Person-Centered Coping Profiles Moderate the Links between Racial Discrimination
and Mental Health in Black Americans

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Abstract

Objectives: Racial discrimination is consistently linked to negative mental health outcomes.

However, less is known about how unique patterns of coping in Black Americans experiencing high discrimination stress may buffer the impact of discrimination stress on mental health. The present study uses person-centered methods to identify and describe latent profiles of coping in Black Americans, understand how these coping profiles are linked to mental health, and examine whether latent coping profiles moderate the links between discrimination and mental health.

Methods: Participants included only Black American individuals ($N=289$; $M_{age} = 41.81$; 54% female) from the MIDUS Milwaukee Refresher. Latent profiles were estimated based on seven continuous measures of coping responses. After performing model selection, individuals were classified to profiles based on posterior probabilities and outcome analyses were performed using an approach adjusting for measurement error. **Results:** Four profiles of coping responses were identified: passive responders (29% of the sample), evasive responders (15%), diverse responders (17%), and engaged responders (39%). Engaged responders had the lowest prevalence of mental health symptoms. Further, membership in the engaged responders profile moderated associations between discrimination and mental health: as discrimination stress increased, engaged responders had lower odds of depression and lower negative affect compared to members of the other profiles. **Conclusions:** Person-centered methods uncovered meaningful subgroups characterized by unique coping patterns and pointed to engaged responders as being most resilient to the effects of discrimination. Future research should test these associations longitudinally and examine whether more adaptive coping profiles can be fostered through intervention.

Keywords: *Discrimination, Coping, Mental Health, Latent Class Analysis, Stress*

Significance Statement: Discrimination is consistently linked to negative outcomes for mental health in ethnic minority individuals, but less is known about how coping profiles may buffer the impact of discrimination stress on mental health. This study identified four unique coping patterns among Black participants. Coping profile membership moderated associations between discrimination and mental health, suggesting that certain typologies of coping may be more advantageous than others in managing discrimination stress.

Person-Centered Coping Profiles Moderate the Links between Racial Discrimination
and Mental Health in Black Americans

Racism is the systematic division of individuals into groups based on socially constructed races to justify the unequal allotment of power and resources to some groups (e.g., White groups) and the denial of resources, power, and equal treatment to other groups (e.g., Black groups; Paradies, 2006). For Black individuals in the United States, racism is an enduring, pervasive system of oppression that stretches across systemic, interpersonal and internalized levels (Jones, 2000) to adversely affect myriad health outcomes (Carter et al., 2018). Systemic racism is reflected in interpersonal experiences of racial discrimination which can be defined as unfair, differential treatment on the basis of race (Jones, 1997). Racial discrimination remains a critical stressor for racial minorities in the US, particularly for Black individuals (Carter et al., 2018; Vines et al., 2017; Williams & Williams-Morris, 2000). The detrimental effects of exposure to racial discrimination are well-documented, and it is clear that racism contributes to many deleterious consequences for Black individuals' health and well-being (Clark et al., 1999; Allen, 2019; Pieterse et al., 2012; Priest & Williams, 2018). For example, discrimination has been shown to increase risk for health problems, including mortality (Barnes et al., 2008), cardiovascular disease (Lewis et al., 2006; Krieger and Sidney, 1996), and psychiatric disorders (Kessler et al., 1999; Landrine et al., 2006). More specifically, discrimination has been consistently linked to greater depression (Kessler et al., 1999), lifetime prevalence of anxiety disorders (Soto et al., 2011), and lower psychological well-being (Seaton & Yip, 2008).

Although the detrimental effects of discrimination on mental health are well-documented (Pieterse et al., 2012), less work has examined psychological processes that may provide a buffer to mitigate the negative impacts of discrimination on mental health. Coping, broadly defined as

emotional and behavioral responses to stress, is one potential candidate that may help Black individuals to better manage discrimination stress. Coping processes can potentially mitigate negative impacts of racial discrimination and other stressors faced by individuals (Barnes & Lightsey, 2005; Utsey et al., 2000). Discrimination has been conceptualized as a unique, chronic stressor and, consistent with other stressors, can elicit a variety of coping responses that may result in differential impacts for mental health and well-being. Importantly, past work has shown that coping may be malleable and amenable to change through intervention (Steinhardt & Dolbier, 2008). Accordingly, coping responses provide one potential intervention target that may aid in minimizing or attenuating mental health risks of discrimination for Black individuals, who suffer from the highest rates of discrimination compared to other racial/ethnic minority groups in the United States (US; Chou et al., 2012; Landrine et al., 2006). Thus, understanding whether and how coping processes moderate links between racial discrimination and mental health is critical.

To date, little work has examined coping as a moderator of discrimination and mental health links among Black individuals. The work that does exist in this area has shown mixed results. For example, although some studies have found support for the role of proactive styles of coping (e.g., confrontation, problem-solving) in reducing adverse outcomes (Alvarez & Juang, 2010; Choi, Han, Paul & Ayala, 2011; Noh & Kaspar, 2003), other studies have found that seemingly “passive” strategies such as forbearance, acceptance and distraction may also be effective in moderating the effects of discrimination on mental health outcomes (Noh et al., 1999; Vera et al., 2011). Such mixed results might be due to coping being a complex construct with different conceptualizations and taxonomies (Folkman & Moskowitz, 2004) and there is a great deal of individual variation in coping responses to stressors.

In addition, mixed results might be due to diverse patterns of coping responses across individuals resulting in heterogeneity that is not well-captured by variable-centered analytic approaches that focus on overall associations between variables. Coping is commonly measured with scales that aggregate multiple coping responses into scores that are then associated with mental health outcomes using, for example, linear regression. This approach examines overall associations between scale scores and outcomes, without accounting for the fact that individuals are engaging in multiple coping responses across scales concurrently. Broadly speaking, variable-centered approaches assume that identified associations are similar for all members of a population; that is, they are predicated on the assumption that a population is homogeneous with respect to how predictors operate on outcomes.

Research assessing and analyzing coping in this manner generally has found that coping styles characterized by an approach-based orientation or by problem-focused coping styles are generally more beneficial for mental health compared to avoidance-based orientation or emotion-focused coping styles in predominantly White samples (see Folkman & Moskowitz, 2004 for a review). Importantly, these results are not always replicated in racial/ethnic minority samples, wherein some studies find no relation between coping and mental health (Sharpe et al., 1994), some studies find similar relations as found in White samples (that problem-focused coping is related to better mental health; e.g., Grant et al., 2000), and yet others suggest that emotion-focused coping is more adaptive for mental health outcomes (Noh et al., 1999). These inconsistencies could be partially explained by the reliance on variable-centered models, which are well-suited for understanding the relative importance of coping scales in explaining variance in mental health outcomes, but do not adequately address questions concerning different patterns

of coping responses within individuals or the relation of these patterns to mental health outcomes.

In contrast to variable-centered approaches, person-centered analytic approaches are predicated on the assumption that a population is heterogeneous with respect to how predictors operate together on outcomes, and that this heterogeneity can be summarized productively via a parsimonious set of subgroups. Given the heterogeneity in coping responses Black individuals may use in response to racist discrimination, a person-centered approach is ideally suited to investigate unique patterns of coping responses and how these patterns may provide new insight into the association between racist discrimination and mental health.

Person-centered approaches, such as latent profile analysis (LPA; Gibson, 1959) and cluster analysis, have provided critical, new information about coping in samples facing elevated stress. For example, Perzow et al. (2018) examined financial stress responses in a sample of low-income parents and identified five profiles of coping that were differentially related to mental health. Other studies that examined coping profiles in high-stress samples include examinations of young adults at risk for substance abuse (Wong et al., 2013), adults experiencing high levels of work-related stress (Astvik & Melin, 2013), and older chronically ill patients (Stecz, Wrzesinska, Tabala, & Nowakowska-Domagala, 2017). In particular, one prior study examined coping profiles in Black individuals specifically. In a small sample of Black adolescents, Aldridge and Roesch (2008) uncovered three coping profiles: low generic copers, active copers, and avoidant copers. This study made an important contribution by identifying qualitatively distinct coping profiles in a Black sample. Further investigation is necessary to identify distinct coping profiles among Black adults and to examine the potential role these coping profiles may play in their mental health.

The Present Study

The present study utilized a person-centered approach to address three aims: (1) identify and describe coping profiles among Black individuals, (2) examine the relations between coping profiles and mental health among Black individuals, and (3) examine the moderating role of coping profiles in mitigating associations between discrimination and mental health. LPA was used to identify subgroups (i.e., latent profiles) of Black American individuals characterized by different constellations of coping responses and relations between coping profiles and depression, anxiety, and positive and negative affect in the context of daily discrimination. In addition, moderating effects of coping profiles on associations between daily experiences of discrimination and depression, anxiety, and positive and negative affect were examined. The use of a person-centered approach was selected to provide greater insight into patterns of individuals' coping responses and their associations with mental health symptoms in the context of discrimination.

Method

Participants

Participants were members of the National Survey of Midlife Development in the US (MIDUS) Milwaukee Refresher study, which was conducted in 2012-2013. The overall goal of the MIDUS study was to understand the process of midlife development in relation to health and well-being. To increase the number of Black American participants in MIDUS, the MIDUS Milwaukee Refresher included additional targeted recruitment and area probability sampling methods to identify potential respondents, resulting in a sample of 508 participants. All study procedures were conducted in accordance with ethical protocols for research with human subjects.

The current analysis sample included Black American participants from the Milwaukee refresher study who completed a self-administered questionnaire in addition to standard interview procedures ($n=289$). The sample was 54% female, with an average age of 41.81 years ($SD = 11.09$; range = 25 to 64).

Procedure

Field interviewers screened households to identify Black American adults to achieve age/sex distribution similar to the broader MIDUS sample. Milwaukee respondents were interviewed in their homes using a 2.5-hour Computer Assisted Personal Interview (CAPI) protocol and afterwards asked to complete a self-administered questionnaire (SAQ). Participants completed clinical interviews for depression and anxiety during the CAPI and reported on discrimination, affect, and coping in the SAQ. The MIDUS Milwaukee Refresher survey employed the same assessments (demographic, psychosocial, and physical and mental health) as the original MIDUS study (see Radler, 2014 for full details). Relevant measures are reported below.

Measures

Coping indicators. The MIDUS used an abbreviated version of the COPE Inventory (Carver et al., 1989) that included 26 items across seven subscales from the original inventory. The subscales included positive reinterpretation and growth, active coping, planning, focus on and venting of emotion, denial, behavioral disengagement, and using food to cope. Participants reported how they generally respond to stressful events on a 4-point scale (1 = *Not at all*, 4 = *A lot*) for each item. Subscales were averaged across four items (two items for using food to cope) and then mean-centered prior to analysis. Subscales demonstrated high reliability ($\alpha = .70$ to $.90$).

Discrimination. Discrimination was measured with nine items from the Discrimination Scale assessing the frequency of chronic discrimination experienced by respondents on a daily basis (Williams, Yu, Jackson, & Anderson, 1997). Items included “*People act as if they think you are not smart*” and “*You are threatened or harassed*” because of your race (1 = *Never*, 4 = *Often*). Discrimination was assessed as the sum across the nine items ($M = 13.87$, $SD = 5.94$; $\alpha = 0.92$).

Depression and anxiety diagnoses. Depression and anxiety were measured using the World Health Organization Composite International Diagnostic Interview Short-Form (CIDI-SF; Kessler et al., 1998). The CIDI-SF is a fully structured, clinical diagnostic interview used to assess both depression and anxiety based on the *Diagnostic and Statistical Manual of Mental Disorders, Third edition, revised* (DSM-III-R) and the *International Statistical Classification of Diseases and Related Health Problems, 10th edition* (ICD-10). Through progressive branch logic, participants arrive at final yes/no binary diagnoses of Major Depressive Disorder (MDD) and Generalized Anxiety Disorder (GAD). Forty-six participants (15.6%) met criteria for MDD, and 25 participants (8.5%) met criteria for GAD. Although these prevalence rates are in line with (and higher than) national prevalence rates of MDD and GAD for Black Americans (12.9% and 5.0% respectively; Asnaani et al., 2010; Zohail et al., 2014), in order to capture a broader range of symptoms, we also indexed whether participants endorsed any depressive or anxious symptoms (see below).

Depressive symptoms. To capture depressive symptoms, a binary variable was created based on participants’ responses to the initial depression inquiry of the CIDI-SF. Endorsement of either depressed affect (“*During the past 12 months ... was there ever a time when you felt sad, blue or depressed for two weeks or more in a row?*”) or anhedonia (“*During the past 12 months*

... was there ever a time lasting two weeks or more when you lost interest in most things, like hobbies, work, or activities that usually give you pleasure?”) indicated that a participant exhibited depressive symptoms (0=no depressive symptoms, 1=any depressive symptoms). Ninety-three participants (32.2%) endorsed any depressive symptoms using these criteria.

Anxious symptoms. To capture anxious symptoms, a binary variable was created based on the anxiety precondition of the CIDI-SF. Participants were asked the following question: “People differ a lot in how much they worry. Considering how things have been going in your life over the past 12 months, do you worry more than most people in the same situation, less than most people, or about the same as most people in the same situation?” Endorsement of worrying “more than most people in the same situation” was used to indicate any anxious symptoms (0=no anxious symptoms, 1=any anxious symptoms). Sixty-one participants (21.1%) endorsed anxious symptoms.

Negative and positive affect. Negative affect and positive affect were measured with the Positive and Negative Affect Schedule (PANAS; Watson, Clark, & Tellegen, 1988), which asks about past-month frequency of 14 negative (e.g., “so sad nothing could cheer you up”; “worthless”; “nervous”) and 14 positive (e.g., “happy”; “cheerful”; “full of life”) affective states rated on a five-point Likert scale (1=None of the time, 5=All of the time). Items were averaged to create negative affect ($M = 1.97$, $SD = 0.82$; $\alpha = .91$) and positive affect ($M = 3.50$, $SD = 0.85$; $\alpha = 0.93$) scale scores.

Analysis Plan

Data analysis proceeded according to four stages in order to identify latent profiles indicated by coping and investigate their relations with mental health and discrimination. First, LPA was used to identify and describe subgroups indicated by constellations of coping

responses. Second, using modal assignment based on posterior probabilities and measurement error-based weighting (BCH approach; Bolck, Croon, & Hagenaars, 2004; Bakk & Vermunt, 2016), differences across coping profiles were examined for depression and anxiety diagnoses, depression and anxious symptoms, and positive and negative affect. Third, associations between discrimination and mental health outcomes were confirmed using logistic (diagnoses, symptoms) and linear (affect) regression. Fourth, the BCH approach was used to examine whether coping profiles moderated the associations between discrimination and mental health.

To select the optimal latent profile model, the following criteria were used: Akaike information criterion (AIC), Bayesian information criterion (BIC), sample size adjusted BIC (a-BIC), bootstrapped likelihood ratio test (BLRT), and entropy, as well as theoretical interpretability and model stability. Lower AIC, BIC, and a-BIC values indicated more optimal model fit, and higher entropy values indicated higher classification utility. Significance of the bootstrapped likelihood ratio tests indicated whether the additional profile in each successive model resulted in a significant improvement in model fit compared to the prior model with one fewer profiles. Model estimation was conducted using Mplus (Version 7.4, Muthén & Muthén, 1989–2018), and model identification for all models was checked using 1000 initial stage starts and 500 final stage starts. For model interpretation, two sets of parameters were examined: (1) latent profile membership probabilities that describe the distribution of the profiles in the sample, and (2) item means (and variances) of the coping indicators conditional on profile. Item means were used to interpret and label the profiles.

The BCH approach is a three-step approach that fits a latent profile model (step 1), assigns individuals to their most likely latent profile based on posterior probabilities (step 2), and treats profile membership as known in an outcome analysis (e.g., logistic regression of

depression diagnosis on profile membership as a dummy-coded, categorical predictor) that uses specialized weights to adjust for error introduced by assignment to profiles (step 3). The BCH approach is the currently recommended approach for relating latent profile membership to outcome variables (Bakk & Vermunt, 2016). This approach was used to predict mental health outcomes from coping profile membership; results are presented as pairwise comparisons between profiles of the prevalences (diagnoses, symptoms) and means (affect) of the outcomes. This approach was also used to test moderation of the associations between discrimination and mental health outcomes by coping profile membership using logistic and linear regression. Given the known relationship between sex and internalizing symptomatology (Nolen-Hoeksema, 2000), sex was included as a control variable in these models.

Results

Model Selection

Descriptive statistics for coping, discrimination, and mental health outcomes are presented in Table 1. For latent profile model selection, models with 1–8 profiles were considered. As shown in Table 2, the AIC, BIC, and a-BIC continued to decrease as additional profiles were added, which is a common occurrence with LPA (e.g., Bray, Foti, Thompson, & Wills, 2014). BLRT values indicated no significant improvements from the 4- to 5-profile model. Reductions in fit criteria slowed for models with four or more profiles. Thus, models with 4–8 profiles were considered carefully. The 4-profile model showed greater profile separation in comparison to the 3-profile model and the additional profile in the 4-profile model was unique and theoretically interpretable, enhancing model interpretation overall. Emergent profiles in models with 5 or more profiles exhibited redundant interpretations and low prevalences that

hindered interpretation. Thus, the 4-profile model was selected as optimal for interpretation and further analysis.

Profile prevalences and item means conditional on profile for the 4-profile model are presented in Table 3. Profile 1 (Engaged Responders; 39% prevalence) was characterized by significantly higher than average levels of positive reinterpretation, active coping, and planning and significantly lower than average levels of venting of emotion, denial, disengagement, and using food to cope. Profile 2 (Evasive Responders; 29%) was characterized by significantly higher than average levels of denial and disengagement and significantly lower than average levels of positive reinterpretation, active coping, and planning. Profile 3 (Passive Responders; 15%) was characterized by significantly lower than average levels of all coping responses except using food to cope. Profile 4 (Diverse Responders; 17%) was characterized by significantly higher than average endorsement of all coping responses except positive reinterpretation and growth and planning.

Is profile membership related to mental health outcomes?

Table 4 shows the prevalences (diagnoses, symptoms) and means (affect) of the mental health outcomes for each coping profile, as well as significant pairwise differences between profiles. Overall, coping profiles are significantly related to depression diagnosis prevalence ($\chi^2 = 12.12, p = 0.007$), anxiety diagnosis prevalence ($\chi^2 = 12.12, p = 0.007$), depressive symptoms prevalence ($\chi^2 = 23.89, p < 0.001$), and average levels of positive ($\chi^2 = 28.62, p < 0.001$) and negative ($\chi^2 = 53.89, p < 0.001$) affect. The relation between coping profile membership and anxious symptoms prevalence was marginally significant ($\chi^2 = 8.47, p = .073$).

Overall, Engaged Responders had the lowest rates of depression and anxiety diagnoses and depressive and anxious symptoms, the lowest levels of negative affect, and the highest levels

of positive affect. For example, 7% of Engaged Responders had a depression diagnosis whereas 30% of Diverse Responders had a depression diagnosis. As another example, Engaged Responders had an average positive affect of 3.79 whereas Evasive Responders had an average positive affect of 2.93.

The pattern of significant pairwise comparisons revealed that profiles with significantly higher than average scores on avoidance coping responses (i.e., Evasive and Diverse Responders) had higher rates of depression and anxiety diagnoses and higher rates of depressive symptoms compared to Engaged Responders (who showed uniquely high engagement in more adaptive responses) and Passive Responders (who were uniformly lower than average on all coping responses). These results suggest that the unique combination of the presence of adaptive coping responses and the absence of maladaptive coping responses is associated with lower likelihoods of depression and anxiety, but more passive coping (i.e., being a Passive Responder) may be relatively more protective than engaging in both adaptive and maladaptive coping responses (i.e., being a Diverse Responder).

In addition, significant pairwise comparisons for negative affect showed that Evasive and Diverse Responders were significantly higher on negative affect compared to Engaged and Passive Responders. Engaged and Passive Responders were significantly higher on positive affect compared to Evasive and Diverse Responders. In sum, the two profiles that were higher on avoidance coping (Evasive & Diverse Responders) had higher negative affect, while the profile that was higher on approach coping (Engaged Responders) and the profile that was low on all coping responses (Passive Responders) had higher positive affect.

Is discrimination related to mental health outcomes?

Before conducting latent profile moderation analyses, we confirmed associations of discrimination with mental health outcomes, as evidenced by prior research (e.g., Williams et al., 1997; Yoon, Coburn, & Spence, 2019). Logistic regression revealed that discrimination was significantly associated with greater odds of receiving a depression diagnosis ($OR = 1.09, p < .001$) and reporting any depressive symptoms ($OR = 1.07, p < .01$) and marginally associated with greater odds of receiving an anxiety diagnosis ($OR = 1.06, p = .06$) and reporting anxious symptoms ($OR = 1.04, p = .06$). In addition, using linear regression, discrimination was significantly linked to higher levels of negative affect ($\beta = .22, p < .001$) and lower levels of positive affect ($\beta = -.20, p < .001$).

Do coping profiles moderate the associations between discrimination and mental health?

Table 5 shows results of moderated logistic and linear regression models using Engaged Responders, the most approach-oriented profile, as the referent; that is, effects of membership in the Diverse, Passive, and Evasive Responders profiles are in comparison to membership in the Engaged Responders profile. All models controlled for sex.

Overall, coping profile membership moderated many associations between discrimination and mental health; there was at least one significant moderation effect for all mental health outcomes except for anxiety diagnosis and anxious symptoms. Among Engaged Responders, the reference profile, discrimination was not associated with the odds of depression or anxiety diagnoses, odds of depressive or anxious symptoms, or levels of negative or positive affect. For example, the odds ratio for the effect of discrimination on depression diagnosis was 1.00 (95% confidence interval [CI]: 0.99, 1.01; see Table 5). However, the effects of discrimination were such that, when significant, higher levels of discrimination were associated with higher odds of a depression diagnosis and having depressive symptoms, higher levels of negative affect, and

lower levels of positive affect. For example, the odds of having a depression diagnosis was 1.04 (95% CI: 1.02, 1.06) times higher for each one-unit increase in discrimination for Diverse Responders (compared to Engaged Responders). Given that the standard deviation of discrimination was 5.94 across the full sample, every one standard deviation increase in discrimination translates into Diverse Responders being 6.18 ($5.94 * 1.04 = 6.18$) times more likely to have a depression diagnosis (compared to Engaged Responders). As another example, negative affect increased by 0.07 for each one-unit increase in discrimination for Evasive Responders (compared to Engaged Responders). Thus, every one standard deviation increase in discrimination translates into Evasive Responders increasing their negative affect by 0.48 on average (compared to Engaged Responders); using the standard deviation of negative affect across the full sample, this is a standardized mean difference of approximately 0.59 ($0.48 / 0.82 = 0.59$).

Summarizing across mental health outcomes, higher levels of discrimination were associated with (a) greater likelihood of having a depression diagnosis and higher negative affect for Diverse Responders, (b) greater likelihood of having a depression diagnosis for Passive Responders, and (c) greater likelihood of having a depression diagnosis and depressive symptoms, higher negative affect, and lower positive affect for Evasive Responders (compared to Engaged Responders). Notably, discrimination was robustly linked to depression for all except Engaged Responders, but unassociated with anxiety for all participants; links between discrimination and affect were more nuanced, but discrimination was linked to higher negative affect for many participants (Diverse and Evasive Responders accounted for 46% of the sample).

Discussion

The present study sought, first, to identify and describe subgroups indicated by patterns of coping responses among Black Americans, a population that experiences high rates of discrimination stress (Clark et al., 1999). Following identification of coping profiles, relations between profiles and mental health were examined, as well as whether these profiles moderated associations between discrimination and mental health outcomes. Using LPA, four distinct latent profiles of coping were identified; in turn, profile membership was a meaningful predictor of mental health outcomes. Profiles characterized by high responding on most coping responses (i.e., Diverse Responders) and by high levels of avoidance-oriented coping responses (i.e., Evasive Responders) were considered less adaptive because they were associated with more mental health problems, whereas profiles characterized by higher levels of approach-oriented coping responses (i.e., Engaged Responders) and lower levels of avoidance-oriented coping responses (i.e., Passive Responders) were considered more adaptive. Furthermore, moderation analysis revealed that coping profiles moderated the association between daily experiences of discrimination and select mental health outcomes.

Importantly, results suggest that complex constellations of coping responses may alter pathways between discrimination experiences and mental health outcomes. Specifically, the moderation analyses suggested that Black Americans' membership in the Engaged Responders profile—a coping response pattern characterized by higher levels of approach-oriented coping responses and lower levels of avoidance-oriented coping responses—may be protective against discrimination, particularly when compared to Diverse and Evasive Responders. Diverse and Evasive Responders were particularly vulnerable to the effects of discrimination: even though the Diverse, Passive, and Evasive Responders all had poorer mental health outcomes compared to Engaged Responders, Diverse and Evasive Responders exhibited stronger associations

between higher levels of discrimination and more negative mental health (depression diagnosis, depressive symptoms, negative affect). Given that both Diverse and Evasive Responders were higher than the sample mean on the use of denial and disengagement coping responses, the overall pattern of results may suggest that constellations of coping responses that include above average denial and disengagement are particularly maladaptive for individuals experiencing discrimination stress. In contrast, membership in the Passive Responders profile moderated only the association between discrimination and depressive symptoms, but not other mental health outcomes. The fact that passive coping is linked to worse mental health but that this profile does not moderate the association between discrimination and mental health may suggest that, similar to previous research on passive coping among ethnic minorities (Noh et al., 1999), a pattern of generally passive responding may be protective for some aspects of mental health in the context of discrimination experiences. However, further research is needed to clarify the role of passive patterns of coping responses in mental health more broadly vs. when responding to discrimination more specifically.

Although coping profiles moderated associations between discrimination and depression, coping profiles did not moderate associations between discrimination and anxiety. There are several possible ways to interpret these findings. Fear and anxiety are natural emotions that constitute adaptive responses when facing real danger (Ekman, 1992; Pittig et al., 2018). Given the real threats that racial discrimination poses for Black Americans' physical and mental health, it is possible that having some amount of anxiety when experiencing high levels of discrimination is adaptive. For example, DeLapp and Williams (2019) proposed a pro-active coping model for racial discrimination that included anxiety as a key component for increasing vigilance to threats in preparation for adaptive coping responses to discrimination. Thus,

individuals with a more psychologically “healthy” coping profile (e.g., Engaged Responders) may not demonstrate reduced anxiety when discrimination is high, even though they would demonstrate lower anxiety overall compared to others. Such an interpretation would be in line with literature on ethnic-racial socialization, which suggests that Black American youth who receive “preparation for bias” messaging from their parents are better prepared to cope with discrimination and have a healthier psychological profile overall (Hughes et al., 2006) but also report greater racial threat sensitivity (Stevenson et al., 2002). Alternatively, the particular coping indicators used here may be more relevant to depressive but not anxious symptoms in relation to discrimination. For example, many of the more adaptive coping responses considered here, such as active coping, may lend themselves to behavioral activation for depression, whereas a more “worry-specific” intervention would be needed to mitigate the effects of discrimination on anxiety. Future research could test these different possibilities using experimental designs.

The person-centered analytic approach taken in this study facilitates examination of differences among patterns of coping beyond a contrast of approach- and avoidance-oriented coping. Both Passive and Evasive Responders were lower than average on approach-oriented coping responses (positive reinterpretation and growth, active, planning) but Passive Responders fared slightly better in terms of mental health outcomes and buffering the effects of discrimination. Furthermore, although both Passive and Evasive Responders were lower than average on approach-oriented coping responses, Evasive Responders were higher than average on avoidance-oriented responses (denial, behavioral disengagement) and Passive Responders were below average on these responses. Moreover, Diverse and Evasive Responders were both high on avoidance oriented coping responses, but differed in that while Evasive Responders were

lower than the sample mean on approach oriented coping responses, Diverse responders were higher than the sample mean on Active coping. These findings highlight benefits of person-centered methods that examine unique subgroups characterized by qualitatively different constellations of many coping responses: although the Diverse and Evasive Responders both appear to be maladaptive relative to the Engaged Responders, their configurations and magnitudes of the coping indicators are distinct and risk conferred by these unique patterns of coping responses co-occurring within individuals may be obscured in variable-centered analytic approaches.

Overall, these findings point to the potentially protective nature of specific profiles of coping to buffer discrimination experiences among Black Americans. It may be particularly important to simultaneously target reductions in denial and behavioral disengagement and bolster positive reinterpretation and growth, planning, and active coping. An exciting avenue for future research will be to determine whether coping profiles are amenable to change through targeted interventions. Prior work has shown that problem-focused coping can be increased through intervention (Folkman et al., 1991), but less work has examined how these interventions translate to person-centered patterns of coping, and how these interventions can be culturally adapted to suit Black American populations who experience high levels of discrimination stress. Given the present findings, and taking into account prior findings on culture-specific coping, a three-pronged approach of reducing avoidance-oriented coping responses and increasing more adaptive, approach-oriented responses while incorporating Africultural coping responses (e.g., religious coping; Utsey et al., 2000) could be most beneficial.

Limitations

This study presents has several strengths, including the use of a person-centered analytic approach, a large community-based sample of Black Americans, and the use of well-validated diagnostic measures of depression and anxiety. However, results should be interpreted in the context of acknowledging limitations. This study relied on cross-sectional, self-report data and did not assess mental health outcomes at later time points. Although a temporal precedence is suggested in the way models were fit and interpreted, actual temporal ordering is unknown. Future work would benefit from employing longitudinal designs to unpack this issue. In addition, the coping indicators used here were based on measures developed using primarily White samples. Although this study is one of the first to use an entirely Black American adult sample to examine coping profiles using the COPE inventory, and represents an important first step in understanding complex constellations of coping responses among Black Americans, culturally specific coping measured should be considered in the future work, particularly because of the pervasive nature of discrimination with which Black Americans continuously need to cope (e.g., Greer, 2007).

Conclusion

The chronic and pervasive nature of racial discrimination points to the importance of studying individual differences in coping responses among Black Americans (Clark et al., 1999). In particular, it is important to identify any potential buffering effects of various patterns of coping responses in mitigating the impact of discrimination on mental health in Black Americans. This study applied a person-centered analytic approach to examine patterns of coping with racial discrimination in relation to mental-health outcomes. Four distinct latent profiles of coping were identified and, in turn, profile membership was a meaningful predictor of mental health outcomes. Furthermore, moderation analysis revealed that latent profiles of coping

moderated associations between daily experiences of discrimination and mental health, demonstrating that coping profiles characterized by high levels of avoidance-oriented and low levels of approach-oriented coping responses (Evasive Responders) or high levels of avoidance- and approach-oriented responses (Diverse Responders) may be particularly detrimental for Black Americans facing discrimination, whereas coping profiles characterized by high levels of approach-oriented and low levels of avoidance-oriented coping responses may be more protective. This study is an important first step in identifying patterns of coping responses among Black Americans and demonstrates the important buffering effects that coping profiles can have to improve mental health in this population that experiences high levels of discrimination stress. Future work should examine whether coping profiles are amenable to intervention to foster more protective coping patterns.

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Table 1

*Descriptive Statistics for Coping Indicators,
Discrimination, and Mental Health Outcomes*

Coping Indicators	Mean (SD)
Positive Reinterpretation and Growth	13.14 (2.48)
Active Coping	12.82 (2.31)
Planning	13.39 (2.43)
Focus on Venting of Emotion	9.62 (3.09)
Denial	7.57 (3.20)
Behavioral Disengagement	7.41 (2.99)
Using Food to Cope	3.99 (1.96)
Continuous Discrimination & Mental Health Outcomes	Mean (SD)
Discrimination	13.94 (5.94)
Negative Affect	1.97 (0.82)
Positive Affect	3.5 (0.85)
Binary Mental Health Outcomes	Frequency (Valid %)
Depressive Symptoms	92 (32.2)
Anxious Symptoms	61 (21.1)
Depression Dx	46 (15.6)
Anxiety Dx	25 (8.0)

Table 2

Model Fit Information and Criteria for Latent Profile Models with 1-8 profiles

No. of Profiles	df	AIC	BIC	a-BIC	BLRT (p-value)	Entropy
1	14	9630.27	9681.60	9637.21	N/A	1.00
2	22	9256.28	9336.94	9267.17	<.0001	0.87
3	30	9026.51	9136.50	9041.37	0.020	0.88
4	38	8920.92	9060.24	8939.74	0.046	0.86
5	46	8845.05	9013.71	8867.83	0.300	0.86
6	54	8796.16	8994.15	8822.90	0.260	0.86
7	62	8762.34	8989.66	8793.05	<.0001	0.87
8	70	8734.07	8990.72	8768.74	<.0001	0.88

Note. $N = 289$. df = degrees of freedom; AIC = Akaike information criterion; BIC = Bayesian information criterion; a-BIC = sample size adjusted Bayesian information criterion; BLRT = bootstrapped likelihood ratio test.

Table 3
Parameter Estimates for the Four-Profile Model

		1. Engaged Responders	2. Evasive Responders	3. Passive Responders	4. Diverse Responders
		Latent profile membership probabilities			
		0.39	0.29	0.15	0.17
		(<i>n</i> = 112)	(<i>n</i> = 84)	(<i>n</i> = 44)	(<i>n</i> = 50)
Coping Indicators	Sample mean	Conditional item means			
Positive Reinterpretation and Growth	13.14	1.542*	-2.963*	-0.842*	0.553
Active Coping	12.82	1.703*	-3.22*	-0.923*	0.553*
Planning	13.39	2.021*	-4.172*	-0.686*	0.274
Focus on and Venting of Emotion	9.62	-0.845*	0.308	-0.826†	3.019*
Denial	7.57	-1.255*	1.337*	-1.641*	4.412*
Behavioral Disengagement	7.41	-1.886*	2.09*	-1.045*	4.164*
Using Food to Cope	3.99	-0.856*	0.517	-0.353	2.062*

Note. *N* = 289. † *p* < .10 **p* < .05. Significance tests are relative to the overall sample mean.

Table 4

Prevalences and Means (and Standard Errors) of Mental Health Outcomes for Each Coping Profile and Pairwise Comparisons Between Profiles

	Profile 1: Engaged Responders	Profile 2: Evasive Responders	Profile 3: Passive Responders	Profile 4: Diverse Responders	Pairwise Comparisons
Depression (Dx)*	0.07 (.03)	0.23 (.07)	0.13 (.04)	0.30 (.07)	1<2,4; 3<4
Anxiety (Dx)*	0.03 (.02)	0.11 (.05)	0.04 (.03)	0.21 (.06)	1,3<4
Depressive Symptoms*	0.20 (.04)	0.44 (.08)	0.25 (.05)	0.57 (.07)	1<2,4; 3<4
Anxious Symptoms†	0.16 (.04)	0.22 (.07)	0.16 (.05)	0.36 (.07)	1<4
Negative Affect*	1.73 (.06)	2.56 (.17)	1.68 (.08)	2.48 (.12)	1,3<2,4
Positive Affect*	3.79 (.08)	2.93 (.16)	3.51 (.09)	3.30 (.13)	2<1,3,4; 4<3

Note. $N = 289$. *omnibus test is significant at $p < .05$. †omnibus test is marginally significant ($p = .05-.10$).

Table 5

Summary of Moderation Analyses for Coping Profiles as Moderators of the Associations Between Discrimination and Mental Health Outcomes

	Depression Diagnosis	Depressive Symptoms	Anxiety Diagnosis	Anxious Symptoms	Negative Affect	Positive Affect
	<i>OR (95% CI)</i>	<i>OR (95% CI)</i>	<i>OR (95% CI)</i>	<i>OR (95% CI)</i>	<i>β (SE)</i>	<i>β (SE)</i>
Intercept	1.08 (1.02, 1.14)	1.21 (1.12, 1.31)**	1.03 (0.99, 1.07)	1.17 (1.09, 1.26)*	1.73 (0.06)***	3.79 (0.08)***
Sex	1.00 (0.92, 1.08)	0.99 (0.89, 1.10)	1.03 (0.97, 1.10)	1.01 (0.92, 1.11)	0.02 (0.09)	0.09 (0.1)
Discrimination	1.00 (0.99, 1.00)	1.01 (1.00, 1.02)	1.00 (1.00, 1.01)	1.00 (0.99, 1.01)	0.00 (0.01)	-0.02 (0.01)
<i>Profile Main Effects</i>						
Diverse Responders	0.79 (0.69, 0.91)	0.68 (0.58, 0.8)***	0.83 (0.73, 0.94)***	0.81 (0.69, 0.95)**	0.78 (0.12)***	-0.52 (0.15)***
Passive Responders	0.92 (0.82, 1.03)	0.92 (0.80, 1.07)	0.99 (0.92, 1.06)	0.99 (0.86, 1.13)	-0.01 (0.11)	-0.34 (0.13)**
Evasive Responders	0.86 (0.75, 0.97)	0.80 (0.66, 0.95)*	0.92 (0.82, 1.02)	0.93 (0.80, 1.08)	0.87 (0.17)***	-0.83 (0.17)***
<i>Moderation by Profiles</i>						
Discrimination * Diverse Responders	1.04 (1.02, 1.06)***	1.02 (0.99, 1.04)	1.02 (0.99, 1.04)	1.02 (0.99, 1.06)	0.08 (0.02)***	-0.02 (0.03)
Discrimination * Passive Responders	1.03 (1.00, 1.05)*	1.02 (0.99, 1.05)	1.00 (0.98, 1.01)	1.01 (0.99, 1.04)	0.03 (0.02)	-0.02 (0.03)
Discrimination * Evasive Responders	1.04 (1.02, 1.06)***	1.02 (1.00, 1.05)***	1.00 (0.98, 1.02)	1.02 (0.99, 1.05)	0.07 (0.03)**	-0.04 (0.02)*

Note. $N = 289$. Effects of profiles are in reference to Engaged Responders. * $p < .05$. ** $p < .01$. *** $p < .001$.