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Trajectories of perceived discrimination from adolescence to emerging adulthood and substance use among Hispanic youth in Los Angeles

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Abstract

Previous studies have documented associations between perceptions of racial/ethnic discrimination and adverse health outcomes among Hispanics and other minority groups. However, these studies have not examined change in perceived discrimination over the lifecourse and whether trajectories of perceived discrimination affect outcomes differently. This study of 2722 Hispanic students identified trajectories of perceived discrimination from 9th grade through emerging adulthood (approximately ages 14–23), and compared these trajectory groups on substance use outcomes. Four distinct trajectory groups were identified: (1) low and stable discrimination, (2) increasing discrimination, (3) initially high but decreasing discrimination, and (4) high and stable discrimination. Compared with the low and stable discrimination group, the groups that experienced higher levels of discrimination were at higher risk of cigarette, alcohol, marijuana, and hard drug use. Specifically, the group with increasing discrimination (group 2) had a higher risk of alcohol, marijuana, and hard drug use; the group with initially high but decreasing discrimination (group 3) had a higher risk of cigarette smoking and alcohol use; and the group with high and stable discrimination (group 4) had a higher risk of alcohol, marijuana, and hard drug use. Results indicate that experiencing discrimination during adolescence, emerging adulthood, or both, regardless of whether the discrimination increases or decreases, could place Hispanic youth at risk for substance use. Health education programs are needed to help Hispanic youth learn effective skills to cope with discrimination without resorting to substance use.

Compared with their peers of other racial and ethnic groups, Hispanic adolescents in the United States (U.S.) have a higher prevalence of tobacco, alcohol, and other drug use (Johnston, 2014; Szapocznik et al., 2007). This has been attributed to a combination of

Author Disclosure

Contributors

J. Unger conceptualized the study, oversaw data collection, conducted the analyses, and wrote the manuscript. D. Soto assembled the survey, recruited the respondents, coordinated the data collection, and contributed to the interpretation of results. L. Baezconde-Garbanati helped to conceptualize the study and interpret the results. All authors have approved the final manuscript.

Conflict of Interest

The authors declare that they have no conflicts of interest.

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microlevel and macro-level factors including the loss or rejection of protective Hispanic cultural strengths, cultural and economic stress, and discrimination from the majority culture based on minority status (Schwartz et al., 2010).

Discrimination is differential treatment based on a person's membership in a minority or lower-status group. It includes overt harassment and subtle micro-aggressions (Blume et al., 2012; Sue et al., 2007; Williams et al., 2008). Discrimination can trigger stress responses that impair physical and mental health and health behaviors. Chronic discrimination can interfere with the protective psychological mechanisms that enable the individual to cope with new stressors, increasing the likelihood of maladaptive coping responses such as substance use (Bogart et al., 2013). Discrimination by the majority culture can also indicate to the individual that s/he is blocked from the reward structure of mainstream society, which can lead to affiliation with oppositional subcultures that engage in substance use and other risky behaviors (Ogbu, 1991). Individuals' self-reports of experiencing racial/ethnic discrimination have been associated with numerous risky behaviors and adverse health outcomes, including substance use (Blume et al., 2012; Kam et al., 2010; Lorenzo-Blanco et al., 2011; Unger, 2014; Unger et al., 2014), depression (Basanez et al., 2013; Donovan et al., 2013; Fernandez & Loukas, 2013; Tummala-Narra & Claudius, 2013), suicidality (Perez-Rodriguez et al., 2014), and violence (Bogart et al., 2013; Seaton et al., 2013).

Most studies of perceived discrimination and health outcomes have been cross-sectional or have used perceived discrimination scores at one timepoint to predict outcomes at a second timepoint. Although these studies are useful for establishing that perceived discrimination and health outcomes co-occur, they do not consider the changes in discrimination that occur over the lifecourse, and they cannot determine whether the effects of discrimination differ across developmental stages. Transitions across developmental stages are marked by changes in social contexts, which may result in changes in exposure to discrimination. For example, the transition from adolescence to emerging adulthood is typically marked by residential instability, exploration of various social roles and identities, and focus on the self (Arnett, 2004). These transitions might influence individuals' opportunities to encounter discrimination as well as their interpretation of discriminatory acts. People who grow up in ethnic enclaves might be shielded from discrimination in their neighborhood and school environments during childhood and adolescence, and they might encounter discrimination for the first time when they venture out into more diverse social contexts such as college or the workplace. One might hypothesize that the effects of discrimination would be more severe for those who have not experienced it previously and are therefore caught unprepared when they first experience it. Alternatively, one might hypothesize that growing up shielded from discrimination allows people to develop a stronger ethnic identity and stronger resilience skills, which could lessen the harmful effects of discrimination they may face in the future.

The effects of discrimination at different developmental stages are not well understood. One might hypothesize that early experiences with discrimination are more harmful than later experiences, because younger children and adolescents are less able to refute discriminatory statements, ignore discriminatory acts, or use other coping strategies. Alternatively, one might argue that discrimination in late adolescence and early adulthood might be more

harmful, because it co-occurs with the process of ethnic identity formation. Young adults who are in the midst of grappling with their ethnic identities might be more likely to internalize negative messages about their ethnic groups and suffer more psychological distress as a result.

Research is needed to identify the trajectories of perceived discrimination that occur during the transition from adolescence to emerging adulthood, as well as the associations between discrimination trajectories and outcomes such as substance use. The few recent studies that have examined perceived discrimination longitudinally have found inconsistent results; some have found decreases in perceived discrimination from adolescence to emerging adulthood (Huynh & Fuligni, 2012), whereas others have found interpersonal variation in the trajectories of perceived discrimination (Hunte, 2011; Kam et al., 2010), and that increases in perceived discrimination are associated with substance use (Kam et al., 2010), depressive symptoms (Han & Richardson, 2015; Schulz et al., 2006), and obesity (Hunte, 2011). Other studies (Hurd et al., 2014) have found that initial levels of perceived discrimination, but not changes in discrimination over time, predict anxiety, depression, and alcohol use.

This study used longitudinal data from Hispanics in the Los Angeles area who were surveyed annually from 9th grade through emerging adulthood. We identified distinct discrimination trajectory groups and examined differences across the groups in substance use in emerging adulthood. We hypothesized that membership in trajectory groups with higher and more persistent perceptions of discrimination would increase the likelihood of substance use, and that membership in trajectory groups with lower or less persistent perceptions of discrimination would be protective against substance use.

Method

Project RED (Reteniendo y Entendiendo Diversidad para Salud; Unger et al., 2009) is a longitudinal study of acculturation patterns and substance use among Hispanic adolescents in Southern California. Students attending seven predominantly Hispanic high schools in the Los Angeles area completed 3 annual surveys in 9th–11th grades and 3 annual surveys in emerging adulthood.

High school surveys

The 9th, 10th, and 11th grade surveys were conducted in 2005, 2006, and 2007, respectively. In 2005, all 9th-grade students in the 7 schools (N=3218) were invited to participate. Of those, 2420 (75%) provided parental consent and student assent. Of those students providing consent and assent, 2222 (92%) completed the survey in the 9th grade. Between the 9th and 10th grade surveys, a school district transferred some of the participants to a new school, so we added that school's 10th grade class to the sample, resulting in an additional 704 participants in the 10th grade. An additional 43 students also moved into the schools and joined the sample in the 11th grade. Therefore, a total of 2969 students had provided data at one or more timepoints during high school. Of those 2969 students, 2722 (92%) self-identified as Hispanic/Latino and were invited to participate in the emerging adulthood surveys.

EA surveys

In 2011–2012, we attempted to re-contact the 2722 Hispanic/Latino participants who had participated in any wave(s) of the high school survey for an EA follow-up survey. Valid contact information was located for 2151 participants, based on the information they had provided during high school (address, phone number, email address, parents' addresses and phone numbers, phone numbers of a relative or friend who would know their whereabouts), as well as searches of online databases and social media. Annual EA surveys were conducted in 2012 (N=1386), 2013 (N=1416), and 2014 (N=1411). Missing data were imputed with SAS PROC MI, following the recommendations of Graham (2012). As a sensitivity analysis, we repeated all analyses described below using complete cases only (listwise deletion). Because the statistical conclusions were very similar across these two analyses, we report the results from the analyses with imputed data in this article.

Measures

Perceived Discrimination was assessed using a 10-item measure of perceptions of personal experiences of discrimination (Gyull et al., 2001). Sample items include, "You are treated with less respect than other people." Cronbach's alpha = .87, mean=1.74, SD=0.59, range=1–4.

Outcome variables included past-month use of cigarettes, alcohol, marijuana, and hard drugs (cocaine, methamphetamine, ecstasy, hallucinogens, or inhalants) in the 2014 survey. Respondents were asked whether they had used each substance in the past 30 days (0=no, 1=yes). This dichotomous measure was used because the distributions of continuous measures (e.g., number of days in the past month) were highly skewed.

Covariates included variables that could theoretically confound the association between perceived discrimination and substance use. These included U.S. acculturation and Hispanic acculturation (Cuellar et al., 1995), ethnic identity development (Phinney, 1992), and depressive symptoms (CES-D; Radloff, 1977). These variables were selected because theoretically they should be correlated with perceived discrimination and/or the outcome variables, and because preliminary empirical analyses indicated that they were indeed correlated with perceived discrimination and/or the outcomes. Demographic covariates included age and gender.

Acculturation was assessed with a short form of the ARSMA-II (Cuéllar et al., 1995): 7 from the U.S. orientation subscale and 5 from the Hispanic orientation subscale. These 12 items were selected based on a pilot study in which these items had the highest factor loadings on their respective scales. For U.S. orientation, Cronbach's alpha = .77, mean=2.57, SD=0.59, range=0–3; for Hispanic orientation, Cronbach's alpha = .88, mean=1.75, SD=0.84, range=0–3.

Ethnic identity development was assessed with the 12-item Multigroup Ethnic Identity Measure (Phinney, 1992). Items include, "I have spent time trying to find out more about my ethnic group, such as its history, traditions, and customs." Cronbach's alpha = .88, mean=2.78, SD=.55, range=1–4.

Determination of trajectory groups

We used latent class growth modeling to estimate the model, using the steps outlined by Andruff et al., (2009). This method makes the assumption that there are a certain number of discrete underlying groups in the population that each have their own population prevalence, intercept and slope (Nagin & Odgers, 2010). Individuals can be classified according to their most likely trajectory group, and predictors of membership in these trajectory groups can be identified.

The TRAJ procedure in SAS (Jones & Nagin, 2007) was used to determine the number of trajectory groups and to assign each participant into his/her most likely trajectory group. PROC TRAJ uses a maximum likelihood model, which is robust to intermittently missing data and loss to follow-up. We specified a one-group solution and then added groups one at a time (two-group solution, three-group solution, etc.), examining the change in the Bayesian Information Criterion (BIC) with each subsequent model, until the change in BIC was negligible (Jones & Nagin, 2007).

We then used logistic regression models to determine the associations between trajectory group membership and the outcome variables, controlling for the covariates. We ran four logistic regression models (one for each outcome variable), with the trajectory groups represented as a categorical predictor variable. Odds ratios and 95% confidence intervals were calculated for past-month use of each substance.

Results

Attrition

Attrition analyses indicated that respondents who were lost to attrition between the high school and EA surveys were more likely to be male ($p<.001$), had significantly higher scores on perceived discrimination ($t=2.22$, $p<.05$) and depressive symptoms ($t=2.11$, $p<.05$), and had significantly lower scores on ethnic identity ($t=2.72$, $p<.05$) and Hispanic acculturation ($t=12.30$, $p<.0001$), relative to those who completed at least one EA survey. Therefore, these variables were included in the multiple imputation model. In addition, gender, depressive symptoms, ethnic identity, and Hispanic acculturation were included as covariates in the analyses.

Trajectory groups

The BIC indicated that a four-group solution was most appropriate. Each group had a significant linear component and a significant quadratic component. Figure 1 shows the trajectories of perceived discrimination among the four trajectory groups. Based on the shape of the trajectories, we labeled the groups (1) low and stable discrimination (40% of the participants), (2) increasing discrimination (28%), (3) initially high but decreasing discrimination (19%), and high and stable discrimination (13%).

Figure 2 shows the prevalence of past-month substance use in each trajectory group in the 2014 survey. Table 1 presents the associations between trajectory group membership and substance use in 2014, controlling for gender, U.S. acculturation, Hispanic acculturation,

ethnic identity, and depressive symptoms. Compared with the group with low and stable discrimination (group 1), the group with increasing discrimination (group 2) had a higher risk of alcohol, marijuana, and hard drug use. The group with initially high but decreasing discrimination (group 3) had a higher risk of cigarette smoking and alcohol use. The group with high and stable discrimination (group 4) had a higher risk of alcohol, marijuana, and hard drug use.

Discussion

Although most studies of the effects of perceived discrimination have assessed discrimination at only one timepoint, these findings indicate that perceptions of discrimination can change over the transition from adolescence to emerging adulthood, and that these changes can influence the risk of substance use. In this sample of Hispanic adolescents in Southern California, four different trajectory patterns of discrimination emerged. Group 1, consisting of participants who perceived low levels of discrimination throughout the study, had the lowest risk of substance use. Group 2, consisting of participants who perceived low levels of discrimination during high school but experienced an increase in discrimination in emerging adulthood, had a higher risk of alcohol, marijuana, and hard drug use. Group 3, who initially reported high levels of discrimination but experienced a steady decrease in discrimination over time, had a higher risk of cigarette and alcohol use. Group 4, consisting of participants who reported high levels of discrimination throughout high school and emerging adulthood, had a higher risk of alcohol, marijuana, and hard drug use.

The results of this study indicate that the experience of discrimination in adolescence, regardless of whether this discrimination remains constant, increases, or decreases over this developmental transition, can lead to an increased risk of substance use. Furthermore, even if adolescents are sheltered from discrimination early in life, they might still be at risk of substance use if they begin to experience discrimination during emerging adulthood. In effect, individuals who experienced discrimination either in adolescence, in emerging adulthood, or both, were at increased risk for substance use relative to their peers who reported low levels of discrimination throughout the study.

It is interesting to note that only group 3 (initially high but decreasing discrimination) had an increased risk of cigarette smoking. Because these individuals experienced discrimination earlier in life, they may have experimented with tobacco and alcohol, which are more readily available to adolescents compared with other drugs. Early experimentation with tobacco is a risk factor for nicotine dependence in adulthood (Mathers et al., 2006). Even if their exposure to discrimination decreased later in adolescence and emerging adulthood, their early experimentation with tobacco may have put them at risk for continued tobacco use and nicotine dependence.

The elevated risk of substance use among Group 2 is also noteworthy. This group might have been sheltered from discrimination during high school (e.g., they might have lived in ethnic enclaves and had minimal opportunities to experience discrimination from the majority culture). In emerging adulthood, as they ventured into more diverse social contexts

for employment or education, they might have been unprepared for their first experiences with discrimination. The distress resulting from this discrimination might have increased the risk of their alcohol, marijuana, and hard drug use. Interestingly, the two trajectory classes who reported experiencing discrimination during emerging adulthood (Groups 2 and 4) had an increased risk of using marijuana and other illicit drugs, relative to the other groups. This suggests that discrimination during young adulthood (but not in adolescence) is a risk factor for escalation to harder drug use. Additional research is warranted to determine why discrimination at different developmental stages can lead to different behaviors.

Group 1, the participants who experienced low and stable discrimination, showed the lowest risk for use of all substances. Unfortunately, these participants represented only 40% of the sample. If a larger proportion of Hispanic youth could grow up without experiencing discrimination, perhaps substance use could be reduced. Macro-level policy changes to reduce residential and socioeconomic segregation, improve the context of reception for immigrants, and decrease the social acceptability of discrimination have the potential to reduce discrimination in the long term. Unfortunately, discrimination remains pervasive (Neblett et al., 2012). Until discrimination can be eliminated, interventions are needed to increase Hispanic adolescents' and young adults' ability to cope with the discrimination that they will likely encounter, without resorting to maladaptive behaviors such as substance use. Additional research is needed to determine the most effective strategies to make minority adolescents more resilient to discrimination and to reduce the prevalence of discriminatory acts within schools and communities. Research is also needed to identify protective factors at the individual, family, peer group, and community level that can buffer the adverse effects of discrimination.

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References

- Andruff H, Carraro N, Thompson A, Gaudreau P, Louvet B. Latent Class Growth Modelling: A Tutorial. *Tutorials in Quantitative Methods for Psychology*. 2009; 5(1):11–24.
- Arnett, JJ. *Emerging adulthood: The winding road from the late teens through the twenties*. New York, NY: Oxford University Press; 2004.
- Basáñez T, Unger JB, Soto D, Crano W, Baezconde-Garbanati L. Perceived discrimination as a risk factor for depressive symptoms and substance use among Hispanic adolescents in Los Angeles. *Ethn Health*. 2013; 18(3):244–61. Epub 2012 Aug 17. 10.1080/13557858.2012.713093 [PubMed: 22897755]
- Basáñez T, Warren MT, Crano WD, Unger JB. Perceptions of Intragroup Rejection and Coping Strategies: Malleable Factors Affecting Hispanic Adolescents' Emotional and Academic Outcomes. *J Youth Adolesc*. 2013 Nov 15. Epub ahead of print.
- Blume AW, Lovato LV, Thyken BN, Denny N. The relationship of microaggressions with alcohol use and anxiety among ethnic minority college students in a historically White institution. *Cultur Divers Ethnic Minor Psychol*. 2012 Jan; 18(1):45–54. Epub 2011 Oct 3. 10.1037/a0025457 [PubMed: 21967526]

- Bogart LM, Elliott MN, Kanouse DE, Klein DJ, Davies SL, Cuccaro PM, Banspach SW, Peskin MF, Schuster MA. Association between perceived discrimination and racial/ethnic disparities in problem behaviors among preadolescent youths. *Am J Public Health*. 2013 Jun; 103(6):1074–81. Epub 2013 Apr 18. 10.2105/AJPH.2012.301073 [PubMed: 23597387]
- Cuéllar I, Arnold B, Maldonado R. The Acculturation Rating Scale for Mexican Americans-II: A revision of the original ARSMA scale. *Hispanic Journal of Behavioral Sciences*. 1995; 17:275–304.
- Donovan RA, Huynh QL, Park IJ, Kim SY, Lee RM, Robertson E. Relationships among identity, perceived discrimination, and depressive symptoms in eight ethnic-generational groups. *J Clin Psychol*. 2013 Apr; 69(4):397–414. Epub 2012 Nov 2. 10.1002/jclp.21936 [PubMed: 23124607]
- Fernandez A, Loukas A. Acculturation and Religious Coping as Moderators of the Association Between Discrimination and Depressive Symptoms Among Mexican-American Vocational Students. *J Immigr Minor Health*. 2013 Nov 23. Epub ahead of print.
- Graham, JW. Missing data: Analysis and design. New York: Springer; 2012.
- Guyll KA, Matthews KA, Bromberger JT. Discrimination and unfair treatment: Relationship to cardiovascular reactivity among African American and European American women. *Health Psychology*. 2001; 20:315–325. [PubMed: 11570645]
- Han J, Richardson VE. The relationships among perceived discrimination, self-perceptions of aging, and depressive symptoms: a longitudinal examination of age discrimination. *Aging Ment Health*. 2015 Aug; 19(8):747–55. Epub 2014 Sep 30. 10.1080/13607863.2014.962007 [PubMed: 25266167]
- Hou Y, Kim SY, Wang Y, Shen Y, Orozco-Lapray D. Longitudinal Reciprocal Relationships Between Discrimination and Ethnic Affect or Depressive Symptoms Among Chinese American Adolescents. *J Youth Adolesc*. 2015 May 12. Epub ahead of print.
- Hunte HER. Association between perceived interpersonal everyday discrimination and waist circumference over a 9-year period in the Midlife Development in the United States Cohort Study. *American Journal of Epidemiology*. 2011; 173(11):1232–1239. [PubMed: 21354988]
- Hurd NM, Varner FA, Caldwell CH, Zimmerman MA. Does perceived racial discrimination predict changes in psychological distress and substance use over time? An examination among Black emerging adults. *Dev Psychol*. 2014 Jul; 50(7):1910–8. Epub 2014 Apr 14. 10.1037/a0036438 [PubMed: 24730378]
- Huynh VW, Fuligni AJ. Perceived ethnic stigma across the transition to college. *Journal of Youth and Adolescence*. 2012; 41:817–830. [PubMed: 22089633]
- Johnston, LD.; O'Malley, PM.; Bachman, JG.; Schulenberg, JE.; Miech, RA. Monitoring the Future national survey results on drug use, 1975–2013: Volume I, Secondary school students. Ann Arbor: Institute for Social Research, The University of Michigan; 2014. p. 630
- Jones B, Nagin DS. Advances in Group-based Trajectory Modeling and a SAS Procedure for Estimating Them. *Sociological Research and Methods* 2007. 2007; 35:542–571.
- Kam JA, Cleveland MJ, Hecht ML. Applying general strain theory to examine perceived discrimination's indirect relation to Mexican-heritage youth's alcohol, cigarette, and marijuana use. *Prev Sci*. 2010 Dec; 11(4):397–410.10.1007/s11121-010-0180-7 [PubMed: 20490921]
- Kam JA, Cleveland MJ, Hecht ML. Applying general strain theory to examine perceived discrimination's indirect relation to Mexican-heritage youth's alcohol, cigarette, and marijuana use. *Prev Sci*. 2010 Dec; 11(4):397–410.10.1007/s11121-010-0180-7 [PubMed: 20490921]
- Lorenzo-Blanco EI, Unger JB, Ritt-Olson A, Soto D, Baezconde-Garbanati L. Acculturation, gender, depression, and cigarette smoking among U.S. Hispanic youth: the mediating role of perceived discrimination. *J Youth Adolesc*. 2011 Nov; 40(11):1519–33. Epub 2011 Feb 4. 10.1007/s10964-011-9633-y [PubMed: 21293915]
- Mathers M, Toumbourou JW, Catalano RF, Williams J, Patton GC. Consequences of youth tobacco use: a review of prospective behavioural studies. *Addiction*. 2006 Jul; 101(7):948–58. Review. [PubMed: 16771887]
- Nagin DS, Odgers CL. Group-based trajectory modeling in clinical research. *Annu Rev Clin Psychol*. 2010; 6:109–38.10.1146/annurev.clinpsy.121208.131413 [PubMed: 20192788]
- Neblett EW, Rivas-Drake D, Umaña-Taylor AJ. The promise of racial and ethnic protective factors in promoting ethnic minority youth development. *Child Development Perspectives*. 2012; 6:295–303.

- Ogbu, J. Immigrant and involuntary minorities in comparative perspective. In: Gibson, M.; Ogbu, J., editors. *Minority status and schooling: A comparative study of immigrant and involuntary minorities*. New York: Garland; 1991. p. 184-204.
- Perez-Rodriguez MM, Baca-Garcia E, Oquendo MA, Wang S, Wall MM, Liu SM, Blanco C. Relationship between acculturation, discrimination, and suicidal ideation and attempts among US Hispanics in the National Epidemiologic Survey of Alcohol and Related Conditions. *J Clin Psychiatry*. 2014 Apr; 75(4):399–407.10.4088/JCP.13m08548 [PubMed: 24813407]
- Phinney J. The Multigroup Ethnic Identity Measure: A new scale for use with adolescents and young adults from diverse groups. *Journal of Adolescent Research*. 1992; 7:156–176.
- Radloff LS. The CES-D scale: a self-report depression scale for research in the general population. *Applied Psychological Measurement*. 1977; 1:385–401.
- Schulz AJ, Gravlee CC, Williams DR, Israel BA, Mentz G, Rowe Z. Discrimination, Symptoms of Depression, and Self-Rated Health Among African American Women in Detroit: Results From a Longitudinal Analysis. *American Journal of Public Health*. 2006; 96(7):1265–1270.10.2105/AJPH.2005.064543 [PubMed: 16735638]
- Schwartz SJ, Unger JB, Zamboanga BL, Szapocznik J. Rethinking the concept of acculturation: implications for theory and research. *Am Psychol*. 2010 May-Jun;65(4):237–51.10.1037/a0019330 [PubMed: 20455618]
- Seaton EK, Neblett EW Jr, Cole DJ, Prinstein MJ. Perceived discrimination and peer victimization among African American and Latino youth. *J Youth Adolesc*. 2013 Mar; 42(3):342–50. Epub 2012 Nov 4. 10.1007/s10964-012-9848-6 [PubMed: 23124713]
- Sue DW, Capodilupo CM, Torino GC, Bucceri JM, Holder AM, Nadal KL, Esquilin M. Racial microaggressions in everyday life: Implications for clinical practice. *American Psychologist*. 2007; 62:271–286. [PubMed: 17516773]
- Szapocznik J, Prado G, Burlew AK, Williams RA, Santisteban DA. Drug abuse in African American and Hispanic adolescents: culture, development, and behavior. *Annu Rev Clin Psychol*. 2007; 3:77–105. Review. [PubMed: 17716049]
- Tummala-Narra P, Claudius M. Perceived discrimination and depressive symptoms among immigrant-origin adolescents. *Cultur Divers Ethnic Minor Psychol*. 2013 Jul; 19(3):257–69.10.1037/a0032960 [PubMed: 23875851]
- Unger JB, Schwartz SJ, Huh J, Soto DW, Baezconde-Garbanati L. Acculturation and perceived discrimination: predictors of substance use trajectories from adolescence to emerging adulthood among Hispanics. *Addict Behav*. 2014 Sep; 39(9):1293–6. Epub 2014 Apr 18. 10.1016/j.addbeh.2014.04.014 [PubMed: 24837753]
- Unger JB. Cultural Influences on Substance Use Among Hispanic Adolescents and Young Adults: Findings From Project RED. *Child Dev Perspect*. 2014 Mar 1; 8(1):48–53. [PubMed: 24729791]
- Williams DR, Neighbors HW, Jackson JS. Racial/ethnic discrimination and health: Findings from community studies. *American Journal of Public Health*. 2008; 98:S29–S37. [PubMed: 18687616]
- Zeiders KH, Umaña-Taylor AJ, Updegraff KA, Jahromi LB. An idiographic and nomothetic approach to the study of Mexican-origin adolescent mothers' socio-cultural stressors and adjustment. *Prev Sci*. 2015 Apr; 16(3):386–96.10.1007/s11121-014-0502-2 [PubMed: 25099084]

Highlights

We examine trajectories of perceived discrimination among Hispanic adolescents.

We found 4 discrimination trajectory groups: low/stable, increasing, decreasing, high/stable.

Youth with discrimination had higher risk of cigarette, alcohol, marijuana, and drug use.

Figure 1.
Trajectories of perceived discrimination

Figure 2.
Past-month substance use by discrimination trajectory group

Table 1

Odds ratios for past-month substance use according to trajectory group

	OR (95% Confidence interval)			
	Cigarettes	Alcohol	Marijuana	Hard drugs
Group 1: Low and stable discrimination	1	1	1	1
Group 2: Increasing discrimination	1.05 (0.85,1.29)	1.43 (1.11,1.84)*	1.41 (1.16,1.70)*	1.80 (1.44,2.26)*
Group 3: Initially high but decreasing discrimination	1.50 (1.17,1.93)*	1.61 (1.16,2.23)*	1.22 (0.96, 1.56)	1.30 (0.97,1.72)
Group 4: High and stable discrimination	1.21 (0.89,1.64)	2.07 (1.36,3.14)*	1.47 (1.10,1.96)*	1.99 (1.44,2.75)*

Note. Odds ratios are adjusted for gender, U.S. acculturation, Hispanic acculturation, ethnic identity, and depressive symptoms.