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Perceived Discrimination as a Mediator of ACEs and Psychological Distress

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ABSTRACT

The authors investigated the role of perceived discrimination in the association between adverse childhood experiences and psychological distress in adulthood in a sample of individuals ($n = 125$) at a university-based couple and family therapy clinic. Results showed that a majority had experienced four or more adverse experiences, indicating a high risk of negative health outcomes. A significant indirect effect of adverse experiences through perceived discrimination on psychological distress, even with gender, race/ethnicity, and household income as covariates, was noted. Findings underscore the importance of incorporating assessment of perceived discrimination in therapy with clients presenting with childhood adversity and psychological distress.

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A substantial body of literature has established a strong relationship between adverse childhood experiences (ACEs) and physical and mental health outcomes (Centers for Disease Control, 2016). Studies have demonstrated a dose-response link between early experiences of adversity and adult health risks including but not limited to depression, somatic symptoms, substance abuse, and post-traumatic stress disorder (Anda et al., 2006; Easton & Kong, 2017; Frewen et al., 2019; Merrick et al., 2017). While a robust connection between ACEs and poorer health outcomes is evident (Merrick et al., 2019), very few studies have focused on the intersection between childhood trauma and current stressors perpetuated through perceived discrimination. In general, perceived discrimination is defined as a subjective experience of social exclusion or unfair treatment in social relationships which is subtle and pervasive and impacting diverse populations (Pascoe & Smart Richman, 2009; Vines et al., 2017). Studies using the Everyday Discrimination Scale (EDS; Williams et al.,1997), which taps into subtle forms of discrimination, identifies it as a

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unique stressor whose impact on psychological distress is stronger than other general stressful life events (Lewis et al., 2015).

Despite the growing evidence of negative psychological outcomes of adverse experiences in childhood as well as perceived discrimination in adulthood, very few studies have examined them together. Additionally, while the significance of family of origin contexts in adult functioning is largely acknowledged by family therapists, unpacking perceived unfair treatment in social interactions has not received much attention. In this study, utilizing the stress process theory (Pearlin, 1989), we sought to examine the associations among ACEs, perceived discrimination, and psychological distress in a sample of individuals from a couple and family therapy training clinic.

ACEs and psychological distress

ACEs refer to childhood events occurring in one's social and family context that disrupts healthy psychosocial development and leads to harm or distress (Kalmakis & Chandler, 2014). Although family therapists have long included family of origin experiences as an essential component in psychological distress (e.g., Boszormenyi-Nagy & Krasner, 1986; Bowen, 1976; Diamond et al., 2016), systematic research on childhood adversity is individually focused, linking major emotional trauma in childhood to several severe health outcomes (Felitti et al., 1998). A robust connection among childhood abuse, neglect, and depressive and somatic symptoms has been established in multiple populations (Dube, 2018; Easton & Kong, 2017; McCall-Hosenfeld et al., 2014) along with increased rates of comorbidity (Tietjen et al., 2007). Recent research on psychobiological responses suggest patterns of cortisol dysregulation in adults with combined experiences of childhood adversity and current stressors, likely leading to an impaired capacity to cope (Young et al., 2020).

Current directions in research include expansions of the construct of adverse events to include broader systemic factors. Originally, the 10-item questionnaire included questions on abuse (emotional, physical, and sexual abuse), household challenges (violence toward mothers, mental illness in the household, parental separation or divorce, familial incarceration), and neglect (emotional and physical) (Felitti et al., 1998). Overtime, the survey was adapted and expanded into several versions (CDC, 2009). Among others, current iterations include use of public assistance, community violence, growing up in poverty, food insecurity, and violent crime victimization as adverse events (Finkelhor et al., 2013; Karatekin & Hill, 2019; Mersky et al., 2017). These expansions reflect the growing recognition of sociocultural factors such as race and class in the prevalence of childhood adversity experiences (Maguire-Jack et al., 2020; Slopen et al., 2016).

Perceived discrimination and psychological distress

Discrimination is defined as the unfair treatment of people who occupy various social locations based on race, gender, age, religion, sexual orientation, and other characteristics and is manifested in normalized interactions by a dominant social group (Krieger, 1999; Molina et al., 2016). Racial inequities laid bare by the COVID-19 pandemic (Centers for Disease Control, 2020), disproportionate incarcerations, and police brutality experienced by African Americans (Taylor, 2013) highlighted by the recent killing of George Floyd show that systemic processes of injustice permeate every aspect of our lives. While institutional or structural indicators of discrimination are embedded at the societal level, perceived discrimination refers to subtler forms of discrimination in the interpersonal realm. Perceived discrimination is the subjective appraisal of social rejection; these are subtle and chronic and perpetuate health inequities (Todorova et al., 2010; Williams et al., 2003). Studies examining the intersections of race and gender show the influence of perceived discrimination on several mental health outcomes such as depression in Latinx adolescents (Davis et al., 2016), stress in African American women (Tietjen-Watkins et al., 2014), and psychological distress in incarcerated African American men (Assari et al., 2018). Although different ways of measuring perceived discrimination exist (Cokley et al., 2012), research using the EDS (Williams et al., 1997) shows that when individuals perceive rejection in social situations consistently and frequently, their overall sense of well-being is negatively affected (Schmitt et al., 2014; Williams et al., 2003). This, everyday experiences of discrimination, is a chronic stressor linked to negative health outcomes, regardless of the source of discrimination (Kim et al., 2014).

The profound impact of perceived discrimination on mental health is well established. In a meta-analysis, Pascoe and Smart Richman (2009) synthesized numerous studies that indicated a significant and well-documented association between perceived discrimination and negative mental health outcomes. This was confirmed by a more recent meta-analysis that showed larger effect sizes in this association in marginalized groups (Schmitt et al., 2014). Additionally, the same review noted significant negative effects in longitudinal and experimental studies, thus indicating not just correlational associations but a potential causal link.

Current study

While numerous studies have separately studied the impact of ACEs and perceived discrimination on psychological outcomes, very few have examined their combined influence. In a recent study using a national sample, Vásquez et al. (2019) found that exposure to ACEs increased reporting of

perceived discrimination across race/ethnicity. Psychosocially, childhood trauma may impact how individuals respond in interpersonal relationships, heightening mistrust and sensitivity to rejection (Bombay et al., 2014). From a stress process theory, this may be understood as a result of disadvantaged social contexts exposing individuals to further stressors that negatively impact health (Pearlin, 1989). The stress proliferation perspective, in particular, suggests that stressors from one event can lead to accumulation of stressors over time that reverberate across generations (Pearlin, 1989; Turney & Wildeman, 2017). Additionally, given the current climate of racial tension and pervasiveness of discrimination among people of color, there is an urgent need for family therapists to better understand how everyday experiences of perceived discrimination at the societal-interpersonal level exacerbate stressors of childhood adversity at the familial level. This is further supported by emerging family therapy scholarship that calls for an intentional inclusion of systemic factors in relational outcomes and therapy (e.g., Knudson-Martin et al., 2019).

In this study, we hypothesized that experiences of adversity in childhood would be related to everyday discrimination in adulthood, which would in turn be related to current psychological distress. We also investigated whether perceived discrimination was a mediator in the relationship between ACEs and psychological distress. To our knowledge, few studies have examined this mediational role of perceived discrimination in individuals presenting to a mental health clinic where psychological distress and childhood adversity may be high. Our assumption was that adversity in childhood was a disadvantaged sociofamilial context that exposed individuals to increased opportunity for and sensitivity to social rejection which, taken together, accumulated stressors and exacerbated psychological distress in adulthood. Given existing literature on intersections of race/ethnicity, gender, and income levels in ACEs and perceived well-being (Maguire-Jack et al., 2020; Schmitt et al., 2014), we added them as control variables in the mediating model.

Materials and methods

Procedure

Data for this study come from an ongoing institutional review board–approved study at a university-based couple and family therapy training center in Northeastern United States. The center provides free couple and family therapy services to clients from the larger community. Additionally, the center specializes in providing services to transgender and gender-expansive individuals and families. Data are part of clinical assessments that all new clients complete in the first two sessions with their assigned

Table 1. Sociodemographic characteristics of participants and study variables.

Demographic ($n = 125$)	n	%	ACE		EDS		BSI	
Gender			*M*	*SD*	*M*	*SD*	*M*	*SD*
Female	77	61	4.376	3.211	15.948	8.696	16.506	14.806
Male	25	20	3.440	2.567	20.680	11.032	16.440	13.385
Transgender	23	18	5.000	2.713	20.217	12.576	15.695	13.792
Race								
White	95	76	3.873	2.892	16.410	9.505	16.389	13.730
Black/African diaspora	16	13	6.500	2.476	24.062	11.664	18.562	17.130
Multiracial	5	4	6.200	4.324	25.000	13.057	27.000	15.652
Other	9	7	3.889	2.891	15.667	7.314	6.000	7.466
Sexual orientation								
Heterosexual	75	60	3.946	3.123	16.906	9.058	15.560	14.721
Gay/lesbian	10	7	5.100	3.107	18.200	10.7737	19.500	15.371
Bisexual	16	11	5.437	3.119	20.437	12.230	18.250	10.705
Others	24	6	4.333	2.496	18.041	11.844	16.208	14.849
Household income ($)								
Less than 10,000	12	10	5.833	3.433	18.667	11.570	27.583	16.300
10,000–29,999	33	26	3.909	2.810	19.515	10.225	23.000	15.471
30,000–49,999	31	25	5.193	2.880	18.483	9.629	11.064	11.715
50,000–69,999	20	16	4.200	3.138	19.300	12.707	16.350	9.804
Greater than 70,000	29	23	3.241	2.836	13.206	6.836	9.758	11.232
Education level								
High school	25	20	4.760	2.817	20.000	11.172	15.360	15.231
Some college	58	46	4.517	3.015	18.086	10.309	17.344	13.251
Bachelor's	28	22	3.285	3.230	14.750	8.439	13.071	13.904
Graduate	14	11	4.642	2.844	17.714	10.343	20.500	16.955
Age (years)								
18–40	76	61	4.552	3.030	18.960	10.219	18.302	14.194
40–64	49	39	3.918	3.005	15.693	9.792	13.306	13.921

Note. ACE = Adverse Childhood Experiences; EDS = Everyday Discrimination Scale; BSI = Brief Symptom Inventory-18.

therapist. Clients have the option of providing consent for using their clinical assessment data in research. Clinical work is not interrupted if they choose to withdraw their consent at any point. Around 80% of clients provided consent for research in a 2-year period between 2018 and 2020. Given the nature of the training program, about 56% of clients presented as part of a couple or family system. For the purposes of this study, we examined data only from those who presented for individual therapy. Complete data from 125 participants were used in this study.

Participants

Table 1 shows the sociodemographic characteristics of the participants and their mean scores on all study variables. A majority of the participants identified as White (76%), female (61%), and heterosexual (60%). Participants also identified as Black (12.8%), transgender (18.4%), and gay, lesbian, or bisexual (17.8%). More than half of the sample were between the ages of 18 and 40 years (60.8%), with the rest between 41 and 64 years (39.2%). The majority also reported completing either high school or some college education (63.6%). Participants had varying levels of household

income, with about more than half (60.8%) reporting less than $49,999. About 23% reported household income greater than $70,000. The main reasons for seeking therapy were anxiety (36%), depression (31.2%), assistance with gender transition (30%), and other individual concerns (27.2%).

Measures

ACEs

We used a modified version of the Behavioral Risk Factor Surveillance Systems (CDC, 2009) measurement including 10 items that measured household challenges and abuse experiences before the age of 18 years. Additionally, given recent literature on examining community-level stress and poverty, we added 2 items that have been used in previous studies (e.g., Finkelhor et al., 2015): "Lived in a dangerous neighborhood" and "Family was poor or on public assistance growing up." All items had dichotomous response options of "yes" or "no." A total score was calculated by adding responses to each item. A higher score indicated an increased number of adverse experiences. The 12-item scale had good internal reliability, with a Cronbach's alpha of 0.79. Because of the addition of 2 items to the original scale, we conducted the mediational analyses with both the 10-item and 12-item total scores.

Perceived discrimination

The Detroit-area study EDS (Williams et al., 1997) was used to assess perceived discrimination through a self-report of how often participants experienced unfair treatment in their day-to-day life. Originally developed through qualitative interviews with African American participants, EDS has been found to have measurement equivalence across race/ethnic groups (Lewis et al., 2012). Participants reported on the frequency of encountering 9 items on a 6-point Likert scale (ranging from "Almost Never" to "Very Often") in the last 12 months. Examples of the items were the following: "You are treated with less courtesy than other people"; "You are treated with less respect than other people"; "People act as if they think you are not smart"; and "You are threatened or harassed." A cumulative score was obtained by adding raw scores on all 9 items. A higher score indicated greater perceived discrimination. The Cronbach's alpha was 0.88, indicating good internal reliability.

Psychological distress

Psychological distress was measured using the Brief Symptom Inventory-18 (BSI-18; Derogatis, 2000). This shortened 18-item version of the original

BSI includes symptoms of depression, anxiety, and somatization and has been shown to have good convergent and cross-cultural validity across international studies (see, Franke et al., 2017). Recent studies using this scale note that the summative, global score suffices as a measurement of psychological distress (Meijer et al., 2011). Participants were asked to rate the severity of symptoms in the last 7 days on a 4-point Likert scale from "Not at all" to "Quite a bit." Items included the following: "Feeling weak in parts of your body"; "Pains in heart or chest"; "Feeling fearful"; and "Nervousness or shakiness inside." The Cronbach's alpha for the entire scale was 0.93, indicating good reliability. Higher scores on this scale indicated greater psychological distress.

Analysis plan

Initial descriptive statistics were conducted using IBM SPSS software v.26 for windows (IBM Corp, 2019). Group differences in outcome and mediator variables were assessed using the analysis of variance (ANOVA) *F* test. Mediation analysis was conducted using PROCESS macro v.3 (Hayes, 2017) in SPSS, which is well suited for small samples sizes. PROCESS is considered advantageous because its bootstrapped confidence interval of 95% does not have the biases in maximum likelihood estimation like structural equation modeling with smaller samples (Hayes et al., 2017). Additionally, unlike other methods, there is no need to establish a priori relationships between variables; direct and indirect effects are tested in one step of this procedure enhancing parsimony (Rucker et al., 2011). Mediation analysis was conducted using model 4, as described by Hayes (2017), with 5000 bootstrapped samples. The full model was computed with race/ethnicity, household income, and gender as covariates. Analyses were conducted using both the original 10-item ACEs as well the modified version with 12 items. Results are reported following guidelines provided by Hayes (2017).

Results

The most commonly reported ACEs before the age of 18 years in this sample were as follows: parental divorce (56%), parental mental illness (56.8%), emotional abuse (54.4%), household alcohol abuse (44%), physical abuse (38.4%), and growing up poor or on public assistance (38.4%). The mean score for the 12-item scale was 4.304 ($SD = 3.024$, range: $0 - 12$), with 65% reporting 4 or more adverse experiences. The sample, therefore, had experienced greater adversity in childhood, indicating higher risk for negative health outcomes. The mean score on the EDS was 17.408 ($SD = 9.572$, range: 9–48) and the mean score on the BSI-18 was 16.344 ($SD = 14.243$,

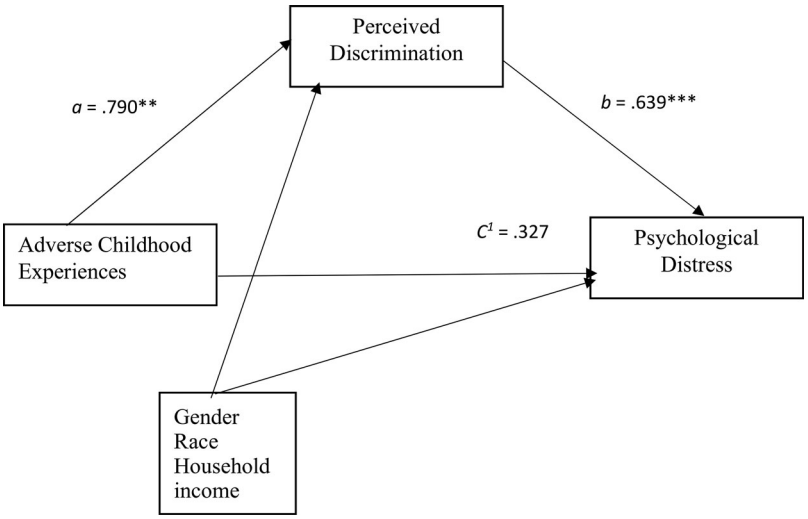

Figure 1. Mediational model with study variables and three covariates.

range: 0–62). As noted in Table 1, there were differences in both EDS and BSI-18 scores based on some demographic characteristics. ANOVA results indicated a significant difference in perceived discrimination by race/ethnicity [$F = 3.624$ (3, 121), $p < .05$)] with Black and multiracial participants reporting greater discrimination. A significant difference in psychological distress was noted by race/ethnicity [$F = 2.757$ (3, 121), $p < .05$] and household income [$F = 7.627$ (4, 120), $p < .000$] with greater distress reported by those identifying as Black or multiracial and participants with household income less than $39,999. No significant differences were found in either perceived discrimination or psychological distress by gender, sexual orientation, or education levels. The difference in perceived discrimination scores by gender approached significance [$F = 3.033$ (2, 122), p = .052], with those identifying as male or transgender reporting greater discrimination than those identifying as female.

Mediation analysis

Analyses of direct and indirect effects in models with and without covariates showed similar results. Complete findings of analyses conducted with race/ethnicity, gender, and income levels as covariates in the full model are presented here. Figure 1 shows the mediational model with covariates and associated unstandardized parameters are listed in Table 2. Results indicated that participants who reported higher ACEs reported greater perceived discrimination ($B = .790$, $SE = .274$, $p < .01$), and those who reported greater perceived discrimination also reported more psychological distress ($B = .639$, $SE = .119$, $p < .000$). A bootstrap confidence interval for

Table 2. Model coefficients for mediation analysis.

Antecedent	*M* (Perceived Discrimination)			Y (Psychological Distress)		
	Coeff.	*SE*	*p*	Coeff.	*SE*	*p*
X (ACE)	.790	.274	.004	.327	.372	.380
M (perceived discrimination)	____	____		.639	.119	.000
Race	.856	.936	.362	−2.343	1.231	.059
Gender	2.080	1.031	.045	−2.117	1.375	.126
Income	−1.049	.628	.097	−3.081	.833	.000
Constant	12.851	3.296	.000	20.217	4.588	.000
	$R^2 = .14$			$R^2 = .34$		
	F (4, 120) = 4.924, $p = .001$			F (5, 119) = 12.187, $p = 0.000$		

Note. ACE = adverse childhood experience.

the indirect effect ($B = .505$, $SE = .190$) based on 5000 bootstrap samples did not include zero, indicating statistical significance at the .05 level.<AQ: Please confirm "($B = .505$, $SE = .190$)"> Thus, a mediational role of perceived discrimination in the association between ACEs and psychological distress was noted. Analysis also showed that the direct effect was not significant, indicating that there was no evidence that ACEs influenced psychological distress independent of its effect on perceived discrimination ($B = .327$, $SE = .372$, n.s.). Analysis with the 10-item ACEs also showed a significant indirect effect at the .05 level ($B = .577$, $SE = .014$) and a non-significant direct effect ($B = .411$, $SE = .423$) on psychological distress.

Discussion

In this study, while a majority of our participants identified as White, they also presented with a disadvantaged sociofamilial context due to their gender, household income, and higher scores on ACEs. A majority of our participants reported more than four ACEs, which reflects a higher risk factor for negative health outcomes in adulthood (Hughes et al., 2017; Merrick et al., 2019). The most frequently reported adverse experiences were parental divorce, parental mental illness/depression, emotional abuse, and household alcohol abuse. Significantly, a little more than a third also reported having grown up poor or on public assistance, highlighting the importance of including childhood poverty as a risk factor in adulthood outcomes (Mersky et al., 2017). Consistent with earlier literature (e.g., Kim et al., 2014; Maguire-Jack et al., 2020), racial minority groups and those with lower income reported greater perceived discrimination and psychological distress, confirming the importance of sociocultural contexts of psychological symptoms.

Our main finding of a significant indirect effect, when statistically controlling for race/ethnicity, gender, and household income, points to the important role of perceived discrimination in the continuing influence of childhood adversity in adulthood across these groups. Studies on different types of discrimination document the impact of being treated "less than"

on psychological and interpersonal functioning (Pascoe & Smart Richman, 2009). When this treatment is pervasive and frequent, such as with everyday experiences of discrimination, individuals often experience a range of negative psychological outcomes (Schmitt et al., 2014; Vines et al., 2017). While in this study, we noted greater perceived discrimination and psychological distress in some marginalized groups, our finding of a significant indirect effect even after accounting for these differences indicates the importance of inquiring about perceived discrimination in individuals with adversity in childhood.

In the context of these findings, more research into possible mechanisms or the reasons that ACEs continue to impact adulthood outcomes is needed. In addition to the focus on biological markers (e.g., Young et al., 2020), conceptualizing ACEs as a disadvantaged social context that predisposes individuals to perceived discrimination in adulthood and, in turn, exacerbates psychological distress is an important step in this direction. While our cross-sectional study is limited in its design to offer insight into underlying mechanisms, a few hypotheses based in existing literature may be considered. Similar to findings from research on microaggressions (Sue et al., 2007), the uncertainty and ambiguity associated with everyday experiences of discrimination may, over time, exacerbate the negative psychological impact of growing up in adverse environments. Additionally, individuals with experiences of complex and continuous trauma may have an increased sensitivity toward perception of discrimination (Matheson et al., 2019). It could be that individuals with prior trauma have lower tolerance to everyday stressors and perceive more social rejection and exclusion (Todorova et al., 2010). Lacking social support, they do not have the coping mechanisms in place to balance social rejection and exclusion with care and concern from other social groups. Yet another explanation could be that the environment in which childhood adversity occurs depletes the capacity to develop self-esteem and confidence in social interactions (Merrick et al., 2017). In fact, trauma-informed practitioners note that this lack of a supportive family environment in childhood can hinder healthy perceptions of self and their interpersonal relationships later in life (Barrett & Fish, 2014).

Limitations

There are several limitations in this study that should be considered while interpreting findings. First, while mediational analyses provide some clues for future research to follow, given the cross-sectional nature of data collection, we cannot make any claims of identifying an underlying mechanism of influence. Additionally, it is possible that there is a reciprocal relationship between perceived discrimination and symptoms of depression and anxiety. Although we asked participants to report on perceived discrimination in the last

12 months and psychological distress in the last 7 days, we are unable to distinguish this pathway in our current study since both were asked at the same time point. Participants also reported about their childhood events retrospectively as adults. It is possible that responses to items on ACEs are constrained by some recall bias (Finkelhor et al., 2013). Finally, although participant demographics reflected the clientele served at the clinic, the lack of adequate representation of diverse groups is a limitation.

Recommendations for future research

Further research with clinical samples is needed to unpack differential impacts of discrimination due to multiple marginalized identities. Additionally, while some studies show moderating relationships of social support in the link between perceived discrimination and psychological distress (Schmitt et al., 2014), it may also be beneficial to understand moderators in the relationship between ACEs and perceived discrimination. Although we did not examine differential impacts of the different types of ACEs due to sample size, future studies may examine differences in pathways to perceived discrimination and psychological distress based on exposure to certain ACEs. Further, due to the sample size in our study, we were unable to identify whether belonging to more than one marginalized group increased experiences of perceived discrimination. For instance, when we examined our participant characteristics, a Black, gay male ($n = 1$) participant reported the highest mean score on the EDS ($M = 45.000$) followed by a participant who identified as multiracial, transgender, and other, not specified, sexual orientation ($n = 1$; $M = 42.000$). While these sample sizes are too small for a meaningful comparison, given existing literature on the influence of intersectional social identities and experiences of marginalization (for instance, Bauer & Scheim, 2019), future studies must include diverse samples to sufficiently consider this influence. Finally, future research could also examine potential associations between perceived discrimination and relational outcomes in couple and family relationships.

Implications for family therapy theory and practice

Our study findings, although tentative, point to a need for greater incorporation of systemic factors of ACEs and everyday discrimination in our theory and practice. Family systems therapies that center family of origin experiences and trauma-informed practices recognize the importance of examining early childhood experiences in the treatment of psychological distress in adults. In addition to this, findings from our study indicate that it may be beneficial to inquire about clients' experiences of perceived discrimination in everyday

interactions. Family therapy scholars have long argued for incorporating a critical race lens in family therapy research and clinical practice (e.g., Laszloffy & Hardy, 2000; McDowell & Jeris, 2004) and raising critical consciousness for increased consideration of contextual factors on relational health (e.g., Garcia et al., 2009). This study offers a step toward building empirical knowledge on how the cumulative influence of socially disadvantaged contexts of ACEs and systemic-level stressors of perceived discrimination can increase psychological distress in adulthood. This is in line with calls from family therapy scholars to expand systemic thinking to include interpersonal experiences beyond the family (Knudson-Martin et al., 2019).

Acknowledging that clients may be perceiving social rejection frequently due to their social contexts and backgrounds may also help in creating therapeutic connections. When clinicians ask about perceptions of discrimination in everyday interactions and acknowledge their impact on clients' lives, they are validating and humanizing client experiences. Existing guidelines for incorporating cultural humility in training and clinical practice (Fisher-Borne et al., 2015; Tervalon & Murray-Garcia, 1998) and promoting third-order change through attunement to power and oppression (Knudson-Martin et al., 2019) are beneficial for therapists to actively include the sociocultural contexts in which psychological distress manifests. Additionally, focusing on everyday experiences of discrimination may shed insight into the persistence of interactions perceived as social rejection and exclusion. Similar to protocols of trauma-informed care that often include assessment of ACEs (Dube, 2018), one way to begin these conversations may be through the use of the EDS as an assessment tool. Including follow-up questions on reasons for perceived discrimination may further be helpful in guiding therapeutic conversations. As we explore these possible mechanisms of influence and expand our scope of treatment, family therapists may be better placed to mitigate long-term impacts of ACEs.

Disclosure statement

We have no known conflict of interest to disclose.

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