The effect of family and neighbourhood social capital on youth mental health in South Africa

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Abstract

Introduction

Despite the prevalence of mental illness in South Africa, few studies using national representative data have examined its correlates, especially among young adults. Adolescence is a unique phase where timely interventions may lead to improved mental health and reduced social problems later in life. The inconclusive relationship between social capital and a number of youth developmental outcomes has been previously documented. The mechanisms through which social capital influences mental health of youth in South Africa remain unclear. In addition, there is little evidence on the differences in the way social capital obtained at the family level influences mental health compared to social capital at the community level.

Methods

Using the National Income Dynamics Survey data for South Africa, we examine these associations among 2,307 youth aged 15-24 across the four waves. Multilevel logistic regression with lagged social capital variables was used to examine these associations and our findings emphasize the substantial burden of mental illness among young people in South Africa.

Results

Although results for parental presence were not significant, social capital at the family level measured by household income increased the odds of incident depression. At the community level crime was associated with higher odds of incident depression.

Conclusions

Our results confirm the independent effect of neighbourhood characteristics on youth mental health and did not support family social capital as being protective for developing depression. This implies that youth program planners must focus on context in improving youth developmental outcomes such as mental health.

Keywords: Youth, mental health, social capital, family, neighbourhood, depression

Background

The state of youth mental health is of great concern, with the global prevalence of mental health disorders among this cohort reaching about 10-20% (Kieling et al., 2011; World Health Organization, 2018). The prevalence of mental disorders in youth increases dramatically with the transition from childhood to adolescence (Costello, Copeland, & Angold, 2011), yet there is a general paucity of services specific to this age group and a distinct lack of mental health policy enforcement and interventions to address the needs of young people (Jack et al., 2014). The projected burden of mental health disorders is expected to reach 58% in low- and middle-income countries by the year 2030 (Marquez & Saxena, 2016), where mental disorders such as depression, anxiety, and substance abuse are more likely to be a major contributor to disability-adjusted life years compared to other health complications as a result of AIDS, heart disease, traffic accidents, and wars combined (Ngui, Khasakhala, Ndetei, & Roberts, 2010).

According to the WHO, young adults with good mental health are able to function socially and live their life to the fullest (World Health Organization, 2005). This is because they have self-esteem and possess a positive outlook about life, healthy relationships with friends and family, and the capacity to tackle developmental challenges.

Examining factors associated with the mental health of young adults is important from a life-course perspective as it can influence their human capital such as quality of life, educational achievement, and health. Because of this, many studies (Assari, Lankarani, & Caldwell, 2018; Doré, O'Loughlin, Beauchamp, Martineau, & Fournier, 2016) have documented the risk factors associated with the mental health of young people. However, fewer studies (Collishaw et al., 2016) exist on the factors that protect youth from negative mental health outcomes.

South Africa presents a relevant context for exploring protective factors in youth mental health given its history of apartheid as well as current challenges young people in the country are facing in the new global economy. Some of the mechanisms through which apartheid could influence mental health of young people could be as a result of the inequality, crime, and violence that are legacies of apartheid (Das-Munshi et al., 2016). Also, it was recently reported that about one in three South Africans will suffer from a mental disorder in their lifetime, which is a higher prevalence compared to other developing countries (Jack et al., 2014)

Although some studies have tried to explore mental health in South Africa, they have focused mainly on the entire population (Tomita et al, 2017) or concentrated on young people who use

and abuse substances or drugs (Davis et al., 2016; Taukoor, Paruk, Karim, & Burns, 2017). This study focuses on youth depression using a longitudinal national representative survey. In addition, social capital has been associated with other health outcomes among youth in South Africa (Odimegwu, De Wet, & Somefun, 2017), but there is a scarce evidence on mental health. This is timely because mental health among youth may be a burden to the weakened health care in the country and this may have a direct and an indirect cost on social services and families.

Theoretical Framework

Social capital has been described as a multidimensional construct, emerging from the seminal works of Bourdieu (2011), Coleman (1988), and Putnam, Leonardi, and Nanetti (1994). Coming from diverse backgrounds each of these theorists operationalized social capital differently though with overlaps, which has led to a discussion about how social capital should be defined and measured (McPherson et al., 2014). It has been associated with social cohesion, support, integration, and participation among a group of people (Almedom & Glandon, 2008).

Bourdieu defines social capital in terms of networks and connections between individuals that can provide support and resources, Coleman conceptualises social capital as being a resource of the social relations that exist between families and the communities that they are linked to, and Putnam defines social capital as a characteristic of communities including community cohesion, reciprocity, and trust.

Although these theorists see social capital differently, the central premise is based on the importance of social networks that aim to bring about positive development among different groups of people in a society. It has been argued that the social capital concept does not consider youth, as it has been fitted within an adult framework (Morgan, 2011). These researchers argue that social connections and spaces inhabited by young people usually differ from those of adults. However, some others (Rothon, Goodwin, & Stansfeld, 2012) have argued for social capital to be examined at the family and community level when focusing on young people.

At the family level, family structure (e.g. number of parents in the household); parent–child communication; parents' monitoring of the child and extended family support and exchange could be forms of social capital. At the community level, social capital could be in form of neighbourhood cohesion, which refers to the ability of community members to form strong

social connections. It could also be in form of trust and safety religiosity (e.g. attendance at religious services).

Each measure of social capital mentioned above could have different health impacts. Baum (1999) argues that while some forms of social capital might be associated with beneficial outcomes in some contexts, they could also be an obstacle in other settings. For instance, an exploratory study in South Africa found that '*stokvel'* (voluntary savings club accompanied by social festivities) membership was associated with drinking in both sexes and an increased likelihood of casual sexual interactions amongst women, which are both factors that place their sexual health at risk (Campbell, Williams, & Gilgen, 2002).

On the other hand, several studies have shown positive associations between social capital and protective health behaviour (!!! INVALID CITATION !!!). For instance, social capital might directly affect health through access to formal healthcare systems and to a lay referral network of family, friends, and peers who provide medical attention and advice when health concerns arise (Boyce, Davies, Gallupe, & Shelley, 2008).

In addition, a cross-sectional study investigating the effect of community group memberships on HIV infection in Zimbabwe found that different types of associational membership have an effect on lower HIV risks (Gregson et al., 2011), while a longitudinal study in rural South Africa concluded that different types of social capital (structural and cognitive) have potential benefits for HIV prevention through participation in formal and informal social institutions (Pronyk et al., 2008).

Unfortunately, few studies in African settings have examined the relationship between social capital and youth mental health (Åslund, Starrin, & Nilsson, 2010) and the existing studies in other settings have concluded that further research needs to be done (Boyce et al., 2008; Fitzpatrick, Piko, Wright, & LaGory, 2005). For instance, an editorial called for more stringent conceptual clarity and operational definitions (Fitzpatrick, Wright, Piko, & LaGory, 2005) . A systematic review on social capital and common mental disorders suggested that more studies should be done to examine the associations between all types of social capital and mental health (Ehsan & De Silva, 2015). Thus, there is a need for research to address the association of social capital and mental health among young people.

Based on the evidence that social capital may be associated with other youth developmental outcomes, examining the relationship with youth mental health in South Africa is worthwhile.

This is because the history of apartheid in South Africa has led to high prevalence of inequality in the country, particularly within black communities (Lau & Ataguba, 2015), which has resulted in a breakdown of social capital. It is based on this background that we posited that low family and community social capital would be associated with higher rates of depression among youth. We also hypothesized that the presence of family social capital would have a stronger effect than community social capital on youth mental health.

Data and Methods

This paper makes use of data from the four waves of the South African National Income Dynamics Study (SA-NIDS). SA-NIDS is the first longitudinal panel survey of a nationally representative sample of households in South Africa. The sampling methods and response rates are detailed in the SA-NIDS technical report (Leibbrandt, Woolard, & de Villiers, 2009). Although there are different definitions of youth in the African setting, this study has used the United Nation definition of youth aged 15-24.

Variables of Interest

Outcome Variable:

The outcome variable is mental health, which was measured as incident depression. This was obtained from the CES-D component of the adult questionnaires. The original 20-item CES-D is a psychometrically tested instrument to screen for depression risk (Radloff, 1977), and has been used in other studies in South Africa (Adjaye-Gbewonyo, Avendano, Subramanian, & Kawachi, 2016). The abridged version of CES-D50 has been shown to retain psychometric validity (Björgvinsson, Kertz, Bigda-Peyton, McCoy, & Aderka, 2013). CES-D is self-reported and captures depression-associated symptoms during the past week with four possible responses: scores of 0 denote rarely or none of the time (less than 1 day); scores of 1 denote some or little of the time (1–2 days); scores of 2 denote occasionally or a moderate amount of time (3–4 days); and scores of 3 denote almost all or all of the time (5–7 days). Depression symptomatology is based on a composite score of ten items from the CES-D ranging from 0 to 30, with a higher score indicating higher risk for the disorder. As in previous studies (Tomita et al., 2017), we dichotomised the composite CES-D measure using a total score of 10 or greater as a cut-off to represent significant depressive symptoms.

Independent Variables

The key independent variables are family and neighbourhood social capital. We measure family social capital by the presence of parents in the household. A question was asked on whether the mother or father was present in the household. Income at the household level was also used as a proxy for family social capital. This is in line with how other studies (Haines, Beggs, & Hurlbert, 2011; Webber, Huxley, & Harris, 2011) have used resource network to measure social capital. Community social capital was measured from questions on neighbourhood trust and generalized trust. People were asked if neighbours and strangers were likely to return their wallet if they lost it in the neighbourhood and the wallet contained their identification document in addition to some money. Community social capital was also measured through the crime and safety in the neighbourhood. In wave 2 to 4, one person per household was asked how common were burglaries, muggings or thefts, violence between and within households, gangsterism, murder, shootings or stabbings in their neighbourhood. They were asked how common aggressiveness, murder, shootings, or stabbings were in the neighbourhood in wave 1. The answers range from 0, "Never happens", to 4, "Very common". We created an additive index summing up the values of the response at each question. The index was dichotomized as "1" high crime if greater than the median value and "0" low crime if lower or equal to the median value.

The following explanatory variables were selected based on their association with youth mental health in other studies: age, gender, race, marital status, employment, educational attainment, and perception of current health status. Race in South Africa consist of; Black African, White African, Coloured and Asian. Due to the low distribution, we have combined Asian, and White as one category. Respondents' perception of their overall health was categorised on a four-point scale, with 1 being Excellent and 4 being Poor.

Study sample

This study aimed to assess the family and contextual factors of incident depression among youth in South Africa. To do so, we constructed an incident cohort. The incident cohort was restricted to individuals aged 15-24 without depression symptoms at baseline (wave 1) and screened for depression at least twice between waves 1 and 4 of NIDS. In order to prevent reverse causality in the analysis of incidence, following Tomita et al. (2017), our data were right censored, meaning that once individuals were screened with depression symptoms their subsequent observations were deleted from the sample.

Statistical Method

We first described the baseline sample using proportions, then we used a chi-square test to assess the association between each independent variable and depression incidence. Finally, the effect of family and neighborhood social capital on incident depression was assessed using multilevel logistic regression. The use of multilevel model allows for clustering of repeated observations within participants and the dependency of the outcome variable within neighborhoods. Level 1 of the model was observations, level 2 was participants, while level 3 was NIDS clusters. Three multilevel models with random intercepts by clusters were performed. Model 1 was the model with family social capital variables only. In model 2, variables of social capital at the community level were added. The model 3 combined the social capital variables used in model 2 with socio-economic and demographic control variables.

All the estimations were weighted using NIDS post-stratification weights. As per Carle (2009)'s recommendation for multilevel models we scaled the level 1 weights so that the new weights sum to the cluster sample size.

Results

There was no depression in wave 1 as this is the baseline of our cohort. Depression ranged from 17% in wave 2, 21% in wave 3, to 26% in wave 4. The results in Table 1 show the characteristics of the 2,307 youth used in the study. There was an even distribution by sex. Three quarters of the respondents were aged 15-19 and Black African was the largest racial group (89%). Nearly all the youth were not married and 88% of them were unemployed. This mirrors the national demographics of the country. By educational status, about 84% of the youth had a secondary level of education and a large (48%) percentage of the youth rated their health status as excellent.

By family social capital, about two thirds of the youth reported that their father was absent and about one in ten youth belonged to the highest quintile of household income. Neighborhood social capital was very low, as about three quarters of the youth reported that strangers and neighbours were not likely to return a wallet. There was an even distribution on the perception of crime and safety in the community.

The results in Table 2 show the chi-square association between each independent variable and depression incidence. A higher percentage of youth were depressed when their mother was absent compared to their counterparts who had their mother present. A similar pattern was evident for youth with their father absent and household wealth quintile. Surprisingly, a higher

percentage of youth who reported that their neighbours and strangers were very likely to return a wallet were depressed.

The results in Table 3 show the association between the social capital variables and incident depression. In model 1, where associations between family social capital and incident depression are presented, youth who had their mother and father present were no less likely to be depressed as the association was not significant. However, belonging to the higher (fourth) household income quintile increased the odds of incident depression among youth.

Model 2 controlled for family social capital and community social capital. The association between family social capital and youth depression remain unchanged from what was seen in model 1. Low social capital at the community level, measured by trusting a neighbour, was associated with lower odds of incident depression among youth (aOR 0.54, 95% CI 0.38–0.76). This was similar to the association between trusting a stranger and incident depression among youth (aOR 0.46, 95% CI 0.31–0.68). High crime in the community was associated with higher odds of incident depression among youth (aOR 1.34, 95% CI 1.08–1.66).

The effects of family and community social capital remain unchanged in model 3 after controlling for other covariates.

Compared to Africans, colored and Asian/Indian/white youth had significantly lower odds of incident depression. Youth aged 20-24 had significantly increased odds of incident depression compared to their counterparts aged 15-19. Similarly, youth who rated their health as good had increased odds of incident depression compared to their counterparts who rated their health as excellent.

Discussion

The objective of this study was to examine the relationship between social capital and youth mental health. We also sought to understand whether social capital at the family level was more protective for the mental health of youth compared to social capital at the community level. We used the South African National Income Dynamics Study (NIDS) panel data, and multilevel linear regression because of the nature of the outcome variable. The use of the NIDS data makes it possible to control for initial levels of depression and thus to specify which variables predict increases in depression during the different waves as opposed to using cross-sectional data.

Our results did not confirm our first hypothesis, which posited that there will be an association between higher family social capital and improved youth mental health. Although results for parental presence were not significant, social capital at the family level measured by household income increased the odds of incident depression. This is an unexpected result and does not support what some other studies have found. However, seminal work done by Portes (1998) established that social capital could be a "double edged phenomenon". While we expected that higher income at the household level would protect youth from negative mental health, youth from the privileged households appeared to be more vulnerable. We suggest that household income may not translate into parental care and bonding. This may be one of the reasons for this result.

It is also possible that youth from rich households are more likely to be under pressure to succeed in academic and extracurricular activities. This was established by Luthar and Latendresse (2005) who found that children in affluent suburbs perceived academic failure as personal failure and ultimately had high depression and anxiety issues.

It is also possible that youth from rich households are more likely to be segregated from their counterparts who do not belong to the same socio-economic class. It is also possible that there is pressure to compete among youth of the same socio-economic status. All of this could lead to a form of loneliness in the transition to adulthood, which may have an effect on their mental health.

Low social capital in relation to high crime at the community level was associated with poor mental health outcomes among the youth. This is not surprising as scholars such as Cutrona, Wallace, and Wesner (2006) have established the relationship between depression and living in chaotic and fear-inducing neighbourhoods. Another study (Olamijuwon, Odimegwu, & De Wet, 2018) in South Africa also established an association between social cohesion and self-rated health, albeit among adults. Violence is an epidemic in South Africa as it has been listed as one of the most dangerous countries to live in (Seedat, Van Niekerk, Jewkes, Suffla, & Ratele, 2009). In 2016/17, there were approximately 1,200,000 violent crimes in the country. Youth are directly affected by the prevalence of violent crime. Violence contributes to high rates of injury and death in young people in South Africa and a large percentage of violence in the country has been attributed to rape (Moffett, 2006; Petersen, Bhana, & McKay, 2005). It is therefore possible that witnessing and hearing about violence within a community influences the mental health of young people in that community.

The descriptive results show a slight gender differential in the percentage of youth by incident depression. Our results are in line with a number of studies that have concluded that the prevalence of depression is higher in women than in men (Parker & Brotchie, 2010). Hormonal changes in women, particularly during puberty, prior to menstruation, following pregnancy, and at perimenopause have been attributed as triggers for depression among women (Albert, 2015). It is also possible that women are more likely to report depressive symptoms compared to men. Although the relationship between stigma and depression has been discussed extensively among people living with HIV (Simbayi et al., 2007), we are of the opinion that men may be less willing to report feelings of depression due to the stigma that is still attached to poor mental health in African countries as they may fear being referred to as weak. The differences in the depression score by race could be as a result of the socio-economic differences by racial groups in the country.

Our study has limitations worth noting; some measures of social capital such as reciprocity, group participation, and associational activity were not controlled for as they were not collected during all the NIDS waves.

What this paper adds

This paper contributes to the evidence on the association between social capital and mental health among youth in South Africa using national representative longitudinal data. The available evidence on social capital and youth developmental outcomes have mainly used cross-sectional data, thus limiting the evidence for causality as reverse causation cannot be ruled out. The major advantage of this study is the use of longitudinal data as it provides stronger evidence for the relationship between social capital and youth mental health as there is a clear temporal sequence: an incident cohort is used, with only youth with no depression symptoms at wave 1 included. Lastly, this is the first known longitudinal study using multilevel analysis to examine the relationship between social capital and youth mental health in South Africa using a nationally representative sample.

Policy Implications

There is a paucity of studies on the relationship between social capital and youth mental health in South Africa. Social capital has influenced national mental health strategies around the world and is currently influencing policy development (Bassett & Moore, 2013; De Silva, McKenzie, Harpham, & Huttly, 2005). This paper reveals the need for such policies especially among

young people and suggest that policies must prioritize strengthening social capital at the community level for the health and well-being of young people in South Africa. In the context of South Africa, it is important that interventions are context specific and focus should be on communities that are perceived as "high crime" neighbourhoods.

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Table 1: Individual characteristics of respondents at the baseline (Wave 1)

	Percent	95% CI		N
Sex				
Male	49,62	(46,65 -	52,60)	1108
Female	50,38	(47,40 -	53,35)	1199
Race				
African	89,33	(84,62 -	92,73)	2001
Coloured	5,85	(3,60 -	9,39)	247
Asian/Indian/White	4,81	(2,73 -	8,35)	59
Marital status				
In union	2,10	(1,34 -	3,30)	49
Not in union	97,90	(96,70 -	98,66)	2252
Employment status				
Not in Employment	87,54	(85,24 -	89,53)	2009
In Employment	12,46	(10,47 -	14,76)	281
Education				
Primary or less	12,75	(10,69 -	15,13)	372
Secondary	83,82	(81,27 -	86,07)	1874

Vocational/Higher	3,44	(2,40 -	4,90)	61
Age group				
15-19 years	75,61	(72,95 -	78,08)	1789
20-24 years	24,39	(21,92 -	27,05)	518
Health Status				
Excellent	47,97	(43,89 -	52,08)	1093
Very good	30,63	(26,69 -	34,87)	697
Good	17,64	(15,02 -	20,61)	425
Fair/Poor	3,76	(2,74 -	5,15)	86
Presence mother				
Absent	41,00	(37,81 -	44,28)	921
Present	59,00	(55,72 -	62,19)	1370
Presence Father				
Absent	67,19	(63,81 -	70,41)	1519
Present	32,81	(29,59 -	36,19)	694
Quintile household income				
Lowest	41,69	(37,46 -	46,06)	697
Second	24,06	(20,52 -	27,99)	447
Third	17,63	(13,50 -	22,68)	294
Forth	6,04	(4,30 -	8,42)	105
Highest	10,58	(7,81 -	14,17)	139
Neighbour return wallet				
Very likely	13,00	(10,22 -	16,39)	210
Somewhat likely	13,74	(11,42 -	16,46)	291
Not likely at all	73,26	(69,43 -	76,77)	1683
Stanger return wallet				
Very likely	4,07	(2,99 -	5,50)	101
Somewhat likely	7,81	(6,05 -	10,03)	166
Not likely at all	88,13	(85,35 -	90,44)	1899
Crime and safety				
Low crime	50,21	(45,89 -	54,52)	1149
High crime	49,79	(45,48 -	54,11)	1100
Total				2307

Table 2: Characteristics by depression status and chi-square test of association

	Not depressed			**Depressed**			
	Percent	**95% CI**		**Percent**	**95% CI**		**P-values**
Sex							
Male	87,50	(85,55 -	89,22)	12,50	(10,78 -	14,45)	0,615
Female	86,91	(84,92 -	88,67)	13,09	(11,33 -	15,08)	
Race							
African	86,95	(85,29 -	88,46)	13,05	(11,54 -	14,71)	0,534
Coloured	88,48	(85,66 -	90,80)	11,52	(9,20 -	14,34)	

Asian/Indian/White	89,60	(80,40 -	94,77)	10,40	(5,23 -	19,60)	
Marital status							
In union	85,82	(78,12 -	91,12)	14,18	(8,88 -	21,88)	0,650
Not in union	87,24	(85,70 -	88,64)	12,76	(11,36 -	14,30)	
Employment status							
Not in Employment	87,73	(86,13 -	89,17)	12,27	(10,83 -	13,87)	0,192
In Employment	85,03	(80,56 -	88,62)	14,97	(11,38 -	19,44)	
Education							
Primary or less	92,63	(89,75 -	94,75)	7,37	(5,25 -	10,25)	0,046
Secondary	86,95	(85,33 -	88,41)	13,05	(11,59 -	14,67)	
Vocational/Higher	84,80	(78,07 -	89,74)	15,20	(10,26 -	21,93)	
Age group							
15-19 years	94,87	(93,66 -	95,86)	5,13	(4,14 -	6,34)	0,000
20-24 years	81,78	(79,30 -	84,02)	18,22	(15,98 -	20,70)	
Health Status							
Excellent	89,25	(86,95 -	91,18)	10,75	(8,82 -	13,05)	0,028
Very good	86,17	(83,57 -	88,42)	13,83	(11,58 -	16,43)	
Good	83,53	(78,91 -	87,29)	16,47	(12,71 -	21,09)	
Fair/Poor	85,73	(76,92 -	91,55)	14,27	(8,45 -	23,08)	
Presence mother							
Absent	85,48	(82,78 -	87,82)	14,52	(12,18 -	17,22)	0,034
Present	88,48	(86,81 -	89,97)	11,52	(10,03 -	13,19)	
Presence Father							
Absent	86,62	(84,70 -	88,33)	13,38	(11,67 -	15,30)	0,094
Present	89,08	(86,68 -	91,10)	10,92	(8,90 -	13,32)	
Quintile household income							
Lowest	86,97	(83,84 -	89,57)	13,03	(10,43 -	16,16)	0,146
Second	87,51	(83,95 -	90,37)	12,49	(9,63 -	16,05)	
Third	85,65	(81,32 -	89,10)	14,35	(10,90 -	18,68)	
Forth	80,19	(73,41 -	85,59)	19,81	(14,41 -	26,59)	
Highest	87,35	(82,61 -	90,94)	12,65	(9,06 -	17,39)	
Neighbour return wallet							
Very likely	81,09	(76,05 -	85,26)	18,91	(14,74 -	23,95)	0,014
Somewhat likely	87,02	(82,21 -	90,68)	12,98	(9,32 -	17,79)	
Not likely at all	88,10	(86,16 -	89,80)	11,90	(10,20 -	13,84)	
Stanger return wallet							
Very likely	75,14	(66,11 -	82,41)	24,86	(17,59 -	33,89)	0,000
Somewhat likely	79,86	(74,52 -	84,32)	20,14	(15,68 -	25,48)	
Not likely at all	88,85	(86,95 -	90,50)	11,15	(9,50 -	13,05)	
Crime and safety							
Low crime	88,86	(87,03 -	90,45)	11,14	(9,55 -	12,97)	0,038
High crime	85,97	(83,53 -	88,11)	14,03	(11,89 -	16,47)	

Table 3: Results for the multilevel logistic regression of incident depression among 15-24 in South

Africa

	Model 1		Model 2		Model 3	
	OR	(CI)	OR	(CI)	OR	(CI)
Depressive symptom						
Presence mother: (Mother absent)						
Present	0.85	[0.70,1.03]	0.91	[0.73,1.12]	1.03	[0.83,1.30]
Presence Father: (Father absent)						
Present	0.90	[0.71,1.14]	0.82	[0.63,1.05]	0.92	[0.71,1.21]
Quintile household income: (Lowest)						
Second	0.95	[0.72,1.25]	0.96	[0.72,1.29]	0.92	[0.68,1.25]
Third	0.92	[0.70,1.22]	0.86	[0.64,1.17]	0.74*	[0.54,1.01]
Forth	1.44**	[1.06,1.96]	1.49**	[1.07,2.06]	1.23	[0.86,1.76]
Highest	1.05	[0.76,1.46]	1.18	[0.83,1.66]	1.10	[0.76,1.59]
Trust neighbor return wallet: (Very likely)						
Somewhat likely			0.44***	[0.29,0.65]	0.43***	[0.28,0.64]
Not likely at all			0.54***	[0.38,0.76]	0.52***	[0.37,0.75]
Trust stranger return wallet: (Very likely)						
Somewhat likely			0.94	[0.63,1.41]	0.90	[0.58,1.39]
Not likely at all			0.46***	[0.31,0.68]	0.47***	[0.31,0.71]
Crime and safety: (Low crime)						
High crime			1.34***	[1.08,1.66]	1.33**	[1.06,1.67]
Sex:(Male)						
Female					1.07	[0.87,1.31]
Colored					0.51***	[0.33,0.78]

Asian/Indian/White	0.23***	[0.08,0.64]
Marital Status: (In union)		
Not in union	0.96	[0.60,1.54]
Employment status: (Not in employment)		
In Employment	0.94	[0.74,1.21]
Education: (Primary or less)		
Secondary	1.14	[0.75,1.72]
Vocational/Higher	0.90	[0.53,1.55]
Age: (15-19 years)		
20-24 years	3.35***	[2.57,4.38]
Health Status: (Excellent)		
Very good	1.22	[0.94,1.57]
Good	1.34*	[0.99,1.80]
Fair/Poor	1.57	[0.86,2.88]

Exponentiated coefficients

Note: Reference category is in parentheses. Significance levels: * p < 0.1, ** p < 0.05, *** p < 0.01. OR.: Odds ratios, CI: 95% confidence interval. All the estimations are weighted using NIDS post-stratification weight.