Early Intervention IN PSYCHIATRY
First Impact Factor released in June 2010 and now listed in MEDLINE!
International Early Psychosis Association

Early Intervention in Psychiatry 2016; ••: ••–••
doi:10.1111/eip.12314

Original Article

Ethnic identity, racial discrimination and attenuated psychotic symptoms in an urban population of emerging adults

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Received 24 August 2015; accepted 15 December 2015

Abstract

Aim: Studies suggest strong ethnic identity generally protects against negative mental health outcomes associated with racial discrimination. In light of evidence suggesting racial discrimination may enhance psychosis risk in racial and ethnic minority (REM) populations, the present study explored the relationship between ethnic identity and attenuated positive psychotic symptoms (APPS) and whether ethnic identity moderates the association between racial discrimination and these symptoms.

Methods: A sample of 644 non-help-seeking REM emerging adults was administered self-report inventories for psychosis risk, experiences of discrimination and ethnic identity. Latent class analysis was applied to determine the nature and number of ethnic identity types in this population. The direct association between ethnic identity and APPS and the interaction between ethnic identity and racial discrimination on APPS were determined in linear regression analyses.

Results: Results indicated three ethnic identity classes (very low, moderate to high and very high). Ethnic identity was not directly related to APPS; however, it was related to APPS under racially discriminating conditions. Specifically, participants who experienced discrimination in the moderate to high or very high ethnic identity classes reported fewer symptoms than participants who experienced discrimination in the very low ethnic identity class.

Conclusions: Strong ethnic group affiliation and connection may serve a protective function for psychosis risk in racially discriminating environments and contexts among REM young adults. The possible social benefits of strong ethnic identification among REM youth who face racial discrimination should be explored further in clinical high-risk studies.

Key words: attenuated, ethnic identity, psychotic symptom, race, racial discrimination.

INTRODUCTION

Growing evidence suggests exposure to racial discrimination may contribute to greater incidence of clinical psychosis and sub-clinical psychotic symptoms in racial and ethnic minorities (REM) living in Westernized contexts.[1–5] Specifically, racial discrimination exposure is related to risk for psychotic disorders[6,7] and is related to clinical high risk for psychosis[4] and endorsement of attenuated psychotic symptoms in general non-help-seeking populations.[1,3]

The preponderance of individuals who perceive discrimination does not develop psychotic symptoms, suggesting that other factors likely moderate this relationship. Ethnic identity, which captures the quality of affiliation and commitment to one's ethnic group,[8] may be one such factor. The positive components of ethnic identity include healthy attitudes about oneself as a member of an ethnic group and knowledge and pride in the values and customs of one's group.[9] These factors contribute to a healthy sense of self and protect against psychopathology.[10–13]

Few studies have determined whether ethnic identity is a protective factor for symptoms in the psychotic spectrum. A strong ethnic identity may lower risk for psychotic phenomenology by reducing the negative ramifications associated with discrimination. According to the rejection–identification model (RIM),[14] discrimination is a form of social exclusion that can deprive individuals of their need to belong, negatively impacting their sense of well-being.[14,15] Increasing one's ethnic identification in response to perceived discrimination can lead to greater feelings of belonging, resulting in more positive self-evaluation and increased well-being.[14,15] Empirical research has shown some support for RIM with studies demonstrating the mediating role ethnic identity plays in the relationships between discrimination and self-esteem,[14,16] discrimination and depression,[17–19] and discrimination and anxiety.[20] No studies have examined ethnic identity's role in the relationship between racial discrimination and psychotic symptoms.

Research examining ethnic identity's direct relationship to psychosis has been equivocal, with some studies finding strong ethnic identification predicts lower rates of psychosis[21,22] and others suggesting strong ethnic identity may enhance risk for psychosis.[23,24] Velthorst *et al.*[22] found that a strong ethnic identity resulted in less severe overall psychopathology for Dutch adolescents of Moroccan descent at risk for developing psychosis. On the other hand, Gonidakis *et al.*[24] found low ethnic identity was conducive to higher functioning in psychotic patients.

The direction of the relation between ethnic identity and psychosis likely depends on the sociocultural context in which one holds such an identity. In an ethnically heterogeneous country such as the United States where many REMs experience racial discrimination,[25] it may be particularly important to develop a strong ethnic sense of self to be better prepared for potentially discriminating interracial encounters. However, having too strong of an affiliation with an ethnic group that is viewed and treated negatively in the majority culture can enhance minority-related stress.[10] The present study employs latent class analysis to identify the natural delineations of ethnic identity in a US-based, predominantly REM population, and determines their association with attenuated symptoms in the subclinical range of the psychosis continuum where insight may still be intact. This latter purpose is relevant given previous research suggests ethnic identity can become distorted in individuals with frank clinical psychosis and therefore difficult to reliably assess (e.g. bizarre beliefs about one's skin colour).[26] Attenuated positive psychotic symptoms (APPS), which are expressed below clinical manifestation (e.g. suspiciousness rather than paranoid delusions), are prevalent in the general population with around 7% of the population experiencing these symptoms.[27] Although these symptoms tend to resolve themselves and do not lead to a clinical psychotic disorder for most,[28,29] they still may exert a significant psychological burden.[30]

Aim

The present study sought to determine the direct relationship between ethnic identity and APPS as well as whether ethnic identity is indirectly related to APPS through racial discrimination, as postulated in the rejection identification model. A predominantly REM sample was obtained from an urban public university system: (i) to enhance the ability to examine the subclinical portion of the psychotic spectrum during a developmental period that captures the greatest risk for clinical psychosis, and (ii) to capture the experience of a group in which racial discrimination and ethnic identity are particularly relevant. It is hypothesized that:

H1: Self-reported APPS will differ across levels of ethnic identity. We expect participants with strong ethnic identity will report less APPS than participants with weaker ethnic identity.

H2: Ethnic identity will also be related to APPS through its relationship with racial discrimination. Specifically, participants who experience racial discrimination but have a strong ethnic identity will report fewer APPS than those who experience racial discrimination who have a weak ethnic identity.

Given ethnic identity's association with anxiety and depression[12,31] and that both symptoms are associated with psychotic symptoms in the general population,[32] we covary these effects in our multivariate analyses.

METHODS

Sample

Participants were obtained from a large urban public university system in the Northeastern United States. Undergraduate students from several disciplines were recruited through an online participant recruitment website. The students were prescreened for age (18–29) and for self-identifying as black/African American/African descent or as a first- or second-generation immigrant to maximize

recruitment of young ethnic minority adults possessing characteristics that have been implicated in psychosis risk.[33] A total of 650 participants completed self-report questionnaires in a research lab with completion times generally ranging from 30 minutes to 1 hour. Six participants were excluded; three for poor English proficiency, and three who were significantly past the upper end of the age range (e.g. age 42), resulting in a final sample of 644 participants. The protocol was approved by the Institutional Review Board of the university and written informed consent was obtained from all participants prior to enrolment. All participants received course credit for their participation in the study.

Measures

APPS were assessed with the positive subscale of the Prodromal Questionnaire (PQ),[34,35] which is a 45-item self-report measure of APPS experienced in the absence of alcohol, drugs and other medications over the last month. The PQ has been validated against the Structured Interview for Prodromal Syndromes (SIPS)[34] and positive symptoms have the best predictive value for distinguishing a clinically high risk or psychotic clinical syndrome from no syndrome.[34] To capture the continuum of APPS that occur in the general population, all 45 items on the positive subscale of the PQ were summed into a single, total number (a dimensional variable).

Ethnic identity was assessed using the Multigroup Ethnic Identity Measure-Revised (MEIM-R).[8] This six-item self-report questionnaire determines participants' level of exploration and commitment regarding their ethnicity on a 5-point Likert scale with stems ranging from strongly disagree (1) to strongly agree (5), with 3 as a neutral position. An example item includes: 'I have a strong sense of belonging to my own ethnic group'. Prior research in primarily college student samples has indicated good internal consistency reliability which for the present study was also good ($\alpha = .85$).

Self-reported experiences of discrimination were determined using the Experiences of Discrimination (EOD) instrument,[36] which captures both the number of different situations in which respondents experienced discrimination due to race, ethnicity or colour, and the frequency of such occurrences. The nine situations assessed include: school; getting a job; work; getting housing; getting medical care; getting service in a store; getting credit or a loan; on the street; and from the police or in the courts. For each situation endorsed, respondents indicated the frequency on a 3-point scale: once = 1, two to three times = 2, four or more times = 3. The nine situations are tallied into a total racial discriminatory domain score (range = 0–9), and the frequency of occurrences for all nine situations is summed into a total score (range = 0–27) representing how often respondents experience racial discrimination. The measure has been psychometrically validated in a study of African American, Latino and white working adult participants, showing good reliability and validity.[36]

Covariates

Depressive symptoms were assessed using the 10-item brief version of the Center for Epidemiologic Studies-Depression Scale (CES-D),[37,38] which captures the frequency and severity of depressive symptoms experienced in the past week on a Likert-type scale ranging from 0 (*rarely or none of the time*) to 3 (*all of the time*).[37,39,40] Anxiety symptoms were measured using a shortened version of the State–Trait Anxiety Inventory-Trait Form-Anxiety Subscale (STAI-trait).[41,42] The measure consisted of seven items, scored on a Likert-type scale ranging from 0 (*almost never*) to 3 (*almost always*) which are summed into a scale score ranging from 0 to 21, that has demonstrated good reliability and validity.[43–45]

Self-identified race and/or ethnicity was assessed using a question in which participants were instructed to 'Choose one category that best captures how you see yourself' and given several options. These answers were grouped into four categories for the present analyses: (i) Black (includes those born in the United States, Africa and Caribbean/West Indians); (ii) Hispanic/Latino; (iii) Asian/Pacific Islander; and (iv) Other (includes Native Americans, white/Caucasian, Biracial and Middle Eastern). Other sociodemographic variables included sex, age (years) and family household income which was grouped into six categories: (i) <20 000; (ii) 20–40 000; (iii) 40–60 000; (iv) 60–80 000; (v) 80–100 000; and (vi) >100 000, and treated continuously.

Statistical analyses

Latent class analysis, which is a statistical method that uses conditional probability to classify respondents into a series of mutually exclusive categories, was used to determine levels of ethnic identity in the sample. Analyses were carried out using STATA v.14, and the latent class analysis plug-in for STATA made available through the Methodology Centre at Penn State University.[46] Pearson correlations determined bivariate relationships between APPS total scores and other continuous measures

(i.e. age, income, EOD, anxiety and depression scales). APPS differences across various groups (i.e. gender; race/ethnicity; ethnic identity) and differences across ethnic identity classes on continuous measures (i.e. discrimination, depression and anxiety) were assessed using *t*-tests or ANOVAS with Tukey and Bonferroni's corrections. We ran a linear regression model predicting APPS as a function of ethnic identity class (H1), racial discrimination, and the interaction between ethnic identity class and racial discrimination (H2). This model adjusts for age, and anxiety and depression symptoms. Given an observed positive skew of the APPS variable (skewness = 0.93, SE = .10), we also ran the same regression model using a square root transformation of APPS (Note: only the dependent variable was transformed). However, the results were not affected by skewness in the data and for the sake of simplicity are not presented here.

RESULTS

Sample characteristics and descriptive results

Participant's demographic information and descriptive information on study variables are presented in Table 1. The sample was predominately female (65%), born in the United States (55%) and largely represented by ethnical minorities with Blacks, Asians and Hispanics each comprising at least 25% of the sample. Ages ranged from 18 to 29 years, with a mean age of 19.9 (SD = 2.11). The modal family income for the sample was closest to the 20–40 000 range category.

Latent class analysis of the ethnic identity measure (MEIM-R) indicated that the three-class model of ethnic identity best fit the data (BIC = 10 022.26) (see Fig. 1) and corresponded to: very low ethnic identity, moderate to high ethnic identity, and very high ethnic identity. The first class (26.4% of the sample) is composed of individuals with little to no ethnic identity (i.e. neutral or disagreement to all MEIM-R items). The second class is the most numerous (48.9%) and represents those with moderate to high ethnic identity (neutral or agreement to all MEIM-R items). The third class (24.8%) is composed of those with very high ethnic identity (i.e. agreement or strong agreement to all MEIM-R items) (details available upon request).

The majority of the sample (94.4%) endorsed at least 1 of the 45 APPS items and the mean number of APPS endorsed was 10, and highest number, 40. Analysis with ANOVAS and *t*-tests did not reveal any significant racial/ethnic, gender or immigrant status differences in total mean number of APPS.

TABLE 1. Demographic characteristics of the sample

	Overall sample (n = 644)
Demographics	
Male, *n* (%)	215 (33.5)
Age (years), mean (SD) [range]	19.9 (2.11) [18–29]
Family income, modal category	20–40 000
Race, *n* (%)	
Black	210 (32.8)
Asian	176 (27.5)
Hispanic	155 (24.2)
Other	100 (15.6)
Immigrant status, *n* (%)	
First generation	296 (46.3)
Second generation	292 (45.6)
Non-immigrant	52 (8.1)
Depression symptoms, mean (SD) [range]	7.8 (4.87) [0–30]
Anxiety symptoms, mean (SD) [range]	6.35 (4.05) [0–21]
Discrimination domains, mean (SD) [range]	1.7 (1.60) [0–9]
Discrimination frequency, mean (SD) [range]	3.0 (3.37) [0–19]
Ethnic identity, mean (SD) [range]	3.5 (0.81) [0–5]
Ethnic identity by class, *n* (%)	
Very low	173 (26.9)
Moderate to high	311 (48.4)
Very high	159 (24.7)
APPS, mean (SD) [range]	9.9. (7.8)[0–40]

APPS, attenuated positive psychotic symptoms.

FIGURE 1. Values of BIC and AIC for three latent class analysis models. Note: Bayesian (BIC) and Akaike (AIC) information criterions reported. Models with lower BIC and/or AIC are preferred. —●—, AIC; —■—, BIC.

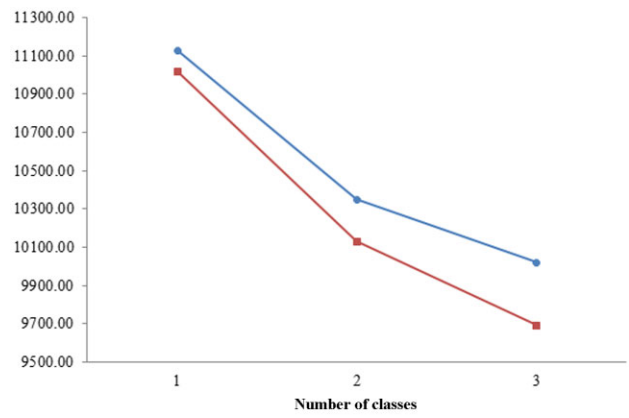


Table 2 shows bivariate relationships between continuous study variables. Income was not significantly related to APPS. Age was significantly negatively related to APPS ($r = -0.134$, $P < .001$). Depression ($r = 0.472$, $P < .01$) and anxiety ($r = 0.484$, $P < .01$) were significantly and positively correlated with APPS. Seventy per cent of the

TABLE 2. Bivariate correlations of continuous study variables

	Age	Family income	EOD	CES-D	STAI	MEIM	APPS
Age	–	−.027	.100*	−.052	−.073	.047	−.134***
Family income		–	.116**	−.128**	−.097*	.135***	−.048
EOD			–	.183***	.145***	.184***	.211***
CES-D				–	.651***	−.115**	.472***
STAI					–	−.107**	.484***
MEIM						–	−.028
APPS							–

*$P < 0.05$; **$P < 0.01$; ***$P < 0.001$.
APPS, attenuated positive psychotic symptoms; CES-D, Center for Epidemiological Studies-Depression; EOD, Experience of Discrimination; MEIM, Multigroup Ethnic Identity Measure; STAI, State–Trait Anxiety Inventory.

sample endorsed discrimination in at least one domain.

Ethnic identity class, depression, anxiety, racial discrimination and APPS

There were no significant differences in mean number of APPS between the very low (M = 10.69, SD = 7.64), moderate to high (M = 9.62, SD = 7.83) and very high (M = 10.01, SD = 8.07) ethnic identity classes ($F(2, 640) = 1.05$, $P = 0.35$). There were significant differences in mean levels of self-reported racial discrimination across ethnic identity classes ($F(2, 640) = 5.78$, $P < 0.01$). Specifically, a post-hoc Tukey's *t*-test revealed that individuals in the very low ethnic identity class reported significantly less racial discrimination (M = 2.38, SD = 2.78) than those in the moderate to high (M = 3.13, SD = 3.42) and very high ethnic identity classes (M = 3.61, SD = 3.73). Similarly, there was a significant difference among ethnic identity classes in depression ($F(2, 635) = 5.81$, $P = 0.003$) and anxiety ($F(2, 638) = 5.70$, $P = 0.004$) scores. Specifically, Bonferroni-corrected pairwise comparison demonstrated that the difference was between the moderate to high and very low classes for both depression (Contrast = −1.56, $P = 0.002$) and anxiety (Contrast = −1.288, $P = 0.002$).

Linear regression

For the regression analyses, we examined a more parsimonious model of ethnic identity in which the very low class was compared to a combined high class (i.e. moderate to high and very high) since the moderate to high and very high classes were similar on experiences of racial discrimination and both significantly different from the very low class. Linear regression analyses adjusted for age, anxiety and depression revealed that although ethnic identity did not have a significant direct effect on APPS, racial discrimination did have an effect (b = 0.69, $P < .01$) (see Table 3). The interaction between the merged moderate and high ethnic identity class and racial discrimination was also significant and negative (b = −0.45, SE = .20, $P < .05$), meaning holding everything else constant, an additional experience of racial discrimination is associated with an average increase of 0.69 symptoms of APPS for low ethnic identity individuals. In contrast, the incremental effect of discrimination for high ethnic identity individuals is on average 0.24 symptoms of APPS.

To illustrate the interaction further, we conducted linear regressions of racial discrimination on APPS stratified by levels of ethnic identity (i.e. very low and combined high) in unadjusted analyses (Table 4) and in analyses adjusted for age, anxiety and depression (Table 5). Figure 2 illustrates fitted lines resulting from the unadjusted regression models plotted against the scatterplots of APPS and racial discrimination. As shown, the two regression lines have different slopes whereby individuals with very low ethnic identity have a higher main effect of racial discrimination (b = .95) than individuals with high ethnic identity (b = .0.42). The results from adjusted analyses were very similar, and Figure 3 presents the predicted lines from these regression models plotted against the scatterplot of APPS and racial discrimination for the entire sample. Using the formula proposed by Paternoster *et al.*,[47] we find that the two slopes for very low and combined high ethnic identity are statistically different from each other ($Z = 2.37$, $p = 0.02$).

DISCUSSION

This is the first study to examine the relation between ethnic identity, racial discrimination and APPS in a US sample of REM young people and the first to do so employing a latent class analysis of

TABLE 3. Linear regression results of APPS, age, depression, anxiety, ethnic identity and experiences of discrimination

	Unstandardized coefficient	95% confidence interval	Standardized coefficient	95% confidence interval
Age	−0.43***	{−0.67, −0.18}	**−0.11**	{−0.18, 0.05}
	(0.13)			
	[0.00]			
CES-D	0.38***	{0.24, 0.52}	**0.24**	{0.15, 0.33}
	(0.07)			
	[0.00]			
STAI-trait	0.58***	{0.41, 0.74}	**0.30**	{0.21, 0.38}
	(0.09)			
	[0.00]			
EOD	0.69***	{0.33, 1.04}	**0.29**	{0.14, 0.45}
	(0.18)			
	[0.00]			
Moderate and high ethnic identity (merged)	1.14	{−0.41, 2.69}	0.06	{−0.02, 0.15}
	(0.79)			
	[0.15]			
Moderate and high ethnic identity(merged) × EOD	−0.45*	{−0.84, −0.05}	**−0.19**	{−0.36, −0.02}
	(0.20)			
	[0.03]			
Constant	10.01***	{4.87, 15.16}		
	(2.62)			
	[0.00]			
Adj R^2		0.301		
F		F(6, 625) = 46.38***		
Observations		632		

Note: Standard errors in parenthesis, *P* values in brackets. Unstandardized and standardized coefficients reported, significant standardized coefficients in bold ($P < 0.05$).
*$P < 0.05$; ***$P < 0.001$.
CES-D, Center for Epidemiologic Studies-Depression Scale; EOD, Experience of Discrimination Scale; STAI-trait, State–Trait Anxiety Inventory-Trait Form-Anxiety Subscale.

ethnic identity. Results indicated that a three-class model of ethnic identity best fit the data, but that these classes were not directly related to APPS; however, as postulated in the rejection identification model, we found that as racial discrimination increased in frequency, the difference in APPS between the very low ethnic identity class and a combined higher class emerged. Namely, the main effect of racial discrimination on APPS was significantly higher for individuals with very low ethnic identity than for individuals with higher ethnic identity. Even though increasing experiences of racial discrimination were related to higher numbers of APPS in both ethnic identity groups, the degree of increase was more pronounced in the low ethnic identity group. This suggests having a strong positive connection to one's ethnic culture may minimize additional risk for APPS that would otherwise be faced without such a connection.

The present study adds to the current body of literature by extending the analysis to the subclinical spectrum of psychosis in a non-treatment-seeking sample, which has its advantages in terms of capturing potential psychosis risk. Youth of colour experiencing discrimination who begin to exhibit perceptual disturbances and odd thinking may benefit from enhancing their cultural foundation and ethnic affiliation. Due to the often-subtle expressions of contemporary racial discrimination,[48] ethnic minorities may require a social reference group from which to conduct 'sanity checks'[49] (e.g. Did they seat me in the back of the restaurant because of my race or is it just in my head?). A strong ethnic identity might increase the likelihood that an individual vulnerable to psychotic-like experiences has such social supports when everyday racial microaggressions occur. Engaging in behaviours that encourage social interaction with other members of one's ethnic group may decrease ethnic isolation,[13] another factor implicated in psychosis risk.[7]

Our findings lend some support to the RIM of psychological well-being[14] which proposes strong ethnic identification in response to perceived discrimination can mitigate the negative impact of discrimination on psychological health.[14,18,20] Whereas a strong ethnic identity did not eliminate racial discrimination's association with APPS, we

TABLE 4. Linear regression results of APPS and racial discrimination by ethnic identity levels

	Very low ethnic identity class				Combined high ethnic identity classes			
	Unstandardized coefficient	95% confidence Interval	Standardized coefficient	95% confidence interval	Unstandardized coefficient	95% confidence interval	Standardized coefficient	95% confidence interval
Racial discrimination	0.95*** (0.20) [0.00]	{0.56, 1.34}	**0.35**	{0.20, 0.48}	0.42*** (0.10) [0.00]	{0.22, 0.62}	**0.19**	{0.10, 0.28}
Constant	8.43*** (0.72) [0.00]	{7.00, 9.85}			8.37*** (0.49) [0.00]	{7.41, 9.34}		
R^2		0.12				0.04		
F		F(1, 171) = 23.24***				F(1, 468) = 16.98***		
Observations		173				470		

Note: Standard errors in parenthesis, *P* values in brackets. Unstandardized and standardized coefficients reported. Significant standardized coefficients in bold ($P < 0.05$).
***$p < 0.001$.

found it is better to have a secure sense of one's identity as an ethnic minority than to not. Given the large percentage of people of colour in the United States who report having experienced racial discrimination (e.g. as high as 91% of Blacks),[25] our findings are encouraging.

Limitations and future directions

Despite the potential in our findings, the study has limitations. Most notably, the present study relied on self-report data to capture the main study variables, including APPS. The findings' implications for psychosis risk would be strengthened by the addition of comprehensive diagnostic assessments such as the SIPS.[50] The APPS reported by many of the young people in our study may remit over time, and repeated assessments would also increase the degree to which our findings apply to the group of young people exhibiting more stable APPS, which are a stronger indicator of psychosis risk.[27] Nevertheless, clinical psychotic disorders and APPS share similar risk factors (e.g. cannabis use, stress, family history of psychosis).[27] Furthermore, endorsement of these symptoms was clearly related to psychological burden (namely anxiety and depressive symptoms), suggesting identifying risk and protective factors for APPS is worthy of investigation.

A second limitation to our study is that we cannot know for certain whether discrimination occurred prior to the strengthening of ethnic identity as posited in the rejection identification model and whether ethnic identity was formed prior the onset of APPS. However, because the PQ instructs respondents to endorse experiences occurring only within the past month whereas the MEIM is intended to capture a developmental process that begins as early as childhood, our concerns about the explicit determination of the temporal relationship are minimal. Nonetheless, future research should demonstrate our findings using repeated assessments that allow for cross-lagged correlational analyses if not longitudinal methods. A third limitation to our study is that we utilized a sample of emerging adults attending college in a public university system, which limits generalizability. That said, a public university that serves its surrounding urban communities should be less vulnerable to the selection effects characteristic of most university study samples comprised of predominantly white, affluent and privileged youth.[51]

Despite these limitations, the present study offers an empirical investigation into an under-studied area of early intervention. Using a well-validated

TABLE 5. Linear regression results of APPS and racial discrimination by ethnic identity levels, controlling for age, depression and anxiety

	Low ethnic identity				Combined high ethnic identity			
	Unstandardized coefficient	95% confidence interval	Standardized coefficient	95% confidence interval	Unstandardized coefficient	95% confidence interval	Standardized coefficient	95% confidence interval
Racial discrimination	0.76*** (0.18) [0.00]	{0.40, 1.13}	**0.28**	{0.15, 0.41}	0.23* (0.09) [0.01]	{0.05, 0.40}	**0.10**	{0.02, 0.18}
Age	−0.57* (0.25) [0.03]	{−1.06, −0.07}	**−0.15**	{−0.28, −0.02}	−0.38* (0.14) [0.01]	{−0.66, −0.10}	**−0.10**	{−0.18, −0.03}
Depression	0.39*** (0.13) [0.00]	{0.13, 0.64}	**0.25**	{0.08, 0.42}	0.38*** (0.08) [0.00]	{−0.67, −0.10}	**0.23**	{0.13, 0.33}
Anxiety	0.37* (0.16) [0.02]	{0.05, 0.68}	**0.20**	{0.03, 0.37}	0.66*** (0.10) [0.00]	{0.46, 0.86}	**0.33**	{0.23, 0.43}
Constant	14.12* (5.13) [0.01]	{3.99, 24.25}			9.86*** (2.98) [0.00]	{4.01, 15.71}		
Adj R^2	0.30				0.30			
F	F(4, 165) = 18.71***				F(4, 457) – 51.14***			
Observations	170				462			

Note: Standard errors in parenthesis, *P* values in brackets. Unstandardized and standardized coefficients reported. Significant standardized coefficients in bold ($P < 0.05$).
*$P < 0.05$; ***$P < 0.001$.

FIGURE 2. Predicted effect of discrimination on APPS by levels of ethnic identity. ▬, 95% CI; —, count of positive symptom PQ endorsement; ●, fitted values.

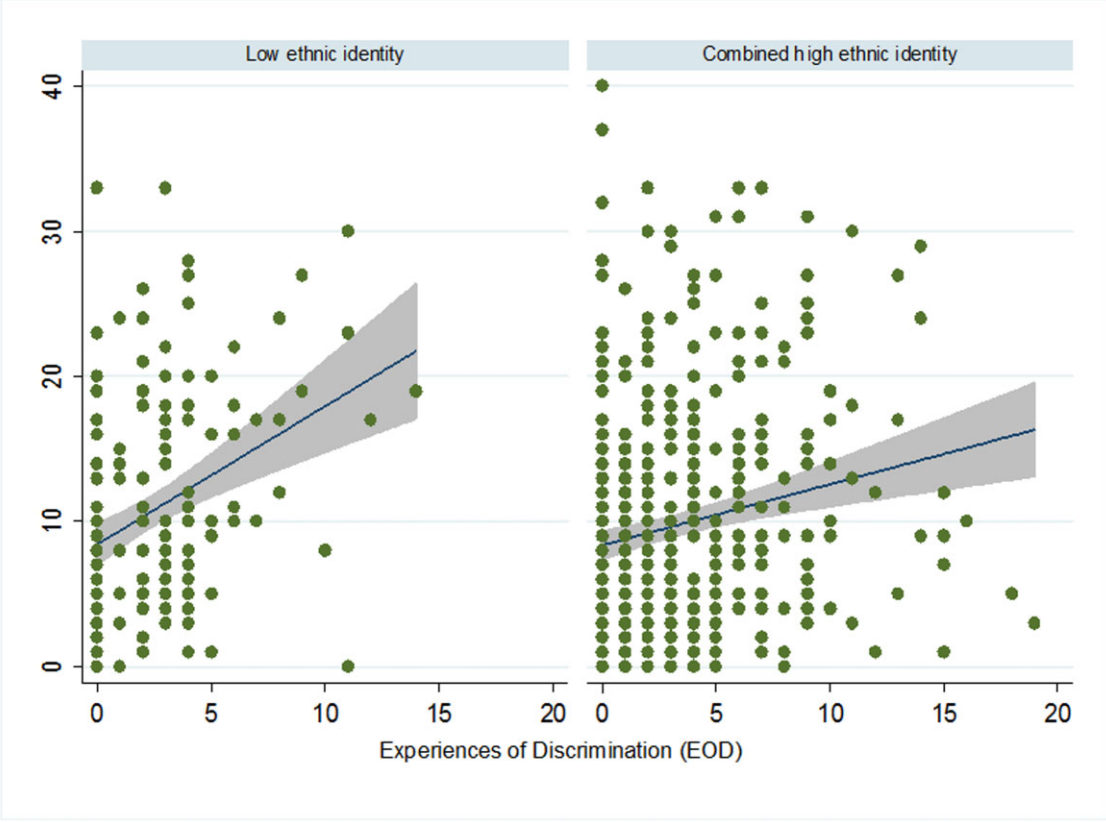
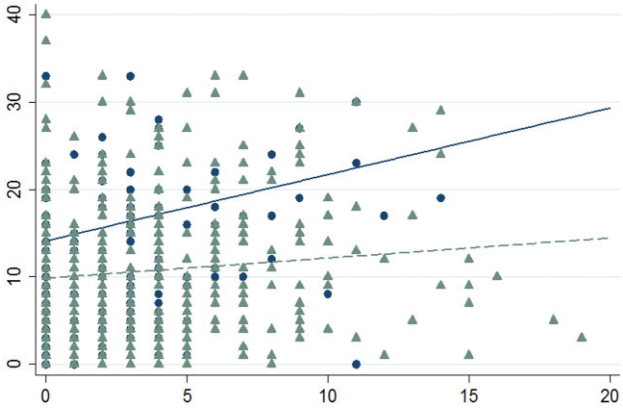


FIGURE 3. Predicted effect of discrimination on APPS by levels of ethnic identity, controlling for age, depression and anxiety. ●, APPS low ethnic identity; ▲, APPS for high ethnic identity; —, fitted line for low ethnic identity; - - -, fitted line for high ethnic identity.



measure of ethnic identity, we determined that very low ethnic identity exacerbates the negative impact of racial discrimination on APPS. Researchers and clinicians should continue to study the scope of attenuated psychotic symptoms, risk for such symptoms and ways to minimize them, especially in REM populations, especially in light of research suggesting cumulative experiences of social disadvantage and defeat can increase psychosis risk.[52]

Ethical standards

The institutional review board of the City College of New York approved the study. Relevant to the research study and manuscript, we have complied with specified APA ethical standards.

Informed consent was obtained from each participant prior to data collection. Any identifying information has been omitted from participant data as well as this manuscript.

ACKNOWLEDGEMENT

Support for this project was provided by a grant from the New York State (NYS) Center of Excellence for Cultural Competence at the NYS Psychiatric Institute, NYS Office of Mental Health (Dr Anglin).

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