Article

Educational Attainment Promotes Fruit and Vegetable Intake for Whites but Not Blacks

Shervin Assari 1,2,3,4,* and Maryam Moghani Lankarani 4

1 Department of Psychology, University of California, Los Angeles (UCLA), Los Angeles, CA 90095, USA
2 BRITE Center for Science, Research and Policy, University of California, Los Angeles (UCLA), Los Angeles, CA 90095, USA
3 Center for Research on Ethnicity, Culture, and Health (CRECH), School of Public Health, University of Michigan, Ann Arbor, MI 48104, USA
4 Department of Psychiatry, University of Michigan, 4250 Plymouth Rd., Ann Arbor, MI 48109-2700, USA; lankaranii@yahoo.com
* Correspondence: assari@umich.edu; Tel.: +1-734-363-2678

Received: 11 May 2018; Accepted: 1 June 2018; Published: 3 June 2018

Abstract: Background. Although the protective effects of socioeconomic status (SES) on health behaviors are well-known, according to the minorities’ diminished return theory, the health return of SES, particularly educational attainment, is systemically smaller for minorities than Whites. Aims. The current study explored Black–White differences in the effects of educational attainment and income on the consumption of fruits and vegetables. Methods. This cross-sectional study used the Health Information National Trends Survey (HINTS) 2017 (n = 3217). HINTS is a nationally representative survey of American adults. The current analysis included 2277 adults who were either non-Hispanic White (n = 1868; 82%) or non-Hispanic Black (n = 409; 18%). The independent variables in this study were SES (educational attainment and income). The dependent variable was consumption of fruits and vegetables. Race was the focal moderator. Results. In the overall sample, high educational attainment and income were associated with higher consumption of fruits and vegetables. Race moderated the effect of educational attainment but not income on the consumption of fruits and vegetables. Conclusion. In line with the past research in the United States, Whites constantly gain more health benefits from the very same educational attainment than Blacks. The health gain from income is more equal across races than the health gain from educational attainment. Such diminished returns may be due to racism across institutions in the United States.

Keywords: diet; nutrition; fruit and vegetable; population groups; race; Whites; Blacks; African-Americans; socioeconomics; education; income

1. Background

The Minorities’ Diminished Return theory [1,2] suggests that the health effects of SES are not equal across races. Diminished health gain from equal resources among racial and ethnic minorities at least in part explains why racial health gaps persist despite enormous investments to achieve health equality [2]. Research has shown that educational attainment [3,4], employment [5,6], neighborhood quality [7], and social contacts [8] all have stronger health effects in White than Black Americans. Although most of the evidence behind Minorities’ Diminished Return is for the comparison of Blacks and Whites [1,2], similar patterns are shown for other minority groups, such as Hispanics [9].

How educational attainment impacts population health depends on a wide range of sociodemographic factors, such as race, that shape access to other resources, the capacity to leverage education, the ability to navigate society, and the autonomy to take control of resources [1,2]. Differential health gains from
educational attainment by race have been attributed to institutional racism and historical oppression (legacy of slavery and Jim Crow laws) within the U.S. social system. Because American society does not treat racial groups equally, high SES Blacks are in a systemic disadvantage compared to high SES Whites in gaining and maintaining access to the opportunity structure. In addition, the pervasive racism and discrimination across levels and institutions of society increases the social, psychological, and physiological costs of upward social mobility for non-Whites. Residential and job segregation, lack of a universal health care system, and low availability of safety nets and welfare state in the U.S. all increase the challenges that are involved in the upward social mobility of minority groups [1]. Enormous gaps in wealth accumulation and childhood SES also exist across racial groups [1,2,10,11].

Several studies have shown that the health return of educational attainment is systemically smaller for Black than for White Americans. In a 15-year follow up study of an urban birth cohort, family structure and SES at birth had protective effects against future obesity among White but not Black families [12]. Similar results were found for the effects of educational attainment on alcohol consumption [3], self-rated health [13,14], physical activity and sleep quality [15], and breastfeeding and hunger [16]. Very few studies, if any, however, have ever explored racial variation on the effects of educational attainment on fruit and vegetable consumption.

Similar to other aspects of a healthy diet [17,18], fruit and vegetable intake is a function of race and SES [19,20]. Education and income are strong determinants of various aspects of diet quality, including breakfast eating, fast food eating, high calorie intake, and fruit and vegetable intake [17,19–21]. Individuals who have low educational attainment and low-income report a lower intake of fruit and vegetables [21]. As race is a proxy of SES (education and income) [22], compared to Whites, Blacks report a worse diet [23], including a lower intake of fruit and vegetables [24,25].

2. Aim

To extend the current knowledge on the Minorities’ Diminished Return theory [1,2], and in continuation of previous work on the multiplicative effects of race and SES on health [26,27], this study investigates whether SES resources (educational attainment and income) have smaller effects on the consumption of fruits and vegetables in non-Hispanic Blacks compared to non-Hispanic Whites. In line with the Minorities’ Diminished Return theory [1,2], we expected that economic resources would have a stronger association with the consumption of fruits and vegetables among non-Hispanic Whites than non-Hispanic Blacks.

3. Methods

3.1. Design and Setting

The Health Information National Trends Survey (HINTS), 2017, is the most updated version of HINTS, a nationally-representative survey. HINTS has been periodically administered by the National Cancer Institute (NCI) since 2003. The HINTS target population is non-institutionalized American adults (age >= 18) who reside in the United States. The current study is conducted on the most recent version of HINTS (also called HINTS 5, Cycle 1). HINTS 5, Cycle 1 was conducted between January and May 2017. The primary purpose of the HINTS study is to provide a comprehensive evaluation of Americans’ access to and use of cancer information [28–30].

3.2. Ethics

All participants provided informed consent. HINTS 5 was approved by the Westat Institutional Review Board. According to the NIH Office of Human Subjects, HINTS was exempt from institutional review board (IRB) review.
3.3. Sampling

The HINTS 5, Cycle 1 sampling strategy consisted of a two-stage design. First, a stratified sample of addresses was derived from all residential addresses. Second, one adult was selected from each sampled household. As described more fully below, weights were applied to ensure representativeness. The list of addresses was provided by the Marketing Systems Group (MSG). All non-vacant residential addresses in the US were eligible for sampling. The sampling frame of addresses was stratified to the following two groups: (1) areas with a high concentration of minorities; and (2) areas with a low concentration of minorities. From each sampling stratum, an equal-probability sample of addresses was selected [31].

3.4. Survey

The survey was conducted exclusively by mail. To encourage participation, a pre-paid monetary incentive ($2) was included in the mailing. Two toll-free telephone lines numbers were provided to participants: one for English interviews and one for Spanish interviews. The overall response rate was 32.4 percent [31].

3.5. Measures

3.5.1. Independent Variables

   Educational Attainment. Educational attainment was one of the two main SES indicators in our study. Educational level was reported as: (1) less than high school; (2) high school graduate; (3) some college; (4) bachelor’s degree; (5) post-baccalaureate degree. Educational attainment was operationalized as a continuous measure, with a higher score reflecting more education.

   Income. Household income was recorded as: (1) 0–9999; (2) $10,000 to $14,999; (3) $15,000 to $19,999; (4) $20,000 to $34,999; (5) $35,000 to $49,999; (6) $50,000 to $74,999; (7) $75,000 to $99,999; (8) $100,000 to $199,999; and (9) $200,000 or more. Income was operationalized as a continuous variable.

3.5.2. Dependent Variables

   Consumption of Fruits and Vegetables. This study measured the fruit and vegetable intake using the following two items: (1) “About how many cups of fruits do you eat or drink each day?”; (2) “About how many cups of vegetables do you eat or drink each day?” Responses were (0) none; (1) half cup or less; (2) half cup to one cup; (3) one to two cups; (4) two to three cups, (5) three to four cups, and (6) five or more cups. The two items were positively correlated ($r = 0.49$ for all, $r = 0.49$ for Whites and $r = 0.50$ for Blacks). We calculated a sum score, with a potential range between 0 and 12. A higher score was indicative of a higher fruit and vegetable intake [32–36].

3.5.3. Covariates

   Demographic Variables. Age, gender, and race were collected. Age was a continuous measure. Gender was operationalized as a dichotomous variable (men 0 [reference group] and women 1).

   Self-Rated Health (SRH). Respondents were asked to rate their general health status, using a single item. Response options were: (1) excellent, (2) very good; (3) good; (4) fair; and (5) poor. The literature has mostly treated SRH as a categorical variable. In line with precious research, we defined the outcome as fair/poor health versus other levels (i.e., excellent, good, very good). Poor/fair SRH was coded as 1 [37]. SRH, which predicts the risk of mortality, is recommended as an outcome for the monitoring of the health of Americans by the Institute of Medicine (IOM) [38].

3.5.4. Moderator

   Race, measured as self-identified, was a dichotomous variable (non-Hispanic Whites 0 [reference group], non-Hispanic Blacks 1).
3.6. Statistical Analysis

3.6.1. Survey Weights

To accommodate the HINTS multi-stage sample design, we applied the HINTS sampling weights due to stratification, clustering, and respondent non-response. We used Stata 13.0 (Stata Corp., College Station, TX, USA) for our data analysis. Jackknife standard errors were calculated.

3.6.2. Data Analysis

In terms of univariate statistics, we described the mean and proportions (frequencies). For the bivariate analysis, we used an independent sample t test and Pearson Chi square tests to compare Blacks and Whites. We tested the assumptions of multi-collinearity and the normal distribution of errors. All the ordinary least squares (OLS) regression assumptions, including linearity, multivariate normality, and auto-correlation, were successfully met. For the multivariable analysis, we estimated four sub-population linear regression models. In these linear regression models, we used educational attainment and income as the independent variables, the consumption of fruits and vegetables as the dependent variable, the demographics as covariates, and race as the focal moderator. First, two linear regressions were estimated in the pooled sample. The first model only included the main effects of race and SES (educational attainment and income) interactions. The next model included the following two interaction terms: race by income and race by education. Finally, we ran race-specific linear regressions (Model 3 for Whites and Model 4 for Blacks). Adjusted regression coefficients, 95% confidence intervals (CI), and p values were reported. A p value less than 0.05 was considered significant.

4. Results

4.1. Descriptive Statistics

This study included 2277 adults who were either non-Hispanic Whites (n = 1868, 82%) or non-Hispanic Blacks (n = 409; 18%), using 10 years of data. Table 1 provides descriptive statistics of the study variables in the overall sample and by race. Non-Hispanic Blacks had lower educational attainment and income than non-Hispanic Whites. Race was not associated with the consumption of fruits and vegetables (Table 1).

4.2. Multivariable Models

Table 2 summarizes the results of two linear regressions in the overall sample, with educational attainment and income as the independent variables, and the consumption of fruits and vegetables as the dependent variable. Based on Model 1, high educational attainment (b = 0.25, 95% CI = 0.10–0.39) and high income (b = 0.13, 95% CI = 0.04–0.23) were associated with higher fruit and vegetable intake above and beyond all of the covariates. Model 2 showed an interaction between race and educational attainment for the consumption of fruits and vegetables (b = −0.60, 95% CI = −0.99–0.20), suggesting that the effect of educational attainment on the consumption of fruits and vegetables is smaller for non-Hispanic Blacks than non-Hispanic Whites. No interaction was found between race and income for the consumption of fruits and vegetables (b = 0.05, 95% CI = −0.15–0.25) (Table 2).

Table 3 presents the results of two linear regression models in non-Hispanic Whites and non-Hispanic Blacks. Model 3 showed significant effects of educational attainment (b = 0.35, 95% CI = 0.20–0.50) and income (b = 0.13, 95% CI = 0.02–0.24) on consumption of fruits and vegetables for non-Hispanic Whites. Model 4 among non-Hispanic Blacks did not show any effect of educational attainment (b = −0.22, 95% CI = −0.62–0.19) on fruit and vegetable intake, however, the association between income and the consumption of fruits and vegetables was marginally significant (b = 0.18, 95% CI = −0.01–0.37) (Table 3).
Table 1. Descriptive statistics in the overall sample and by race.

|                        | All (n = 2277) | Non-Hispanic Whites (n = 1868) | Non-Hispanic Blacks (n = 409) |
|------------------------|---------------|--------------------------------|------------------------------|
|                        | Mean   | SE    | Mean   | SE    | Mean   | SE   |
| Age                    | 48.80  | 0.34  | 50.10  | 0.46  | 47.72  | 1.22 |
| Education *            | 3.12   | 0.02  | 3.17   | 0.02  | 3.08   | 0.10 |
| Income (household) *   | 5.60   | 0.05  | 5.87   | 0.07  | 4.68   | 0.22 |
| Consumption of Fruits and Vegetables | 4.99  | 0.06  | 4.99   | 0.07  | 5.26   | 0.18 |
| Gender                 |        |       |        |       |        |      |
| Female                 | 50.63  | 0.00  | 50.84  | 0.00  | 60.86  | 0.04 |
| Male                   | 49.37  | 0.00  | 49.16  | 0.00  | 39.14  | 0.04 |
| Education              |        |       |        |       |        |      |
| Less than High School  | 8.37   | 0.01  | 5.54   | 0.01  | 13.69  | 0.03 |
| High School Graduate   | 22.67  | 0.01  | 20.16  | 0.01  | 24.01  | 0.03 |
| Some College           | 32.98  | 0.01  | 41.03  | 0.01  | 19.36  | 0.03 |
| Bachelor’s Degree      | 22.38  | 0.01  | 20.37  | 0.01  | 26.04  | 0.04 |
| Post-Baccalaureate Degree | 13.60  | 0.01  | 12.91  | 0.01  | 16.91  | 0.04 |
| Obese *                |        |       |        |       |        |      |
| No                     | 66.80  | 0.01  | 67.79  | 0.02  | 58.24  | 0.04 |
| Yes                    | 33.20  | 0.01  | 32.21  | 0.02  | 41.76  | 0.04 |
| Self-rated Health (SRH) * |       |       |        |       |        |      |
| Excellent-Good         | 83.07  | 0.01  | 85.15  | 0.02  | 80.41  | 0.02 |
| Fair/poor              | 16.93  | 0.01  | 14.85  | 0.02  | 19.59  | 0.02 |

*p < 0.05 for the comparison of Blacks and Whites.

Table 2. Estimated net effects of key predictor and control variables on fruit and vegetable intake in the pooled sample.

|                        | All (n = 2277) | Model 1 |                         | Model 2 |                         |
|------------------------|---------------|---------|-------------------------|---------|-------------------------|
|                        |               | b       | 95% CI.                 | b       | 95% CI.                 |
| Race (Non-Hispanic Blacks) | 0.58 *      | 0.14–1.03 | 2.20 **     | 0.83–3.56     |
| Gender (Male)           | −0.28 *      | −0.55–0.00 | −0.29 *     | −0.57–0.02     |
| Age                    | −0.01 *      | −0.02–0.00 | −0.01 *     | −0.02–0.00     |
| Obese                  | −0.31 *      | −0.62–0.01 | −0.32 *     | −0.62–0.01     |
| SRH (Poor)             | −0.31        | −0.72–0.11 | −0.25       | −0.66–0.16     |
| Education              | 0.25 ***     | 0.10–0.39  | 0.35 ***     | 0.20–0.51      |
| Income                 | 0.13 **      | 0.04–0.23  | 0.13 *      | 0.03–0.24      |
| Race × Education       | −           | −         | −0.60 **     | −0.99–0.20     |
| Race × Income          | −           | −         | 0.05        | −0.15–0.25     |
| Intercept              | 4.23 ***     | 3.31–5.15  | 3.89 ***     | 2.89–4.89      |
| Adjusted R-square      | 0.10         | 0.11      |             |             |

*p < 0.05, ** p < 0.01, *** p < 0.001. Source: Health Information National Trends Survey (HINTS) 2017.
Table 3. Estimated net effects of key predictor and control variables on fruit and vegetable intake across races.

|                    | Non-Hispanic Whites (n = 1868) | Non-Hispanic Blacks (n = 409) |
|--------------------|--------------------------------|-------------------------------|
|                    | b 95% CI.                      | b 95% CI.                     |
| **Model 3**        |                                |                               |
| Gender (Male)      | −0.34 *                        | −0.64–0.03                    | −0.69–0.74 |
| Age                | −0.01 *                        | −0.02–0.00                    | 0.00       | −0.03–0.02 |
| Obese              | −0.30 #                        | −0.65–0.06                    | −0.35      | −1.08–0.39 |
| SRH (Poor)         | −0.29                          | −0.75–0.17                    | −0.02      | −1.00–0.96 |
| Education          | 0.35 ***                       | 0.20–0.50                     | −0.22      | −0.62–0.19 |
| Income             | 0.13 *                         | 0.02–0.24                     | 0.18 #     | −0.01–0.37 |
| Intercept          | 3.95 ***                       | 2.90–5.01                     | 5.59 ***   | 3.80–7.37  |
| Adjusted R-square  | 0.10                           |                               | 0.05       |
| **Model 4**        |                                |                               |

# p < 0.1, * p < 0.05, ** p < 0.01, *** p < 0.001. Source: Health Information National Trends Survey (HINTS) 2017.

5. Discussion

In the pooled sample, higher educational attainment and income were associated with higher fruit and vegetable intake. While the effect of income was similar for non-Hispanic Whites and non-Hispanic Blacks, high educational attainment showed a stronger effect on the consumption of fruits and vegetables for non-Hispanic Whites than non-Hispanic Blacks. Although there are inequalities, such inequalities are seen for education but not income.

5.1. Results in Context

Although support for the Minorities’ Diminished Return theory was found, we only found a moderating effect of race for educational attainment but not income. One clear implication here is that educational institutions are not “the great equalizer” they are sometimes called [39]. In a study by Holmes and Zajacova, education was found to have a larger effect on the health of Whites than Blacks even after controlling for demographic, behavioral, and economic confounders. The authors attributed these racial differences to unmeasured variables such as childhood SES [39].

Our finding is in line with other studies that have documented stronger effects of educational attainment on other behaviors such as alcohol consumption [3] and smoking [40] among White than Black Americans. Educational attainment, employment, and income also better protect Whites than Blacks against premature mortality [4,6] and risk of depression [26,27,41]. Studies by Hayward et al. [42], Backlund et al. [43], Lewis et al. [44], Roelfs [45], and Everett et al. [46] have also shown larger effects of SES on mortality for Whites than Blacks. Marital status may also have stronger effects on hunger and breastfeeding for White than Black mothers [16].

The current study extends a well-established phenomenon to a new outcome. We are not aware of any previous studies on differential SES gains of Blacks and Whites on the consumption of fruits and vegetables. This study is among the first studies to provide evidence that the influence of educational attainment on diet is conditional on race. This result is in line with other outcomes that have previously shown (please see references [1] and [2] for a review).

Lower education quality in inner cities and scarcity of educational resources within majority Black areas may be responsible for the observed differential effect of educational attainment across races [47]. The magnitude of the effect of education credentials and years of schooling on health are conditional upon how educational attainment translates to income and wealth, which depends on race and ethnicity [48,49]. Populations’ abilities to translate their SES resources into tangible health outcomes are not equal across demographic and social groups [50]. Race, ethnicity, gender, and class mitigate the health gains that follow educational attainment in multiple ways [51].
Despite all the existing anti-discrimination regulations, the labor market continues to provide unequal employment opportunities for racial groups [52]. Labor market preferences and practices that constantly favor and promote Whites cause a relative disadvantage of the educational attainment of non-Whites. Labor market constantly discriminates against Blacks in hiring and wages [53]. Evidence indicates that applicants with Black or Hispanic names are less likely to be selected for job interviews [54–56]. In 2006, among men with a master’s degree, Blacks earned $27,000 less than Whites [4,57]. Dual market theory suggests that occupations are roughly divided into two categories: primary jobs that have high wages, good working conditions, and opportunities for advancement, and secondary jobs with minimum wages, poor working conditions, stressful and unstable conditions, and minimal opportunity for growth and promotion [58]. Blacks are more likely to work secondary jobs than Whites [59]. As a result, educational attainment shows a diminished economic return and generates smaller changes to the lifestyle, behaviors, social networks, and life conditions of Blacks than Whites [60].

The significant interaction between educational attainment and race is that among equally educated individuals, Blacks are at a disadvantage for diet; this may be due to Blacks’ disadvantages in the job market. The disadvantage of Blacks in the job market may translate into Black’s lower consumption of fruits and vegetables and other healthy behaviors. The effects of race and class are not additive but multiplicative. This supports the views of Navarro [61], Williams [62], and Mehta [63], who have argued that race and SES interact with health. That is, resources better serve the majority than minority groups. Health disparities should be seen as a consequence of complex, nonlinear, interrelated interactions between race and SES resources.

Due to residential segregation by race, high SES Blacks are still at a higher risk of living in majority Black neighborhoods, which reduces their access to healthy food [64]. The density of grocery stores and supermarkets that facilitate a healthy diet is lower for majority Black than majority White neighborhoods [64]. The environment negatively impacts highly educated Blacks who are interested in a healthy diet, as their physical environment may discourage them from purchasing fruit and vegetables that may not be easily available at nearby locations [65]. As a result, Blacks may replace fruits and vegetables with other types of food, resulting in the consumption of less fruits and vegetables [66–68]. Given the causal link between low levels of fruit and vegetable intake and the risk of cardio-metabolic problems and cancer [69], the results are a higher prevalence of obesity, diabetes, hypertension, stroke, heart disease, and some cancers in high SES Blacks compared to high SES Whites [23,70–76].

This study did not show an interaction between race and income on diet. In a study on the effects of SES on mortality, Blacks gained less from educational attainment but not income [4]. Thus, it is intuitive to expect larger gap in the effects of educational attainment than income. This is because the differential effect of education on income is one of the mechanisms behind the differential effect of educational attainment on health.

SES is best understood as a multi-dimensional construct composed of education, income, and occupational prestige [77,78]. The disparate findings of moderation for education and income further underscore the value of a multi-dimensional measurement of SES [77–79]. As a result, different measures of SES play a different moderating role, however, education seems to generate more differential gains than income [1,2].

5.2. Policy Implications

Policymakers should be aware of the systemic interaction between racial group membership and resources. Thus, policymakers should be aware of the systemic interaction between racial group membership and resources. Income redistribution policies may be an effective strategy for the elimination of health disparities in the U.S. Policies that increase the minimum income and reduce the Black–White gap in pay may reduce disparities in health [1,2]. This finding also has implications for decisions on the threshold of SES for the eligibility of food assistance programs such as Women,
Infants and Children (WIC) Temporary Assistance for Needy Families (TANF) for racial minority groups [80].

The results also have implications for clinical practice and public health programs. Highly educated Blacks may still require more health promotion programs that are focused on a healthy diet and the consumption of fruits and vegetables. High SES Blacks may require some advice to encourage an increase in their fruit and vegetable intake. In this regard, tailored messages may be an effective strategy to promote the health of Blacks [81,82].

The direction of moderation by race is to Blacks’ disadvantage. Blacks experience several social and economic disadvantages [62,83]. As a result, closing the gap between White and Black health would not simply be possible by eliminating the racial gap in SES. Racial differences in health reaches beyond SES differences in the distribution of resources. Blacks are constantly exposed to a wide range of societal barriers that hinder their ability to take advantage of the resources that they access. A single SES resource may have a smaller protective effect in the presence of several other risk factors [84–89]. Despite high education, Blacks have low employment opportunities [42] and earn less if employed [90,91]. The Black–White pay gap is larger than the Black–White gap in educational attainment [92]. High paying jobs are more accessible by Whites than Blacks, and Blacks may have difficulty with commuting to jobs and competing to securing a high-paying job [93]. The education system also discriminates against Blacks [94], which reduces the gain that follows education. Highly educated Blacks do not enjoy equal access to the opportunity structure compared to their White counterparts [95,96].

5.3. Limitations

This study had a few methodological limitations. First, with a cross-sectional design, our study does not allow any causal inferences. Longitudinal studies are needed to observe how change in SES impacts changes in dietary behavior over time. Thus, there is a need to replicate these findings using longitudinal data. Second, potential underlying mechanisms beneath the observed differential effects were not investigated. Family structure, childhood SES, wealth, and employment may be some explanatory factors. In addition, we did not study the types of fruits and vegetables. As some fruit show paradoxical health effects [97], more attention to the specific types of fruit consumed is needed. Furthermore, as we measured fruit and vegetable intake using two items, we did not run separate models for fruit consumption and vegetable consumption. Measurement bias was also a threat, as the response categories for fruit and vegetable use were not mutually exclusive. This study was limited to Whites and Blacks. Future research should also include Latino or Hispanic respondents. We recommend that future research uses food diaries as a follow-up to self-reported survey data on fruit and vegetable intake. Our study is prone to non-random reporting differences by race and class that may impact the validity of the results. In addition, the lower sample size of Blacks than Whites may have resulted in different statistical power across racial groups. Lastly, although MDR should be considered as a theory, the evidence supporting it is limited to the US, and we do not know if the same pattern would hold in Europe, Asia, and Africa. More research is needed to test how this theory holds in settings other than US. Despite the above limitations, this study extends the existing literature on the interactive effects of race and SES on healthy diet.

6. Conclusions

To conclude, race modifies the health gains that follow educational attainment, and the consumption of fruits and vegetables is not an exception to this rule. That is, in America, educational attainment consistently generates a greater benefit for the majority than for minority groups. There is a need for policies and programs that have the potential to minimize minorities’ diminished returns of educational attainment and other SES resources. Policies should go beyond increasing minorities’ access to educational attainment and identify ways to increase Blacks’ capacity to translate their educational attainment into tangible health outcomes. There is a need to reduce discrimination across
levels, such as the labor market and education system, that cause inequalities in gains from education. Without reducing structural and institutional racism in the U.S., merely eliminating the racial gap in access to SES resources will not be enough to eliminate the racial gap in health.

Author Contributions: S.A. drew the conceptual model; S.A. analyzed the data; S.A. and M.M.L. contributed to the interpretation of the findings; M.M.L. wrote the first draft of the paper, S.A. revised the paper.

Conflicts of Interest: The authors declare no conflict of interest.

Ethics: All participants provided informed consent. HINTS 5 was approved by the Westat’s Institutional Review Board. HINTS was deemed exempt from IRB review by the NIH Office of Human Subjects.

References

1. Assari, S. Health Disparities Due to Diminished Return among Black Americans: Public Policy Solutions. Soc. Issues Policy Rev. 2018. [CrossRef]
2. Assari, S. Unequal Gain of Equal Resources across Racial Groups. Int. J. Health Policy Manag. 2018, 7, 1–9. [CrossRef] [PubMed]
3. Assari, S.; Lankarani, M.M. Education and Alcohol Consumption among Older Americans: Black–White Differences. Front. Public Health 2016, 4. [CrossRef] [PubMed]
4. Assari, S.; Lankarani, M.M. Race and Urbanity Alter the Protective Effect of Education but not Income on Mortality. Front. Public Health 2016, 4, 100. [CrossRef] [PubMed]
5. Assari, S.; Barnett, T. Education attainment promotes healthy diet among Whites but not Blacks. J. Racial Ethn. Health Dispar. 2018, in press.
6. Assari, S. Life Expectancy Gain Due to Employment Status Depends on Race, Gender, Education, and Their Intersections. J. Racial Ethn. Health Dispar. 2018, 5, 375–386. [CrossRef] [PubMed]
7. Assari, S. Perceived Neighborhood Safety Better Predicts Risk of Mortality for Whites than Blacks. J. Racial Ethn. Health Dispar. 2016. [CrossRef] [PubMed]
8. Assari, S. Whites but Not Blacks Gain Life Expectancy from Social Contacts. Behav. Sci. 2017, 7. [CrossRef] [PubMed]
9. Assari, S. Socioeconomic Status and Self-Rated Oral Health; Diminished Return among Hispanic Whites. Dent. J. 2018, 6, 11. [CrossRef] [PubMed]
10. Shapiro, T.; Oliver, M.L. Black Wealth/White Wealth: A New Perspective on Racial Inequality; Routledge: New York, NY, USA, 1995.
11. Shapiro, T. The Hidden Cost of Being African American: How Wealth Perpetuates Inequality; Oxford University Press: New York, NY, USA, 2004.
12. Assari, S.; Thomas, A.; Caldwell, C.H.; Mincy, R.B. Blacks’ Diminished Health Return of Family Structure and Socioeconomic Status; 15 Years of Follow-up of a National Urban Sample of Youth. J. Urban Health Bull. N. Y. Acad. Med. 2018, 95, 21–35. [CrossRef] [PubMed]
13. Assari, S.; Caldwell, C.H.; Mincy, R.B. Maternal Education at Birth Only Promotes the Self-rated Health of White but not Black Youth; A 15-Year Cohort of a National Urban Sample in the United States. J. Clin. Med. 2018, 7, 93. [CrossRef] [PubMed]
14. Farmer, M.M.; Ferraro, K.F. Are racial disparities in health conditional on socioeconomic status? Soc. Sci. Med. 2005, 60, 191–204. [CrossRef] [PubMed]
15. Assari, S.; Nikahd, A.; Malekahmadi, M.R.; Lankarani, M.M.; Zamanian, H. Race by Gender Group Differences in the Protective Effects of Socioeconomic Factors Against Sustained Health Problems Across Five Domains. J. Racial Ethn. Health Dispar. 2017, 4, 884–894. [CrossRef] [PubMed]
16. Assari, S.; Begmans, R. The effects of socioeconomic resources on hunger and breastfeeding are smaller for Black than White mothers. J. Health Soc. Behav. 2018, in press.
17. Satia, J.A. Diet-related disparities: Understanding the problem and accelerating solutions. J Am Diet Assoc. 2009, 109, 610–615. [CrossRef] [PubMed]
18. Drewnowski, A.; Kawachi, I. Diets and Health: How Food Decisions Are Shaped by Biology, Economics, Geography, and Social Interactions. Big Data 2015, 3, 193–197. [CrossRef] [PubMed]
19. Dubowitz, T.; Heron, M.; Bird, C.E.; Lurie, N.; Finch, B.K.; Basurto-Dávila, R.; Hale, L.; Escarce, J.J. Neighborhood socioeconomic status and fruits and vegetables intake among whites, blacks, and Mexican Americans in the United States. *Am. J. Clin. Nutr.* 2008, 87, 1883–1891. [CrossRef] [PubMed]

20. Lutfiyya, M.N.; Chang, L.F.; Lipsky, M.S. A cross-sectional study of US rural adults’ consumption of fruits and vegetables: Do they consume at least five servings daily? *BMC Public Health* 2012, 12, 280. [CrossRef] [PubMed]

21. Prättälä, R.; Hakala, S.; Roskam, A.J.; Roos, E.; Helmert, U.; Klumbiene, J.; Van Oyen, H.; Regidor, E.; Kunst, A.E. Association between educational level and vegetables use in nine European countries. *Public Health Nutr.* 2009, 12, 2174–2182. [CrossRef] [PubMed]

22. Williams, D.R.; Sternthal, M. Understanding racial-ethnic disparities in health: Sociological contributions. *J. Health Soc. Behav.* 2010, 51, S15–S27. [CrossRef] [PubMed]

23. Bahr, P.R. Race and nutrition: An investigation of Black-White differences in health-related nutritional behaviours. *Sociol. Health Illn.* 2007, 29, 831–856. [CrossRef] [PubMed]

24. Wang, Y.; Chen, X. Between-group differences in nutrition- and health-related psychosocial factors among US adults and their associations with diet, exercise, and weight status. *J. Acad. Nutr. Diet.* 2012, 112, 486.e3–498.e3. [CrossRef] [PubMed]

25. Watters, J.L.; Satia, J.A.; Kupper, L.L. Correlates of antioxidant nutrients and oxidative DNA damage differ by race in a cross-sectional study of healthy African American and white adults. *Nutr. Res.* 2008, 28, 565–576. [CrossRef] [PubMed]

26. Assari, S. Combined Racial and Gender Differences in the Long-Term Predictive Role of Education on Depressive Symptoms and Chronic Medical Conditions. *J. Racial Ethn. Health Dispar.* 2017, 4, 385–396. [CrossRef] [PubMed]

27. Assari, S. Social Determinants of Depression: The Intersections of Race, Gender, and Socioeconomic Status. *Brain Sci.* 2017, 7, 156. [CrossRef] [PubMed]

28. Nelson, D.; Kreps, G.; Hesse, B.; Croyle, R.; Willis, G.; Arora, N.; Rimer, B.; Vish Viswanath, K.; Weinstein, N.; Alden, S. The health information national trends survey (HINTS): Development, design, and dissemination. *J. Health Commun.* 2004, 9, 443–460. [CrossRef] [PubMed]

29. Rutten, L.J.; Squiers, L.; Hesse, B. Cancer-related information seeking: Hints from the 2003 Health Information National Trends Survey (HINTS). *J. Health Commun.* 2006, 11, 147–156. [CrossRef] [PubMed]

30. Hesse, B.W.; Moser, R.P.; Rutten, L.J.; Kreps, G.L. The health information national trends survey: Research from the baseline. *J. Health Commun.* 2006, 11, vii–xvi. [CrossRef] [PubMed]

31. National Cancer Institute. Health Information National Trends Survey 5 (HINTS 5) Cycle 1 Methodology Report. 2017. Available online: https://hints.cancer.gov/docs/methodologyreports/HINTS5_Cycle_1_Methodology_Rpt.pdf (accessed on 1 June 2018).

32. Pem, D.; Jeewon, R. Fruits and vegetables Intake: Benefits and Progress of Nutrition Education Interventions—Narrative Review Article. *Iran J. Public Health* 2015, 44, 1309–1321. [CrossRef]

33. Msambichaka, B.; Eze, I.C.; Abdul, R.; Abdulla, S.; Klatser, P.; Tanner, M.; Kaushik, R.; Geubbels, E.; Probst-Hensch, N. Insufficient Fruits and vegetables Intake in a Low- and Middle-Income Setting: A Population-Based Survey in Semi-Urban Tanzania. *Nutrients* 2018, 16, 222. [CrossRef] [PubMed]

34. Odum, M.; Housman, J.M.; Williams, R.D., Jr. Intrapersonal Factors of Male and Female Adolescent Fruits and vegetables Intake. *Am. J. Health Behav.* 2018, 42, 106–115. [CrossRef] [PubMed]

35. Caldwell, A.R.; Terhorst, L.; Skidmore, E.R.; Bendixen, R.M. Is frequency of family meals associated with fruits and vegetables intake among preschoolers? A logistic regression analysis. *J. Hum. Nutr. Diet.* 2018. [CrossRef] [PubMed]

36. Colón-Ramos, U.; Finney Rutten, L.J.; Moser, R.; Colón-Lopez, V.; Ortiz, A.; Yaroch, A.L. The association between fruit and vegetable intake, knowledge of the recommendations, and health information seeking within adults in the U.S. mainland and in Puerto Rico. *J. Health Commun.* 2015, 20, 105–111. [CrossRef] [PubMed]

37. Idler, E.L.; Benyamini, Y. Self-rated health and mortality: A review of twenty-seven community studies. *J. Health Soc. Behav.* 1997, 38, 21–37. [CrossRef] [PubMed]

38. IOM. State of the USA Health Indicators: Letter Report. 2009. Available online: http://www.nap.edu/catalog/12534/state-of-the-usa-healthindicators-letter-report (accessed on 1 June 2018).
39. Holmes, C.J.; Zajacova, A. Education as “the great equalizer”: Health benefits for black and white adults. *Soc. Sci. Q.* 2014, 95, 1064–1085. [CrossRef]
40. Assari, S.; Mistry, R. Educational Attainment and Smoking Status in a National Sample of American Adults; Evidence for the Blacks’ Diminished Return. *Int. J. Environ. Res. Public Health* 2018, 15, 763. [CrossRef] [PubMed]
41. Assari, S.; Caldwell, C.H. High Risk of Depression in High-Income African American Boys. *J. Racial Ethn. Health Dispar.* 2017. [CrossRef] [PubMed]
42. Hayward, M.D.; Hummer, R.A.; Sasson, I. Trends and group differences in the association between educational attainment and U.S. adult mortality: Implications for understanding education’s causal influence. *Soc. Sci. Med.* 2015, 127, 8–18. [CrossRef] [PubMed]
43. Backlund, E.; Sorlie, P.D.; Johnson, N.J. A comparison of the relationships of education and income with mortality: The National Longitudinal Mortality Study. *Soc. Sci. Med.* 1999, 49, 1373–1384. [CrossRef]
44. Lewis, L.B.; Sloane, D.C.; Nascimento, L.M.; Diamant, A.L.; Guinyard, J.J.; Yancey, A.K.; Flynn, G. African Americans’ Access to Healthy Food Options in South Los Angeles Restaurants. *Am. J. Public Health* 2005, 95, 668–673. [CrossRef]
45. Roelfs, D.J.; Shor, E.; Davidson, K.W.; Schwartz, J.E. Losing life and livelihood: A systematic review and meta-analysis of unemployment and all-cause mortality. *Soc. Sci. Med.* 2011, 72, 840–854. [CrossRef] [PubMed]
46. Everett, B.G.; Rehkopf, D.H.; Rogers, R.G. The Nonlinear Relationship between Education and Mortality: An Examination of Cohort, Race/Ethnic, and Gender Differences. *Popul. Res. Policy Rev.* 2013, 32. [CrossRef] [PubMed]
47. Grogger, J. Does School Quality Explain the Recent Black/White Wage Trend? *J. Labor Econ.* 1996, 14, 231–253. [CrossRef]
48. Zajacova, A.; Hummer, R.A. Gender Differences in Education Effects on All-Cause Mortality for White and Black Adults in the United States. *Soc. Sci. Med.* 2009, 69, 529–537. [CrossRef] [PubMed]
49. Montez, J.K.; Hayward, M.D.; Brown, D.C.; Hummer, R.A. Why Is the Educational Gradient of Mortality Steeper for Men? *J. Gerontol. Ser. B Psychol. Sci. Soc. Sci.* 2009, 64, 625–634. [CrossRef] [PubMed]
50. Anderson, N.B.; Bulatao, R.A.; Cohen, B. National Research Council (US) Panel on Race, E. Race/Ethnicity, Socioeconomic Status, and Health. National Academies Press (US), 2004. Available online: https://www.ncbi.nlm.nih.gov/books/NBK25526/ (accessed on 1 June 2018).
51. Mackenbach, J.D.; Tiemeier, H.; Ende, J.; van der Nijs, I.M.T.; Jaddoe, V.W.V.; Hofman, A.; Verhulst, F.C.; Jansen, P.W. Relation of Emotional and Behavioral Problems with Body Mass Index in Preschool Children: The Generation R Study. *J. Dev. Behav. Pediatr.* 2012, 33, 641–648. [CrossRef] [PubMed]
52. Annie E. Casey Foundation. Race Matters: Unequal Opportunities In education (Race Matters Edition). 2006. Available online: http://www.aecf.org/resources/race-matters-1/ (accessed on 1 June 2018).
53. Reimers, C.W. Labor Market Discrimination against Hispanic and Black Men. *Rev. Econ. Stat.* 1983, 65, 570–579. [CrossRef]
54. King, E.B.; Mendoza, S.A.; Madera, J.M.; Hebl, M.R.; Knight, J.L. What’s in a name? A multiracial investigation of the role of occupational stereotypes in selection decisions. *J. Appl. Soc. Psychol.* 2006, 36, 1145–1159. [CrossRef]
55. Watson, S.; Appiah, O.; Thornton, C.G. The Effect of Name on Pre-Interview Impressions and Occupational Stereotypes: The Case of Black Sales Job Applicants. *J. Appl. Soc. Psychol.* 2011, 41, 2405–2420. [CrossRef]
56. Smith, S.S. “Don’t put my name on it”: Social Capital Activation and Job-Finding Assistance among the Black Urban Poor. *Am. J. Sociol.* 2005, 111, 1–57. [CrossRef]
57. Institute for Women’s Policy Research. Importance of Social Security by Gender, Race/Ethnicity, and Marital Status, 2010 (Quick Figures No. IWPR #Q011). 2012. Available online: https://iwpr.org/wp-content/uploads/wpallimport/files/iwpr-export/publications/Q011%20Social%20Security.pdf (accessed on 1 June 2018).
58. Doeringer, P.B.; Piore, M.J. *Internal Labor Markets and Manpower Analysis*, 1st ed.; Routledge: Armonk, NY, USA, 1985.
59. Dickens, W.T.; Lang, K. A Test of Dual Labor Market Theory. *Am. Econ. Rev.* 1985, 75, 792–805.
60. Rosenfeld, J.; Kleykamp, M. Organized Labor and Racial Wage Inequality in the United States. *AJS Am. J. Sociol.* 2012, 117, 1460–1502. [CrossRef] [PubMed]
61. Navarro, V. Race or class versus race and class: Mortality differentials in the United States. *Lancet* 1990, 336, 1238–1240. [CrossRef]
62. Williams, D.R.; Mohammed, S.A.; Leavell, J.; Collins, C. Race, socioeconomic status, and health: Complexities, ongoing challenges, and research opportunities. *Ann. N. Y. Acad. Sci.* 2010, 1186, 69–101. [CrossRef] [PubMed]

63. Mehta, N.; Preston, S. Are major behavioral and sociodemographic risk factors for mortality additive or multiplicative in their effects? *Soc. Sci. Med.* 2016, 154, 93–99. [CrossRef] [PubMed]

64. Bower, K.M.; Thorpe, R.J., Jr.; Rohde, C.; Gaskin, D.J. The intersection of neighborhood racial segregation, poverty, and urbanicity and its impact on food store availability in the United States. *Prev. Med.* 2014, 58, 33–39. [CrossRef] [PubMed]

65. Hilmers, A.; Hilmers, D.C.; Dave, J. Neighborhood disparities in access to healthy foods and their effects on environmental justice. *Am. J. Public Health* 2012, 102, 1644–1654. [CrossRef] [PubMed]

66. Li, W.; Youssef, G.; Procter-Gray, E.; Olendzki, B.; Cornish, T.; Hayes, R.; Churchill, L.; Kane, K.; Brown, K.; Magee, M.F. Racial Differences in Eating Patterns and Food Purchasing Behaviors among Urban Older Women. *J. Nutr. Health Aging* 2017, 21, 1190–1199. [CrossRef] [PubMed]

67. DiSantis, K.I.; Grier, S.A.; Odoms-Young, A.; Baskin, M.L.; Carter-Edwards, L.; Young, D.R.; Lassiter, V.; Kumanyika, S.K. What “price” means when buying food: Insights from a multisite qualitative study with Black Americans. *Am. J. Public Health* 2013, 103, 516–522. [CrossRef] [PubMed]

68. DiSantis, K.I.; Hillier, A.; Holaday, R.; Kumanyika, S. Why do you shop there? A mixed methods study mapping household food shopping patterns onto weekly routines of black women. *Int. J. Behav. Nutr. Phys. Act.* 2016, 13, 11. [CrossRef] [PubMed]

69. Wang, X.; Ouyang, Y.; Liu, J.; Zhu, M.; Zhao, G.; Bao, W.; Hu, F.B. Fruits and vegetables consumption and mortality from all causes, cardiovascular disease, and cancer: Systematic review and dose-response meta-analysis of prospective cohort studies. *BMJ* 2014, 349, g4490. [CrossRef] [PubMed]

70. Bower, K.M.; Thorpe, R.J., Jr.; Yenokyan, G.; McGinty, E.E.; Dubay, L.; Gaskin, D.J. Racial Residential Segregation and Disparities in Obesity among Women. *J. Urban Health* 2015, 92, 843–852. [CrossRef] [PubMed]

71. Gaskin, D.J.; Thorpe, R.J., Jr.; McGinty, E.E.; Bower, K.; Rohde, C.; Young, J.H.; LaVeist, T.A.; Dubay, L. Disparities in diabetes: The nexus of race, poverty, and place. *Am. J. Public Health* 2014, 104, 2147–2155. [CrossRef] [PubMed]

72. Usher, T.; Gaskin, D.J.; Bower, K.; Rohde, C.; Thorpe, R.J., Jr. Residential Segregation and Hypertension Prevalence in Black and White Older Adults. *J. Appl. Gerontol.* 2018, 37, 177–202. [CrossRef] [PubMed]

73. LaVeist, T.A.; Thorpe, R.J., Jr.; Galarraga, J.E.; Bower, K.M.; Gary-Webb, T.L. Environmental and socio-economic factors as contributors to racial disparities in diabetes prevalence. *J. Gen. Intern. Med.* 2009, 24, 1144–1148. [CrossRef] [PubMed]

74. Drewnowski, A. Obesity, diets, and social inequalities. *Nutr. Rev.* 2009, 67, S36–S39. [CrossRef] [PubMed]

75. Cockerham, W.C.; Bauldry, S.; Hamby, B.W.; Shikany, J.M.; Bae, S. A Comparison of Black and White Racial Differences in Health Lifestyles and Cardiovascular Disease. *Am. J. Prev. Med.* 2017, 52, S56–S62. [CrossRef] [PubMed]

76. Adler, N.E.; Rehkopf, D.H. U.S. disparities in health: Descriptions, causes, and mechanisms. *Annu. Rev. Public Health* 2008, 29, 235–252. [CrossRef] [PubMed]

77. Pedersen, J.M.; Budtz-Jørgensen, E.; De Roos, A.; Garcia, L.; Lund, R.; Rod, N.H.; Kroenke, C.; Chan, K.H.K.; Liu, S.; Michael, Y. Understanding the relation between socioeconomic position and inflammation in post-menopausal women: Education, income and occupational prestige. *Eur. J. Public Health* 2017, 27, 1074–1079. [CrossRef] [PubMed]

78. Winkleby, M.A.; Jatulis, D.E.; Frank, E.; Fortmann, S.P. Socioeconomic status and health: How education, income, and occupation contribute to risk factors for cardiovascular disease. *Am. J. Public Health* 1992, 82, 816–820. [CrossRef] [PubMed]

79. Barringer, H.R.; Takeuchi, D.T.; Xenos, P. Education, occupational prestige, and income of Asian Americans. *Sociol. Educ.* 1990, 63, 27–43. [CrossRef]

80. Leung, C.W.; Willett, W.C.; Ding, E.L. Low-income Supplemental Nutrition Assistance Program participation is related to adiposity and metabolic risk factors. *Am. J. Clin. Nutr.* 2012, 95, 17–24. [CrossRef] [PubMed]

81. Ondersma, S.J.; Svikis, D.S.; Thacker, C.; Resnicow, K.; Beatty, J.R.; Janisse, J.; Puder, K. Computer-delivered indirect screening and brief intervention for drug use in the perinatal period: A randomized trial. *Drug Alcohol Depend.* 2018, 185, 271–277. [CrossRef] [PubMed]
82. Resnicow, K.; Davis, R.; Zhang, N.; Strecher, V.; Tolsma, D.; Calvi, J.; Alexander, G.; Anderson, J.P.; Wiese, C.; Cross, W.E. Tailoring a fruits and vegetables intervention on ethnic identity: Results of a randomized study. *Health Psychol.* 2009, 28, 394–403. [CrossRef] [PubMed]

83. Williams, D.R. Race, socioeconomic status, and health. The added effects of racism and discrimination. *Ann. N. Y. Acad. Sci.* 1999, 896, 173–188. [CrossRef] [PubMed]

84. Dowd, J.B.; Zajacova, A. Does the predictive power of self-rated health for subsequent mortality risk vary by socioeconomic status in the US? *Int. J. Epidemiol.* 2007, 36, 1214–1221. [CrossRef] [PubMed]

85. Dowd, J.B.; Zajacova, A.; Aiello, A. Early origins of health disparities: Burden of infection, health, and socioeconomic status in U.S. children. *Soc. Sci. Med.* 2009, 68, 699–707. [CrossRef] [PubMed]

86. Ferraro, K.F.; Kelley-Moore, J.A. Self-rated health and mortality among black and white adults: Examining the dynamic evaluation thesis. *J. Gerontol. Ser. B Psychol. Sci. Soc. Sci.* 2001, 56, S195–S205. [CrossRef]

87. Flegal, K.M.; Kit, B.K.; Orpana, H.; Graubard, B.I. Association of All-Cause Mortality with Overweight and Obesity Using Standard Body Mass Index Categories: A Systematic Review and Meta-analysis. *JAMA* 2013, 309, 71–82. [CrossRef] [PubMed]

88. Lee, S.J.; Moody-Ayers, S.Y.; Landefeld, C.S.; Walter, L.C.; Lindquist, K.; Segal, M.R.; Covinsky, K.E. The relationship between self-rated health and mortality in older black and white Americans. *J. Am. Geriatr. Soc.* 2007, 55, 1624–1629. [CrossRef] [PubMed]

89. Dowd, J.J.; Bengtson, V.L. Aging in minority populations. An examination of the double jeopardy hypothesis. *J. Gerontol.* 1978, 33, 427–436. [CrossRef] [PubMed]

90. Kochhar, R.; Fry, R.; Taylor, P. Wealth Gaps Rise to Record Highs Between Whites, Blacks, Hispanics. 2011. Available online: http://www.pewsocialtrends.org/2011/07/26/wealth-gaps-rise-to-record-highs-between-whites-blacks-hispanics/ (accessed on 20 December 2017).

91. Shapiro, T.; Meschede, T.; Osoro, S. The Roots of the Widening Racial Wealth Gap: Explaining the Black-White Economic Divide. Research and Policy Brief. 2013. Available online: http://health-equity.lib.umd.edu/4120/ (accessed on 1 June 2018).

92. Tomaskovic-Devey, D. The gender and race composition of jobs and the male/female, white/black pay gaps. *Soc. Forces* 1993, 72, 45–76. [CrossRef]

93. Jencks, C.; Mayer, S. Chapter 5: Residential segregation, job proximity, and black job opportunities. In *Inner-City Poverty in the United States*; Lynn, L., Jr., McGeary, M., Committee on National Urban Policy, Commission on Behavioral and Social Sciences Education, National Research Council, Eds.; National Academies Press: Washington, DC, USA, 1990; pp. 187–222. [CrossRef]

94. Rosenbloom, S.R.; Way, N. Experiences of discrimination among African American, Asian American, and Latino adolescents in an urban high school. *Youth Soc.* 2004, 35, 420–451. [CrossRef]

95. Heitzeg, N.A. Education or Incarceration: Zero Tolerance Policies and the School to Prison Pipeline. Forum on Public Policy Online; 2009. Available online: https://eric.ed.gov/?id=EJ870076 (accessed on 1 June 2018).

96. Wald, J.; Losen, D.J. Defining and redirecting a school-to-prison pipeline. *New Dir. Stud. Leadersh.* 2003, 99, 9–15. [CrossRef] [PubMed]

97. Sharma, S.P.; Chung, H.J.; Kim, H.J.; Hong, S.T. Paradoxical Effects of Fruit on Obesity. *Nutrients* 2016, 8, 633. [CrossRef] [PubMed]