,000. Financial strain has been linked to psychological distress in minority populations [32, 33].

Perceived Social Support

Social network robustness and social support are important protective factors of mental health for immigrant communities [7, 34, 35]. Connection to a social group is known to insulate immigrants from social stressors by providing a sense of safety, understanding and belonging [35–39]. Social support has been explored as a mediator between acculturative stress and depressive symptoms [40, 41].

Present Study

Building on literature on intersectionality and immigrant mental health, this study seeks to examine the mediating influence of social support, acculturative stress, financial strain and perceived discrimination between subjective wellbeing and depression in the West Indian American immigrant community. The hypothesis is that host society factors such as financial strain and perceived discrimination will be primary mediators between subjective wellbeing and depression (Fig. 1.)
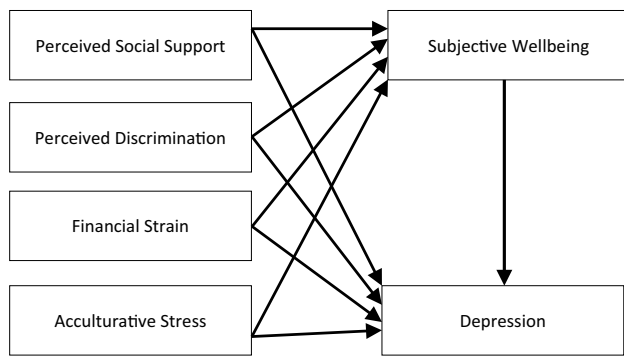
Fig. 1 Predicted relationships among variables

Methods

The study consisted of a 20-min confidential survey hosted on Qualtrics.com through the New School for Social Research. Data collection was conducted under approval of the institutional review board, during the period of March to July 2016. West Indian immigrants were recruited through snowball sampling in the community in the New York City area, and outside the New York City area through Amazon Mechanical Turk (MTurk). Participants were offered compensation of a $2 Amazon.com gift certificate for community participation, and $0.50 compensation for MTurk participant in accordance with the pay rate on the platform. There were 349 respondents from MTurk, and 139 via the snowball method. The completion rates were 51.8% for MTurk and 32.3% for community. Those who met criteria i.e. first- and second-generation West Indian residing in the U.S. and who had completed the survey on MTurk resulted in a final sample size of 255 participants (196 from MTurk and 59 from snowballing community). The data used for this study consisted of the scales as described:

Variables

Perceived Discrimination

The Everyday Discrimination Scale (EDS; [42]) is a nine-item scale that measures the frequency of perceived discriminatory events in one's life. The EDS is reported to be a measure of microinsults and micro-assaults in the microaggressions taxonomy [43]. Each item on the EDS is rated on a six-point Likert-like frequency scale, ranging from 5-almost never to 0-almost always. Items are reverse scored, and a total sum score calculated. Higher scores indicate more perceptions of perceived discrimination. The EDS has demonstrated good internal consistency (0.87) and has

been found to be correlated with measures of psychological distress [44]. In this study Chronbach's alpha was (0.94).

Financial Strain

The Financial strain Scale for Undergraduates (FSS; [45]) is a 13-item scale that measures financial strain in the three domains of stress—credit burden, stress from inability to weather a financial emergency, and current financial insecurity. The questions ask about the frequency of thought about situations that are financially stressful, such as "living paycheck to paycheck," and "Having to borrow money from family/friends" which were identified as appropriate items for an immigrant population. It has been shown to be correlated with measures of psychological distress such as the Daily Stress Inventory [46]. Items are rated on a four-point scale ranging from, "never" to "all the time." Higher scores indicate higher levels of stress. Scoring consists of calculating a sum score for the 13 items. The scale was found to have a high internal consistency (0.87) among a young adult population and was (0.92) in the present study.

Depression

The Center for Epidemiologic Studies Depression-revised (CESD-R; [47]) is a 20-item screening tool for depressive symptoms. The CESD-R asks respondents to choose from four possible responses on a Likert-like format, where "0" is "rarely or none of the time (less than 1 day)", and "3" is "nearly every day for 2 weeks." Scores range from 0 to 60 with higher scores reflecting greater levels of depressive symptoms while lower scores reflect lower levels of symptoms. The CESD has very good internal consistency (0.85) for the general population and (0.90) for a psychiatric population. The original scale has been shown to be valid in many diverse community samples [48] and in West Indian Americans [49]. In this study, the internal consistency was (0.96).

Acculturative Stress

The Societal, Attitudinal, Familial and Environmental Acculturative Stress Scale, revised (SAFE-R; [50]) is an expanded 30-item version of the original 24-item SAFE which includes items related to family acculturation gaps between parents and children. The 24-item SAFE has been used in many studies and has demonstrated internal consistency of (0.89). In this study the SAFE-R demonstrated internal consistency of (0.95). It is scored from 1 (not stressful) to 5 (extremely stressful), with items that are not applicable

being rated 0 (not applicable). The scale is scored by calculating a total sum score.

Subjective Wellbeing

The Satisfaction with Life scale [15] is a measure of subjective wellbeing. It is a five-question global measure of cognitive and affective self-assessment of a respondent's sense of wellness rated on a seven-point Likert-like scale. It is scored by summing the scores. It has demonstrated strong self-report and peer-reported correlation. It has shown good convergent validity with other measures of subjective wellbeing. The scale has demonstrated a co-efficient alpha of (0.87) and test–retest reliability of (0.82). It has been used across cultures and races with good reliability [51]. In this study, internal reliability was (0.88).

Perceived Social Support

Multidimensional Scale of Perceived Social Support [52] is a 12-question measure with three dimensions of social support—family, friends, and significant others. It has been validated across different ethnic and national populations and shows good internal reliability and test–retest reliability. Chronbach's alpha was found to be 0.88–0.92 across samples of pregnant women, people with mental illness and college students [53]. In this study, the internal reliability was (0.69), which falls in the acceptable range of reliability. Scoring consists of calculating the score for the total scale.

Analysis

Data analyses were conducted using IBM SPSS version 25 and R programming language. Mean differences were identified between subgroups and correlations used to determine whether the hypothesized relationships among variables agreed with the literature. A path analysis was then conducted to identify the major mediating variables between subjective wellbeing and depression (Fig. 1).

Results

Demographics

Two hundred and fifty-five (255) participants (59 Community and 196 MTurk), age 18 and over, completed the survey and self-identified as West Indian by three questions asking about self and parental nativity. The sample consisted of 138 (54.0%) male, 115 (45.1%) female and 2 (0.75%) intersexed individuals, with a median age of 28.7 years (*see* Table 1). 173 self-identified as Indo-Caribbean and 82, as Afro-Caribbean. Median income was $39, 441, with

127 (49.6%) having less than a bachelor's degree, and 91 (35.5%) having a bachelor's degree. 111 (43.5%) were first-generation immigrants and 144 (56.5%) were West Indian-born. The majority, 169 (66.3%), lived with either family or relatives, and 162 (63.5%) reported being single, either dating or not dating. The large majority, 219 (85.9%) reported speaking standard English, and 36 (14.1%) reported speaking English creole. All participants reported English as their primary language. Among survey respondents, 204 (80.0%) indicated that they had never utilized a mental health service provider to cope with problems.

Descriptive statistics and mean differences for sex, generational status and sampling group are reported in Table 2. Male respondents (M = 27.271, SD = 11.746.51) reported significantly higher perceived discrimination, $t(251) = 2.078$, $p \leq 0.05$, than female respondents (M = 24.226, SD = 10.967). Afro-West Indians reported lower subjective wellbeing (M = 21.122, SD = 7.337), $t(253) = 3.991$, $p \leq 0.001$, and higher financial strain (M = 1.277, SD = 0.727), $t(253) = -2.027$, $p \leq 0.005$, than Indo-West Indians (M = 24.815, SD = 6.688) and (M = 1.081, SD = 0.688), respectively. First generation individuals (M = 4.881, SD = 1.105) reported lower perceived social support $t(253) = 1.960$, $p \leq 0.05$ than second-generation individuals (M = 4.595, SD = 1.191). MTurk respondents reported higher acculturative stress (M = 49.821, SD = 27.747), $t(253) = -2.787$, $p \leq 0.001$, and perceived discrimination (M = 26.704, SD = 11.863), $t(253) = -2.218$, $p \leq 0.05$, than community-contacted respondents (M = 38.949, SD = 20.525) and (M = 22.966, SD = 9.046). No between-group differences were present for depressive symptoms. Twenty percent [51] of respondents scored as clinically significant for depression on the CESD-R, and these individuals reported lower subjective wellbeing, and higher acculturative stress, perceived discrimination, and financial strain than their non-depressed cohort (see Table 2).

Correlations among predictor and dependent variables demonstrated that sociological stressors were moderately correlated with depression: acculturative stress ($r = 0.595$, $p \leq 0.001$), perceived discrimination ($r = 0.465$, $p \leq 0.001$), and financial strain ($r = 0.500$, $p \leq 0.001$). As expected, subjective wellbeing was negatively correlated with depression ($r = -0.352$, $p \leq 0.001$). Perceived social support was not correlated with any other predictor variable. (*see* Table 3).

To further identify the contribution of each stressor variable to depression, hierarchical regression (Table 4), and path analysis were conducted. The initial model (Table 5) identified financial strain, acculturative stress and perceived discrimination as being significant predictors of depression F (5, 249) = 34.55, $p \leq 0.001$ ($R^2_{adj} = 0.398$). Backward elimination regression (Table 5) confirmed that they accounted for the most variance in the model F(3, 251) = 57.34, $p \leq 0.001$, ($R^2_{adj} = 0.399$).

Table 1 Reported demographic of study respondents

Demographic Population	Category Total	$N = 255$	%	n	%	n	%
	Indo-West Indian	173	(61)				
	Afro-West Indian	82	(23)				
		Total ($n = 255$)		Indo-		Afro-	Median
Sex	Male	138	(51)	92	(53)	46	(56)
	Female	115	(46)	79	(46)	36	(44)
	Intersex	2	(1)	2	(1)	0	(0)
Age Range	18–25	102	(40)	73	(42)	29	(35)
	26–34*	103	(40)	71	(41)	32	(39)	28.7
	35–44	29	(11)	17	(10)	12	(15)
	45–54	16	(6)	9	(5)	7	(9)
	55–64	3	(1)	1	(1)	2	(2)
Income	$0–$20,000	58	(23)	44	(25)	14	(17)
	$21,000–$40,000*	79	(31)	48	(28)	31	(38)	$39, 441
	$41,000–$60,000	66	(26)	42	(24)	24	(30)
	$61, 000–$80, 000	39	(15)	30	(17)	9	(11)
	$81, 000 and over	13	(5)	9	(5)	4	(5)
Education	High school/GED	29	(11)	19	(11)	10	(12)
	Some college	68	(27)	46	(27)	22	(27)
	2-yr college	28	(11)	17	(10)	11	(13)
	4-yr college	90	(35)	68	(39)	22	(27)
	Master's degree	32	(13)	17	(10)	15	(18)
	Doctoral & professional	6	(2)	6	(3)	0	(0)
Country of origin	United States	144	(57)	99	(57)	45	(55)
	Trinidad	25	(10)	18	(10)	7	(9)
	Guyana	28	(11)	26	(15)	2	(7)
	Jamaica	36	(14)	15	(9)	21	(26)
	Other	22	(9)	14	(8)	7	(9)
Living situation	Parents	71	(28)	25	(33)	11	(13)
	Family	86	(34)	15	(20)	31	(38)
	Housemates	25	(10)	8	(11)	11	(13)
	Alone	60	(24)	25	(33)	19	(23)
	Other	12	(5)	2	(3)	7	(9)
Location	New York City & LI	85	33				
	Northeast	10	(4)				
	Southeast	52	(20)				
	Elsewhere	108	(42)				

*Category where median lies

Further analysis (Table 6) identified which stressors mediated the relationship between subjective wellbeing and depression. The full regression model identified financial strain as the most significant $F(4, 250) = 34.05$, $p \leq 0.001$, ($R^2_{adj} = 0.342$) mediator between subjective wellbeing and depression. This was confirmed with the optimized model $F(1, 253) = 135.5$, $p \leq 0.001$, ($R^2_{adj} = 0.346$).

Discussion

West Indian Americans are an underrepresented immigrant community in the United States due to cultural and racial within-group differences that classify them within other immigrant groups i.e. Afro-Caribbean and Asian American. Their wellbeing is not well documented. Theories on the primary mental health stressors in American immigrant communities have changed over the decades, moving

Table 2 Descriptive statistics and *t*-test for group differences

Variable	M	SD	*n*	M	SD	*n*	95% CI for M. Diff	*t*	df
Sex		Male	138		Fem	115			
Subjective wellbeing	23.493	6.955		23.809	7.359		[−2.092, 1.459]	−.350	251
Perceived social support	4.736	1.292		4.706	.997		[−,259, .321]	.206	251
Acculturative stress	48.065	27.455		45.547	25.035		[−.404, 9.078]	.756	251
Perceived discrimination	27.217	11.746		24.226	10.967		[.157, 5.826]	2.078*	251
Financial strain	1.203	.706		1.070	.697		[−.419, .307]	1.496	251
Depression	6.920	8.536		6.496	8.970		[−1.748, 2.597]	.385	251
Race		Indo	173		Afro	82			
Subjective wellbeing	24.815	6.688		21.122	7.337		[1.870, 5.516]	3.991**	253
Perceived social support	4.683	1.255		4.797	.934		[−.420, .193]	−.730	253
Acculturative stress	46.064	27.748		49.927	24.001		[−10.888, 3.161]	−1.083	253
Perceived discrimination	25.445	12.254		26.671	9.492		[−4.247, 1.796]	−.799	253
Financial strain	1.081	.688		1.277	.727		[−.375, −.005]	−2.027*	253
Depression	6.642	8.752		7.156	9.051		[−2.853, 1.819]	−.436	253
Sampling		Comm	59		MTurk	196			
Subjective wellbeing	22.661	7.510		23.918	6.969		[−3.333, .818]	−1.193	253
Perceived social support	4.591	.995		4.758	1.206		[−.507, .172]	−.969	253
Acculturative stress	38.949	20.524		49.821	27.747		[−18.554, −3.191]	−2.787**	253
Perceived discrimination	22.966	9.046		26.704	11.863		[−7.056, −.419]	−2.218*	253
Financial strain	1.121	.679		1.156	.713		[−.238, .167]	−.335	253
Depression	6.542	9.243		6.888	8.731		[−.345, 1.355]	−.263	253
Immigrant Generation		1st	111		2nd	144			
Subjective wellbeing	22.7771	6.902		24.333	7.198		[−3.3804, .137]	−1.816	253
Perceived social support	4.881	1.105		4.595	1.191		[−.001, .573]	1.960*	244.5
Acculturative stress	46.568	24.957		47.875	27.898		[−7.939, 5.324]	−.388	253
Perceived discrimination	25.135	10.659		26.3819	12.006		[−4.095, 1.599]	−.863	253
Financial strain	1.138	.7282		1.156	.689		[−.194, .157]	−.204	253
Depression	6.721	8.379		6.875	9.1986		[−2.356, 2.048]	−.138	253
Clinically depressed CESD*R* ≥ 16		No	204		Yes	51			
Subjective wellbeing	24.333	7.166		20.804	.502		1.379, 5.679]	3.233**	253
Perceived social support	4.718	1.113		4.725	1.349		[−.365, .352]	−.035	253
Acculturative stress	40.878	23.970		73.019	20.559		[−39.337, −24.947]	−8.798**	253
Perceived Discrimination	24.025	11.589		33.098	7.192		[−12.422, −5.725]	−5.336**	253
Financial strain	1.029	.699		1.624	.501		[−.799, −.389]	−5.715**	253
Depression	3.059	4.454		21.804	5.407		[−20.181, −17.379]	−25.705**	253

N = 255. Two-tailed significance

$P \leq .01 = **, p \leq .05 = *$

away from theories of cultural identities toward host society structural stressors. Intersectional theory stresses the relationship between host society structural stressors and immigrant community mental health declines i.e. socioeconomic stress, host society climate, discrimination, enclave residency, and minoritization [5, 8, 9]. Following on intersectional theory, this exploratory study sought to identify individual sources of host society structural stressors that contribute to West Indian American depression. Specifically, the study weighed acculturative stress against financial strain and perceived discrimination as the primary mediators between subjective wellbeing and depression (Fig. 1). While acculturative stress was identified as the major contributor to depression, financial strain was the predominant mediator between subjective wellbeing and depression (Fig. 2).

Table 3 Correlations among predictor and dependent variables

Variable		1	2	3	4	5	6
Subjective wellbeing	1	1	−.040	−.364**	−.275**	−.590**	−.352**
Perceived Social Support	2		1	.045	.063	−.022	.029
Acculturative Stress	3			1	.584**	.567**	.595**
Perceived Discrimination	4				1	.440**	.465**
Financial strain	5					1	.500**
Depression	6						1
Mean		23.628	56.537	47.306	25.839	1.148	12.467
Std. Error		.444	.865	1.667	.716	.044	.329
SD		7.103	13.815	26.615	11.434	.704	5.255
Cronbach's alpha		.88	.69	.95	.94	.92	.91

$N = 255$. Two-tailed significance

$p \leq .01 = **, p \leq .05 = *$

No asterisk indicates no significant correlation

Table 4 Model summary of hierarchical regression

Model	R	R square	Adjusted R square	Std. error of the estimate	Change statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
Acculturative stress	.595[a]	.354	.352	.43946	.354	138.910	1	253	<.001
Acculturative Stress + Financial strain	.627[b]	.393	.388	.42689	.039	16.118	1	252	<.001
Acculturative Stress + Financial strain + Perceived discrimination	.637[c]	.406	.399	.42317	.013	5.454	1	251	.020

[a]Predictors acculturative stress

[b]Acculturative stress, financial strain

[c]Acculturative stress, financial strain, perceived discrimination. Dependent variable: depression

Table 5 Predictor variables contributing to depression in full model and optimized model

Full model. F statistic: 34.55, df: 5 and 249, p-value: <0.001, adjusted R^2: 0.3978

Coefficient	Coefficient	Standardized coefficient	t statistic	p-value
Constant	−0.022	$-6.5*10^{-17}$	−0.115	0.909
Financial strain	0.139	0.179	2.589	0.010
Subjective wellbeing	−0.005	0.067	−1.104	0.271
Acculturative stress	0.008	0.387	5.826	<0.001
Perceived discrimination	0.007	0.142	2.325	0.021
Perceived social support	0.002	0.004	0.09	0.928

Optimized model. F statistic: 57.34, df: 3 and 251, p-value: <0.001, adjusted R^2: 0.3996

Coefficient	Coefficient	Standardized coefficient	t statistic	p-value
Constant	−0.171	$-6.3*10^{-17}$	−2.487	0.014
Financial strain	−0.168	0.217	3.623	<0.001
Acculturative stress	0.008	0.390	5.889	<0.001
Perceived discrimination	0.007	0.142	2.338	0.020

Acculturative stress, perceived discrimination, and financial strain are the significant predictors of depression (optimized model results). Based on the standardized coefficients, the most significant predictor is acculturative stress, followed by financial strain, and perceived discrimination

Table 6 For subjective wellbeing, the full model, and the optimized model

Full model. F statistic: 34.05, df: 4 and 250, p-value: < 0.001, adjusted R^2: 0.3423

Coefficient	Coefficient	Standardized coefficient	t statistic	p-value
Constant	32.167	$-4.6*10^{-20}$	18.791	< 0.001
Financial strain	-5.743	-0.570	-9.083	< 0.001
Acculturative stress	-0.011	-0.040	-0.576	0.565
Perceived discrimination	0.002	0.003	0.040	0.968
Perceived social support	-0.314	-0.051	-1.004	0.317

Optimized model. F statistic: 135.5, df: 1 and 253, p-value: < 0.001, adjusted R^2: 0.3462

Coefficient	Coefficient	Standardized coefficient	t statistic	p-value
Constant	30.458	$-4.8*10^{-18}$	44.26	< 0.001
Financial strain	-5.949	-0.591	-11.64	< 0.001

Financial strain is the only independent predictor of subjective wellbeing. While subjective wellbeing has significant correlations with acculturative stress, and perceived discrimination as well, their collinearity with financial strain renders them insignificant in the regression for path analysis
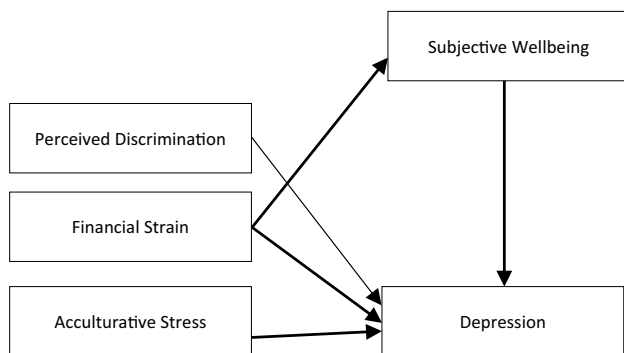

Fig. 2 Observed mediation and predictors. Bold arrows indicate statistically significant relationships

Subjective Wellbeing

Within our sample, subjective wellbeing scores were higher for Indo West Indians. This particular finding was not surprising as research by Williams et al. [2] and others have found that Afro-West Indians, especially men, were more likely than their Spanish-speaking counterparts to report less use of mental health resources and higher rates of mood disorders. Furthermore, non-Hispanic Black Americans, which include Afro-West Indians, have reported *frequent* experiences of discriminatory experiences [26, 28]. A recent study by Gigantesco et al. [54] found subjective wellbeing is negatively correlated with depression in a general population sample. Our findings agree with previous studies, that subjective wellbeing is a reliable measure of depression risk in West Indian Americans.

Financial Strain

Our findings are consistent with prior literature [33, 55, 56] identifying financial strain as an important contributing factor to mental health stress in immigrant populations, in addition to acculturative stress [5, 8, 9, 22, 23]. We found that financial strain is independent of acculturative stress in mediating the relationship between subjective wellbeing and depression in this population. This finding is supported by the reported median income of $39,441, which is in agreement with the overall reported West Indian American income [31, 57, 58]. Our study identified financial strain as an important factor to study in this population to identify risks to mental health.

Acculturative Stress

We found that fully anonymous respondents (MTurk) reported higher levels of acculturative stress and perceived discrimination. These data agree with literature indicating that anonymity results in more honest self-reports [59]. Studies on Afro-West Indians suggests that mental health in West Indians may still be taboo [12] and anonymity may have enhanced reporting of psychological distress. Acculturate stress was found to be a major predictor of depression in this sample, indicating that stressors from the process of acculturation may contribute to decreased mental health in West Indian Americans.

Perceived Discrimination

Our findings were consistent with prior studies—that experiences of discrimination are important predictors of psychiatric illness among U.S. immigrant populations

[24–27]. Monolingual English-nativity may also enhance the perception of discrimination in West Indian Americans, adding to the psychological burden of such experiences [29, 60]. The finding that men were more likely to report experiences of discrimination may provide an explanation for previous reports that Afro-West Indian men are at higher risk for mood disorders than women [2].

Depressed Individuals

Those who met clinical criteria for depression (CESD-$R \geq 16$) reported lower subjective wellbeing and significantly higher rates of acculturative stress, perceived discrimination and financial strain. This supports the overall model that these stressors are predictors of depression and confirms prior findings that lower subjective wellbeing is indicative of increase risk of depression [54].

Effects of Gender, Race, and Immigrant Generation on Depression and Subjective Wellbeing

Through the descriptive statistics and t-test for group differences (Table 2), we can conclude that there is no significant difference between groups of gender, race, and immigrant generation when looking at depression data. Further between-group exploration would expand the analysis into a large factor analysis and that is not within the scope of this work.

Limitations of Study and Areas for Future Research

There were significant limitations to our study that prevent us from generalizing these findings to the larger West Indian American community. An online survey was used to overcome the potential barrier of discussing mental health honestly [59] in a population reported not to use mental health supports despite high risk for mood disorders [12]. However, we found that an online survey excluded many community members who were not familiar with online survey participation and study participation. This resulted in a small sample and fewer members of the Afro-West Indian community than ideal.

Perceived Social Support

Our study failed to confirm perceived social support as a mediator of subjective wellbeing and depression [61]. Within our sample, perceived social support was not related to any measures of psychological stress or subjective wellbeing. Reasons for this could be related to the size of our sample which skewed toward second-generation immigrants who may experience acculturation pressure (inter-relationship acculturative stress). The contrast between acculturative stress and acculturation pressure is an important distinction when studying immigrant populations. Studies have identified that acculturation pressures are the primary component of acculturative stress that are not structurally embedded in host society. As a result, an area for further study would be to disentangle acculturation pressure and acculturative stress in West Indian Americans to determine whether acculturation pressure is related to the absence of a significant relationship between perceived social support and our model.

Contribution to the Literature

This is one of the first studies to identify predictors of depression in the West Indian American community. Despite their large presence in the New York metropolitan area and eastern U.S., they have been included in other demographics and have been statistically invisible as a cohesive group. Our study identifies consistencies between the Indo- and Afro- communities. Despite this, they are collectively at risk for mental health stress due to their English-nativity, acculturative stress, socio-economic status and discriminatory events. Our study highlights the significant impact of financial strain in this population prior to the COVID-19 pandemic. With the economic impact of COVID-19 on immigrant communities and the recent declaration of racism as a public health emergency in New York State, continued observation of this immigrant population is necessary to support their wellbeing.

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