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Perceived discrimination and substance use among adolescents: Examining the moderating effect of distress tolerance and negative urgency

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Abstract

Background: Perceived discrimination has been found to increase substance use vulnerability among adolescent populations. However, less is known about individual level factors which may moderate this risk.

Objectives: The aim of the current study is to examine whether two emotion-based personality traits (i.e., distress tolerance and negative urgency) moderates the effect of perceived discrimination on substance use. We hypothesized that high distress tolerance would decrease risk, while high negative urgency would increase risk for substance use as a consequence of discrimination.

Methods: 108 youth ages 12–18 (68.6% male; 56.2% African American) provided data on perceived discrimination, distress tolerance, negative urgency, and substance use (i.e., alcohol and marijuana use).

Results: Contrary to our hypothesis, no moderating effect was observed for negative urgency. Distress tolerance was found to moderate the relationship, but in the opposite direction than expected.

Conclusions: It is speculated that this counterintuitive finding may be due to the racial/ethnic composition of the sample, suggesting that distress tolerance may operate differently among minority youth. Further research examining these relationships among minority youth is warranted.

Keywords

perceived discrimination; adolescence; alcohol; marijuana; negative urgency; distress tolerance

Alcohol is the most commonly used and abused substance among youth in the United States, followed by marijuana (SAMHSA, 2014; Johnson et al., 2015). The use of either substance during adolescence is a significant public health concern, as each is associated with

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numerous health consequences, including cognitive impairments (Hawkins, Catalano, & Miller 1992; Volkow, Baler, Compton & Weiss, 2014; Winward, Bekman, Hanson, Lejuez, & Brown, 2014), decreased school performance (Henry, Knight, & Thornberry, 2012), increased risk for mental health diagnoses (Kaminer, 2016; Kuepper et al., 2011), and increased risk for substance use disorders during adulthood (Schulte, Ramo, & Brown, 2009; Schulenberg et al., 2015). Thus, developing risk models that identify those factors that predict or elevate alcohol and marijuana use is critical to help reduce the occurrence of adolescent substance use, as well as circumvent associated negative health consequences.

Interpersonal stressors, such as negative interactions with peers, have been found to be a robust predictor in the onset and longevity of substance use during adolescence and early adulthood (Reisner, Greytak, Parsons, & Ybarra, 2015; Van Ryzin, Fosco, & Dishion, 2012). A domain of interpersonal stress that has received a great deal of attention over the past decade is perceived discrimination (Pascoe & Smart Richman, 2009; Unger, 2015). Among youth, the impact of perceived discrimination on substance use outcomes has been examined based on specific attributes, such as race or ethnicity (Acosta, Hospital, Graziano, Morris, & Wagner, 2015; Basáñez, Unger, Soto, Crano, & Baezconde-Garbanati 2013; Gibbons et al., 2012; Garrett, Livingston, Livingston, & Komro, 2017; Sanders-Phillips et al, 2014), weight or physical appearance (Madkour et al., 2015), and sexual orientation (Grollman, 2012; Thoma & Huebner, 2013). Although the most robust effect has been found for race-based discrimination (Grollman, 2012; Madkour et al., 2015; Thoma & Huebner, 2013). Outside of specific attributes, there is also a body of literature documenting the negative impact of general perceptions of discrimination, not in reference to a specific attribute, on substance use outcomes among youth samples (Respress, Small, Francis, & Cordova, 2013; Unger, Schwarz, Huh, Soto, & Baezconde-Garbanati, 2014; Unger, Soto, & Baezconde-Garbanati, 2016).

However, it is also the case that not every youth who experiences discrimination engages in substance use. Yet, research examining factors that may moderate risk for substance use as a byproduct of experiencing discrimination is underdeveloped. Among available research, there is evidence to support that risk for substance use can be either strengthened or weakened by the adolescent's level of racial/ethnic identity development (e.g., Walsh, Engel-Grinvald, & Shneider, 2015), as well as exposure to interpersonal factors, such as racial socialization, and parent/child communication (e.g. Kam, Castro, & Wang, 2015). However, less is known about other factors that may moderate risk.

Emotion-based personality traits and substance use

Based on the diathesis-stress model (Monroe & Simons, 1991; Zuckerman, 1999), it is posited that youth are at higher risk for engaging in substance use and other risky health behaviors if they experience significant distress. Moreover, how individuals respond to the experience of distress is also strongly predictive of substance use outcomes (Aldao, Nolen-Hoeksema, & Schweizer, 2010). Distress tolerance and negative urgency are two emotion-based individual level factors that are related to variations in response to distress, and both are predictive of substance use outcomes among adolescent and young adult populations.

Distress tolerance has been conceptualized as an individual's ability to tolerate unpleasant internal states (e.g., Zvolensky, Vujanovic, Bernstein, & Leyro, 2010). Thus, adolescents with high distress *intolerance* are postulated to have difficulty adapting to distress or negative affect, and in turn engage in substance use as a means to cope with the distress (Simons & Gaher, 2005), whereas those high on distress *tolerance* would be at a lower risk for engaging in substance use in response to distress. Research supports this hypothesis with findings indicating a strong effect of low distress tolerance on substance initiation (e.g., Tschann, Adler, Irwin, Millstein, Turner, & Kegeles, 1994) and current substance use among adolescent populations (e.g., Kelly, Chan, Mason, & Williams, 2015). An emotion-based personality trait closely related to distress tolerance is negative urgency. Negative urgency has been defined as the tendency to engage in rash or maladaptive behaviors due to intense negative mood states (Gunn & Smith, 2010; Robinson, Lad, & Anderson, 2014, Stautz & Cooper, 2013; Settles et al., 2012; Smith, Guller, & Zapolski, 2013; VanderVeen et al., 2016). Models of impulsivity have shown that individuals with low distress tolerance tend to have high negative urgency (Anestis, Selby, Fink, & Joiner, 2007; Kaiser, Milich, Lynam, & Charnigo, 2012). Similar to distress tolerance, researchers have posited that negative urgency leads to maladaptive behaviors, such as substance use, as a means to cope with distress or negative affect (e.g., Fisher et al., 2004). Accordingly, high negative urgency has been shown to predict initiation, lifetime use (Pang, Farrahi, Glazier, Sussman, & Leventhal, 2014), and problematic substance use (Stautz & Cooper, 2013) among adolescent and young adult populations.

Although distress tolerance and negative urgency have both been shown to be uniquely predictive of substance use behaviors among adolescent populations, presumably as a consequence of experiencing distress, few studies have directly tested this claim. Moreover, most of the existing literature examining the relationship between stress and these individual level factors on substance use outcomes have been conducted among adult populations (Volz, Dennis, Dennis, Calhoun, Wilson, & Beckham, 2014) and most often use post-traumatic stress disorder symptoms (Weiss, Tull, Sullivan, Dixon-Gordon, & Gratz, 2015) or child trauma (i.e., abuse history or neglect; Wardell, Strang, & Hendershot, 2016) as the stressor of interest. Thus, to our knowledge, no empirical evidence exists on the moderating effect distress tolerance and negative urgency have on substance use behaviors among adolescents, more specifically as a consequence of exposure to discrimination.

Current Study

For the current study, we aim to expand upon this literature to examine the moderating effect of negative urgency and distress tolerance on risk for substance use (i.e., alcohol and marijuana use) as a function of perceived discrimination among a community-based sample of youth. We hypothesize, similar to previous studies, that higher perceived discrimination, higher negative urgency, and lower distress tolerance will be uniquely predictive of greater past year substance use (i.e., alcohol and marijuana use). Second based on adult literature, which found a moderating effect of distress tolerance on the positive relationship between daily hassles and cigarette cravings (Volz et al., 2014), we hypothesize a similar positive interactive effect between perceived discrimination and the individual level traits on substance use. Specifically, we hypothesize that risk for substance use due to perceived

discrimination will only be observed among youth with higher levels of negative urgency or distress intolerance, and the effect will not be found at lower levels of either factor.

Methods

Participants and Procedures

Data collection commenced after receiving approval from the University Institutional Review Board. Participants were recruited from six tuition-free after-school programs in a Midwestern metropolitan area. A passive consent procedure with active assent was used for the current study. Research staff administered self-report measures that included questions on past year alcohol and marijuana use, negative urgency, and distress tolerance. A total of 143 youth ages 12–18 participated in the study, however only 108 provided data on the variables of interest. Those excluded from the study ($N=35$) did not vary from the remaining sample ($N=108$) on any study variable except for past year marijuana use ($\chi^2=4.41$, $p=.036$), with those excluded being less likely to have used marijuana. Of the 108 participants, majority were male (67.6%), were in high school (i.e., 9th-12 grade; 73.8%, mean age = 15.5), and identified themselves as African American (55.6%) followed by White (20.4%), Hispanic (13%), Multiracial (8.3%), and Native American/Alaskan Native (2.8%).

Materials

Demographics.—Participants were asked to provide their age, gender (male=0, female=1), and race/ethnicity (White, African American/Black, American Indian or Alaska Native, Asian, Native Hawaiian or other Pacific Islander, Hispanic, Other). For analyses, the race/ethnicity variable was dummy coded with White as the reference group.

Perceived Discrimination.—The Everyday Perceived Discrimination Scale (EPD; Williams, Yu, Jackson, & Anderson, 1997) is a 9-item measure that assesses an individual's thoughts and beliefs about experiencing discrimination (e.g., 'You are treated with less courtesy than other people;' 'People act as if they are afraid of you'). Participants responded to items on a 6-point Likert-type scale (0-never, 1-less than once a year, 2- a few times a year, 3-a few times a month, 4-at least once a week, and 5-almost every day), with higher scores indicating more frequent experiences of perceived discrimination. The EPD has been validated for use among adolescents of varying ethnic backgrounds (Bastos, Celeste, Faerstein, & Barros, 2010; Clark, Coleman, & Novak, 2004; Priest, Paradies, Trenerry, Truong, Karlsen, & Kelly, 2013). The internal consistency of the measure for the current study was good ($\alpha = .86$).

Substance Use.—The Alcohol Use Disorders Identification Test (AUDIT; Babor, de la Fuente, Saunders, & Grant, 1992) and the Cannabis Use Disorders Identification Test (CUDIT; Adamson & Sellman, 2003) were used to assess past year substance use. For the current study, the second item from each measure (i.e., "How often did you have a drink containing alcohol/use marijuana the past year?") was used to assess past year use. Items were scored on a 5-point Likert-scale, with higher scores indicating greater past year alcohol and marijuana use.

Distress Tolerance.—The Distress Tolerance Scale (DTS; Simons, Gaher, Correia, Hansen, & Christopher, 2005) is a 15-item measure used to assess an individual's perceived capacity to withstand negative psychological states (e.g., 'I can't handle feeling distressed or upset;' 'Feeling distressed or upset is unbearable to me'). Participants responded to items on a 5-point Likert-type scale (1-strongly disagree, 2- slightly disagree, 3-agree or disagree equally, 4-slightly agree, and 5-strongly agree). Responses were reverse coded, with higher scores indicating higher levels of distress tolerance or the capacity to withstand negative psychological states ($\alpha = .93$).

Negative Urgency.—The UPPS-P Impulsive Behavior Scale modified for children (UPPS-PC; Zapolski, Stairs, Settles, Combs, & Smith, 2010) was completed by each participant. The negative urgency subscale of the UPPS-PC is an 8-item self-report used to assess an individual's tendency to engage in maladaptive behaviors due to intense negative mood (e.g., 'If I feel like doing something, I tend to do it, even if it's bad;' 'When I am upset I often act without thinking'). Participants respond to items on a 4-point Likert scale (1-not at all like me, 2- not like me, 3-somewhat like me, 4-very much like me), with higher scores indicating more impulsive tendencies due to intense negative mood ($\alpha = .83$).

Data Analysis

All analyses were performed using SPSS 24.0. Hierarchical regression analyses were performed to examine the relationship between perceived discrimination, negative urgency, and distress tolerance on each substance use outcome, with separate models for both the traits and substance use outcomes, in the following steps: 1) age, gender (0=male, 1=female), and race/ethnicity (dummy coded with White as the reference group), 2) perceived discrimination, 3) negative urgency or distress tolerance, and 4) the interaction term between mean centered perceived discrimination and negative urgency or distress tolerance. The PROCESS macro (Hayes, 2013) was also used to probe the interaction between perceived discrimination and each personality trait (simple moderation: the conditional effect model specified as Model 1 by Preacher, Rucker, & Hayes, 2007), with all previously used covariates included in the analysis.

Results

Preliminary Analysis

Means and standard deviations for the measures of interest are shown in Table 1. Perceived discrimination, negative urgency, and distress tolerance were all approximately normally distributed (skewness = -0.11 to $.44$, kurtosis = -0.57 to -0.38), as well as the substance use variables (skewness = 1.44 – 1.45 , kurtosis = $.71$ – 1.16). Independent sample t-test revealed few differences based on demographic variables, with the exception of females reporting higher scores on the negative urgency measure than males ($t(106) = -2.26$, $p = 0.03$). Initial bivariate correlations between all study variables are shown in Table 2. Regarding the variables of interest, perceived discrimination was positively associated with marijuana use ($r = .25$, $p = .010$), but was not associated with alcohol use ($r = .17$, $p = .08$). Both personality traits were significantly correlated ($r = -.48$, $p < .001$) and associated with perceived discrimination in the expected directions (negative urgency: $r = .37$, $p < .001$;

distress tolerance: $r = -.27, p = .005$). The only significant correlation between the personality traits and substance use was found between negative urgency and alcohol use ($r = .20, p = .036$).

Hypothesis Testing

Hierarchical regression analyses were conducted to examine the moderating effect of the two personality traits – negative urgency and distress tolerance – on the relationship between perceived discrimination and substance use outcomes (i.e., past year alcohol and marijuana use) among a community sample of adolescents. For alcohol use, results indicated that neither discrimination, negative urgency, nor distress tolerance predicted use above and beyond the control variables (i.e., age, gender, and race). An interactive effect between racial discrimination and the personality traits were also non-significant. For marijuana use, results indicated a direct effect of perceived discrimination ($\beta = .22, p = .029$). When the personality traits were added into the models, distress tolerance added unique and incremental variance in predicting marijuana use ($\beta = .26, p = .009$), however a non-significant effect was found for negative urgency ($\beta = .12, p = .015$). Lastly, the interactive effect between perceived discrimination and distress tolerance on marijuana use was also significant ($\beta = .21, p = .032$). The interactive effect was further probed using the PROCESS macro, with a significant interaction found at mean ($t = 2.98, p = .004$) and high (one standard deviation above the mean; $t = 3.57, p < .001$) levels of distress tolerance, and a non-significant effect at low levels of distress tolerance (one standard deviation below the mean; $t = .60, p = .55$). See Tables 3–6 for detailed results of the hierarchical linear regression analyses and Figure 1 for moderation results.

Discussion

The aim of the current study was to examine the interactive effect of perceived discrimination and two emotion-based individual level traits – negative urgency and distress tolerance – on substance use vulnerability among youth populations. Consistent with previous literature, we found that both perceived discrimination and distress tolerance predicted past year marijuana use. However, the effect of distress tolerance was found in the opposite direction than hypothesized, such that racial discrimination was associated with higher levels of substance use at high and average levels of distress tolerance. Stated differently, risk for marijuana use as a function of perceived discrimination was highest among youth who reported a strong or average ability to tolerate distress. However, for those youth with low distress tolerance or an inability to tolerate distress, racial discrimination had a non-significant effect on marijuana.

It is plausible that this unexpected relationship between perceived discrimination and distress tolerance on marijuana use vulnerability may be partially explained by the demographics of the youth recruited for the current study, which were predominately youth from racial/ethnic minority backgrounds. Daughters et al. (2009) conducted a study examining racial differences in the relationship between distress tolerance and substance use, finding that high distress intolerance was significantly associated with greater odds of past year alcohol use for White youth. However, this association was reversed and non-

significant for African Americans. In a second study, Daughters et al. (2013) also found racial differences in the association between distress tolerance and externalizing pathology among adolescents such that high distress intolerance was significantly associated with greater somatic, oppositional defiant, and conduct problems for White youth, but not for African American youth. These findings suggest that the inability to tolerate distress and its impact on behavioral outcomes may manifest itself differently across racial groups, with it being a risk factor for White youth, but not for minority youth.

Based on this evidence, we conducted post hoc analyses examining if there were racial/ethnic differences in the effect of discrimination on the relationship between perceived discrimination and past year marijuana use among our sample of adolescence (Model 3: moderated moderation, Preacher et al., 2007). Findings indicated that the counterintuitive finding for distress tolerance was observed only for racial/ethnic minority youth ($b=.002$, $SE=.001$, Boot CI [95] = 0.000–0.004), with no significant effect observed for White youth ($b=.001$, $SE=.002$, Boot CI [95] = –0.002–0.004). See Figure 2 for moderation results. These findings suggest that future research is warranted among a larger sample of youth on the association between distress tolerance and substance use, particularly among minority youth. Moreover, further research is needed examining the interactive effect distress tolerance has with discrimination and theory development as to why the ability to tolerate distress may pose risk for substance use among minority youth. It is also plausible that this effect may vary based on the type of discrimination experienced (i.e., discrimination based on race/ethnicity, sexual identity, weight). Given that the current study only assessed for generalized discrimination, future studies are warranted that disentangles discrimination based on discrimination type.

A second surprising finding was the null interactive effect of negative urgency. It is speculated that this finding may also be due to the demographic composition of the current sample. Although negative urgency is a risk factor for substance use, it does not amplify risk in the presence of perceived discrimination for racial/ethnic minority youth. Given that the experience of discrimination, particularly race-based discrimination, is more common among racial/ethnic minority populations (Kessler, Mickelson, & Williams, 1999; Sellers, Copeland-Linder, Martin, & Lewis, 2006), minority youth have been socialized to develop alternative, and potentially less impulsive, means to manage distress associated with the experience of discrimination (Hughes, Rodriguez, Smith, Johnson, Stevenson, & Spicer, 2006). This may be the case even if they are high on the personality traits assessed. Thus, even if an individual is high on negative urgency, it does not result in greater substance use risk related to the experience of discrimination. More research is needed to test this hypothesis.

Limitations

The current study has several limitations that should be addressed in future studies. First the data was cross-sectional which precludes any assessment of temporal ordering of potential mediational mechanisms. It is possible that both distress tolerance and negative urgency are mechanisms through which perceived discrimination impacts substance use vulnerability rather than solely a factor that amplifies risk. Second, the discrimination measure used in the

current study did not specify the type of discrimination experienced, thus it is possible that the impact of discrimination on substance use can vary based on whether perceived discrimination was based on type of discrimination experienced (e.g., skin color versus gender). Furthermore, the level of distress associated with the experience of discrimination was not accessed. Thus, it is possible that some types of discrimination are less distressing than others, which could impact the relationship between discrimination, the emotion-based traits, and substance use. Third, the sample was primarily racial/ethnic minority adolescents recruited from after-school programs in a metropolitan area, which may limit the generalizability of the findings. Relatedly, given the small number of White participants, null effects found among this group may have been due to power. Thus, future studies with a larger sample of both minority and White youth are warranted to assess potential race/ethnic differences in the relationships examined in the current study.

Conclusion

Despite these limitations, the current study's findings have several important implications for future research. Specifically, although distress tolerance was found to be a moderate risk for marijuana use as a consequence of discrimination, it was in the opposite direction, such that risk for marijuana use as a consequence of discrimination was the highest among youth who reported the highest ability to tolerate distress. This counterintuitive effect may be due to the demographic population of the current study, which was predominately comprised of racial/ethnic minority youth. Thus, it is plausible that emotion-based personality traits among racial/ethnic minority youth may operate differently than what has been observed among majority youth (Daughters et al., 2009). Future work is needed to specifically examine the impact of emotion-based personality traits on health outcomes for racial/ethnic minority youth, as well as the impact these traits have on health outcomes due to exposure to specific stressors, such as discrimination. This work can also be used to guide future research and theory development on the connection between discrimination, emotion-regulation, and substance use among adolescents, particularly racial/ethnic minorities, as well as point to other factors that may be more impactful for substance use among racial/ethnic minority youth than personality traits (Gibbons et al., 2010). Ultimately, this work will be used to help guide intervention programming to address risk and protective factors that can impact substance use vulnerability due to discriminatory experiences.

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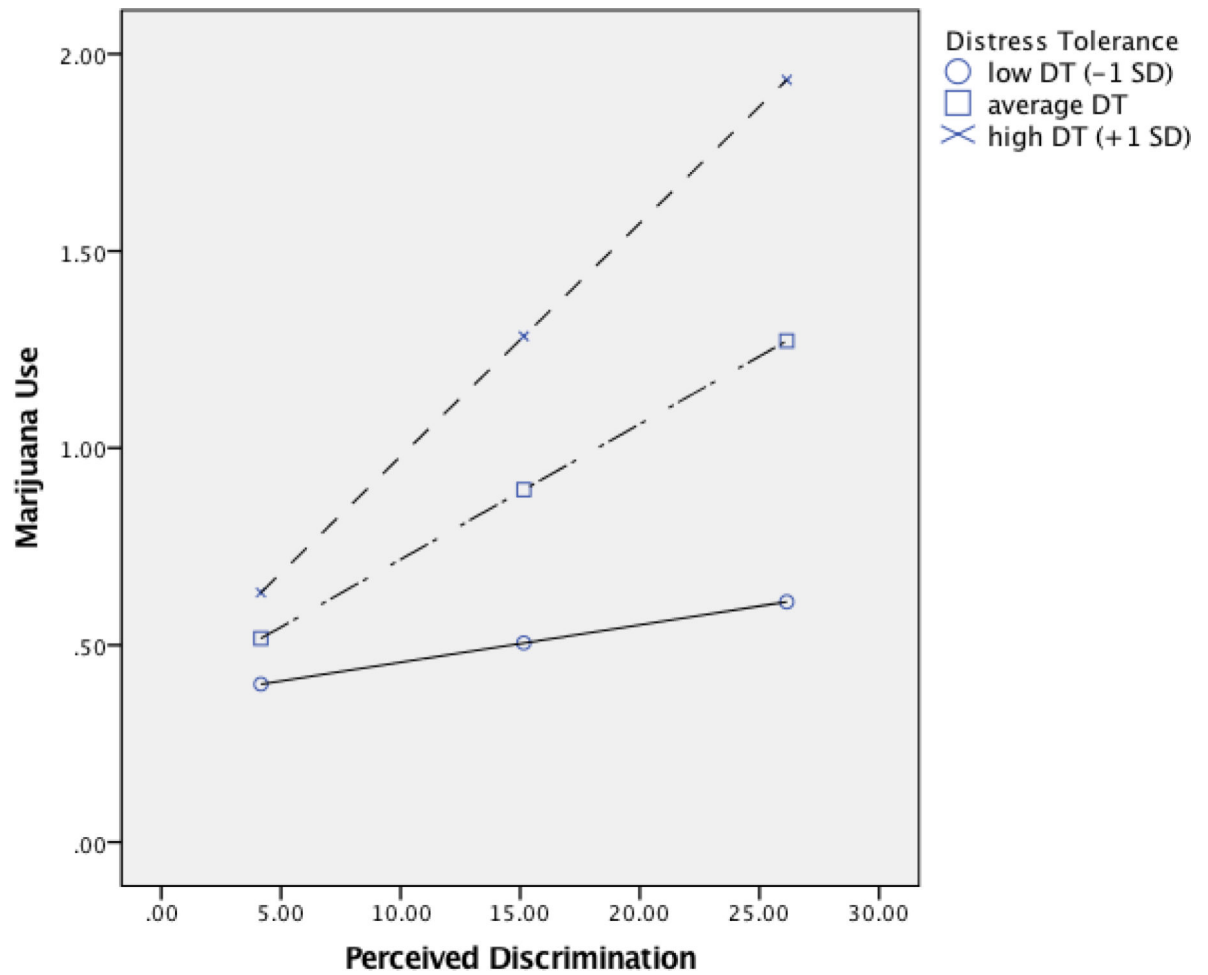


Figure 1:
Probed Moderation of Perceived Discrimination and Distress Tolerance on Marijuana Use

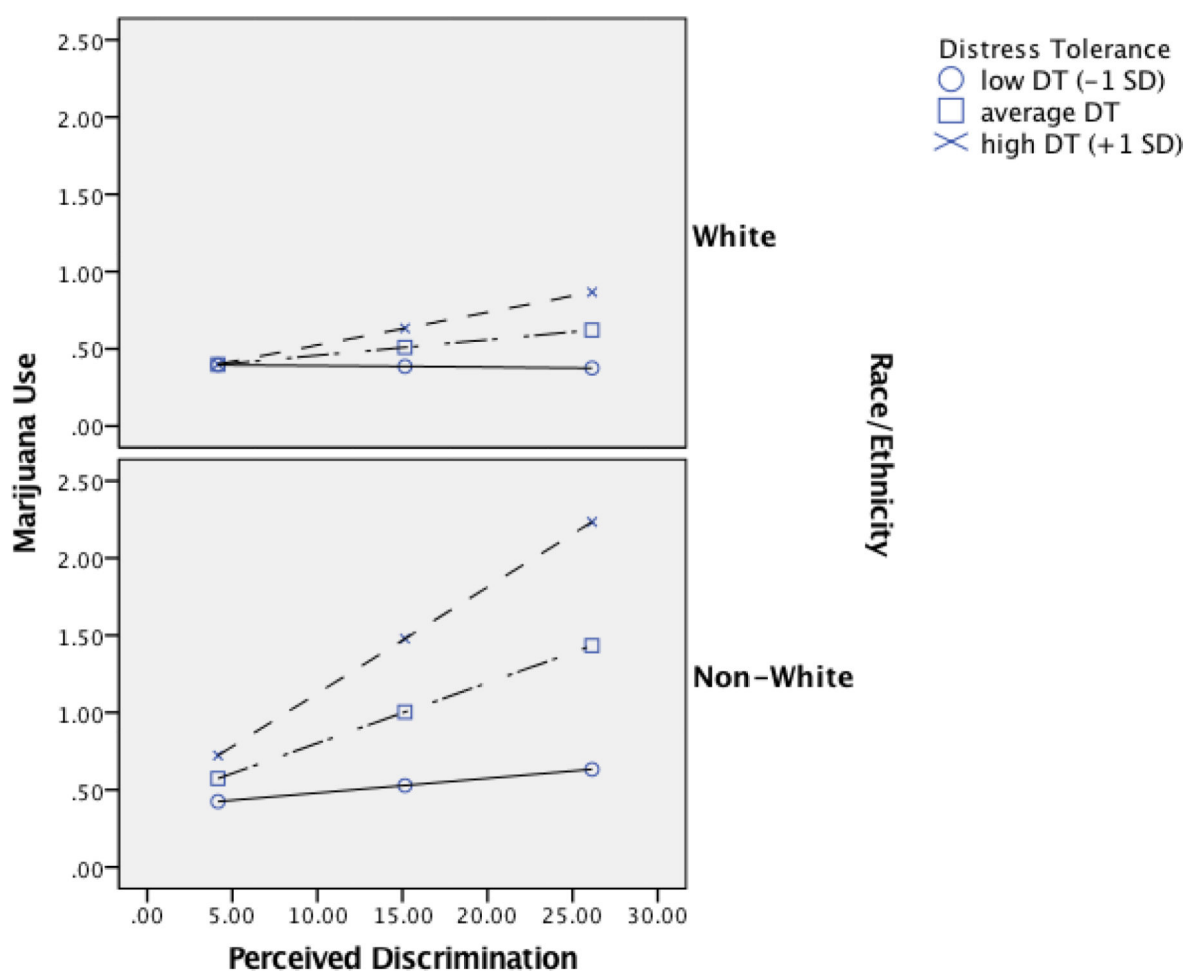


Figure 2:
Probed moderation of Perceived Discrimination and Distress Tolerance on Marijuana Use,
stratified by Race/Ethnicity

Table 1

Demographics and Descriptive Statistics for the Sample

| Variable | N or Mean | % or SD |
|--------------------------------|-----------|---------|
| Age | 15.47 | 1.80 |
| Gender | | |
| Male | 73 | 67.6 |
| Female | 35 | 32.4 |
| Race/Ethnicity | | |
| African-American/Black | 60 | 55.6 |
| Caucasian/White | 22 | 20.4 |
| Hispanic | 14 | 13.0 |
| Multiracial | 9 | 8.3 |
| Native American/Alaskan Native | 3 | 2.8 |
| Past Year Alcohol Use | 33 | 30.6 |
| Past Year Marijuana Use | 39 | 36.1 |
| Perceived Discrimination | 15.23 | 10.97 |
| Negative Urgency | 2.31 | 0.72 |
| Distress Tolerance | 49.90 | 13.19 |

Table 2

Associations of Study Variables

| | ALC | MRJ | PD | NU | DT |
|-----|-----|-------|-------|-------|--------|
| ALC | | .56** | .18 | .18 | .04 |
| MRJ | | | .27** | .19 | .16 |
| PD | | | | .37** | -.27** |
| NU | | | | | -.48** |
| DT | | | | | |

Note. ALC = past year alcohol consumption; MRJ = past year marijuana consumption; PD = perceived discrimination; NU = negative urgency; DT = distress tolerance.

*
 $p < .05$

**
 $p < .01$ (2-tailed)

Table 3

Hierarchical Regression Analyses Examining the Effects of Perceived Discrimination and Negative Urgency on Past Year Alcohol Use

| Predictors | B | SE B | β | R^2 |
|---------------------------------|------|------|---------|-------|
| Step 1 | | | | .10 |
| Age | .09 | .03 | .30** | |
| Gender | .16 | .11 | .14 | |
| Black | -.03 | .13 | -.03 | |
| Native American | .19 | .32 | .06 | |
| Hispanic | .14 | .18 | .09 | |
| Multiracial | .07 | .20 | .04 | |
| Step 2 | | | | .01 |
| PD | .01 | .01 | .11 | |
| Step 3 | | | | .03 |
| NU | .13 | .08 | .18 | |
| Step 4 | | | | .01 |
| PD x NU | -.01 | .01 | -.10 | |
| Overall R^2 | | | | .15 |

Note. PD = perceived discrimination; NU = negative urgency

*
 $p < .05$

**
 $p < .01$

 $p < .001$ (2-tailed)

Table 4

Hierarchical Regression Analyses Examining the Effects of Perceived Discrimination and Distress Tolerance on Past Year Alcohol Use

| Predictors | B | SE B | β | R^2 |
|---------------------------------|------|------|---------|-------|
| Step 1 | | | | .10 |
| Age | .09 | .03 | .30*** | |
| Gender | .16 | .11 | .14 | |
| Black | -.03 | .13 | -.03 | |
| Native American | .19 | .32 | .06 | |
| Hispanic | .14 | .18 | .09 | |
| Multiracial | .07 | .20 | .04 | |
| Step 2 | | | | .01 |
| PD | .01 | .01 | .11 | |
| Step 3 | | | | .01 |
| DT | .01 | .00 | .13 | |
| Step 4 | | | | .02 |
| PD x DT | .00 | .00 | .15 | |
| Overall R^2 | | | | .15 |

Note. PD = perceived discrimination; DT = distress tolerance

*
 $p < .05$

**
 $p < .01$

 $p < .001$ (2-tailed)

Table 5

Hierarchical Regression Analyses Examining the Effects of Perceived Discrimination and Negative Urgency on Past Year Marijuana Use

| Predictors | B | SE B | β | R^2 |
|---------------------------------|------|------|---------|-------|
| Step 1 | | | | .07 |
| Age | .15 | .07 | .21 * | |
| Gender | -.09 | .27 | -.03 | |
| Black | .44 | .33 | .17 | |
| Native American | .77 | .82 | .10 | |
| Hispanic | .11 | .47 | .03 | |
| Multiracial | .53 | .52 | .11 | |
| Step 2 | | | | .04 * |
| PD | .03 | .01 | .22 * | |
| Step 3 | | | | .01 |
| >U | .21 | .19 | .12 | |
| Step 4 | | | | .00 |
| PD x NU | -.00 | .02 | -.02 | |
| Overall R^2 | | | | .13 |

Note. PD = perceived discrimination; NU = negative urgency

*
 $p < .05$

**
 $p < .01$

 $p < .001$ (2-tailed)

Table 6

Hierarchical Regression Analyses Examining the Effects of Perceived Discrimination and Distress Tolerance on Past Year Marijuana Use

| Predictors | B | SE B | β | R^2 |
|---------------------------------|------|------|---------|--------|
| Step 1 | | | | .07 |
| Age | .15 | .07 | .21 * | |
| Gender | -.09 | .27 | -.03 | |
| Black | .44 | .33 | .17 | |
| Native American | .77 | .82 | .10 | |
| Hispanic | .11 | .47 | .03 | |
| Multiracial | .53 | .52 | .11 | |
| Step 2 | | | | .04 * |
| PD | .03 | .01 | .22 * | |
| Step 3 | | | | .06 ** |
| DT | .03 | .01 | .26 ** | |
| Step 4 | | | | .04 * |
| PD x DT | .00 | .00 | .21 * | |
| Overall R^2 | | | | .21 |

Note. PD = perceived discrimination; DT = distress tolerance

* $p < .05$

** $p < .01$

*** $p < .001$ (2-tailed)