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Published online: 29 Sep 2021.

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Effects of Cultural Stress on Identity Development and Depression among Hispanic College Students

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ABSTRACT

Hispanic emerging adults are routinely faced with a variety of cultural stressors that adversely impact mental health and compromise identity development. Given that identity emerges through day-to-day interactions, there is a need to explore the impact of cultural stress on identity development and depressive symptoms at the micro-level (across days). To address these gaps, the current study utilized a 12-day diary study conducted among 792 Hispanic college students (75.9% female, M_{age} = 20.14 years, SD = 1.85, Range = 18–24 years) to determine the impact of cultural stress on daily identity coherence, identity confusion, depressive symptoms, and the association between identity coherence and confusion and depressive symptoms in this population. Results indicated that Day 1 cultural stress positively predicted average daily depressive symptoms and identity confusion and negatively predicted identity coherence. Finally, cultural stress predicted a stronger daily association between identity confusion and depressive symptoms. As a whole, our findings emphasize the detrimental impact that cultural stressors have on both identity development and depressive symptoms at the daily level. These results are discussed in relation to the specific types of cultural stressors that Hispanic emerging adults face, and the need for appropriate intervention and prevention efforts for this population is emphasized.

As a result of multiple structural and social-cultural changes in Western societies, the transition to adulthood has been prolonged, resulting more young people spending time "in-between" adolescence and adulthood, in a period of emerging adulthood (Arnett, 2000). Although some emerging adults are able to capitalize on the increased independence offered during this period, navigating this unstructured phase can lead to adverse outcomes for others (Schwartz, 2016). Accordingly, emerging adulthood has been conceptualized as a time of divergent psychosocial pathways (i.e., toward increased well-being or distress) with identity, a crucial developmental milestone, serving as a key determinant of which route one will follow (Meca, Rodil, et al., 2019; Schwartz, 2016).

Although identity has been consistently associated with mental health during emerging adulthood (for comprehensive reviews, see Schwartz, Zamboanga et al., 2015), the risk for internalizing symptoms varies across ethnic groups (Arbona & Jimenez, 2014). Recent epidemiological research indicates that depressive symptoms, the most common mental health concern amongst emerging adults, are highest among Hispanics relative to other ethnic/racial groups in the United States (Hargrove et al., 2020; Substance Abuse and Mental Health Services Administration, 2019). Hispanic youth are known to face unique stressors rooted in the widespread framing of Hispanics as a threat to the U.S. (Schwartz

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et al., 2014) and the need to balance one's heritage and U.S. culture (Romero & Roberts, 2003). This constellation of negative experiences is referred to as cultural stress (Salas-Wright & Schwartz, 2019) and has been shown to compromise identity development (Grigsby et al., 2018; Oshri et al., 2014). However, these studies have largely been conducted among adolescent samples and exclusively focused on long-term associations between cultural stress and identity development. Given that identity emerges through day-to-day interactions (Lichtwarck-Aschoff et al., 2008), there is a need to explore the impact of cultural stress on identity development and depressive symptoms at the daily level.

To address these gaps, the current study sought to determine the impact of cultural stress on daily identity development and depressive symptoms among a sample of Hispanic emerging adults. Additionally, given that the effects of cultural stress on psychopathology likely operates through its negative impact on normative developmental processes (Oshri et al., 2014), we further sought to determine whether cultural stressors would impact the strength of the daily association between identity and depressive symptoms. Understanding these associations would not only provide insights regarding the potential developmental mechanisms underlying the detrimental impact of cultural stress on mental health and identity development among Hispanic emerging adults, but may also help to identify *potentially modifiable* targets for intervening with individuals who have experienced cultural stress.

Conceptualizing identity development

Although identity has been studied across a variety of disciplines, the majority of research focused on identity development among emerging adults has drawn on Erikson's (1950) model of psychosocial development. As described by Erikson (1950), identity development emerges in a dynamic manner involving experiences *of identity coherence* and *identity confusion*. Whereas identity coherence refers to a sense of certainty, comfort, and satisfaction with one's sense of who one is and where one is going in life, identity confusion signifies a sense of uncertainty marked by an inability to enact and maintain lasting commitments and lack of a clear sense of purpose and direction. In this sense, confusion represents destabilization in one's sense of self that undermines one's sense of consistency across time and place (Erikson, 1968). Destabilization of one's sense of self, to some extent, is necessary prior to the establishment of a coherent identity (Crocetti et al., 2008); however, prolonged and/or severe identity distress can lead to a diffused sense of self marked by anxiety and depressive symptoms (Kroger & Marcia, 2011). Consistent with Erikson's (1968) conceptualization, although identity coherence and confusion are negatively correlated, they are not opposites on a single continuum (Schwartz et al., 2009), and they are differentially related to adolescent outcomes (Syed et al., 2013).

Identity development in day-to-day experiences

Identity has been conceptualized as a complex self-organizing system operating at the daily level and shaped through day-to-day interactions (Lichtwarck-Aschoff et al., 2008). Relatedly, identity formation can be seen as a dynamic interactive process between certainty (e.g., coherence) and uncertainty (e.g., confusion) that also emerges at the daily level (Erikson, 1968; Klimstra et al., 2010; Schwartz et al., 2011). This perspective is aligned with contemporary developmental science that views short-term change as the driver behind long-term development (Nesselroade & Molenaar, 2010). As such, researchers have increasingly recognized the need for identity research to incorporate daily-level measurement as a means of studying the associations between identity and psychosocial functioning (Lichtwarck-Aschoff et al., 2008).

Although studies exploring identity at the daily level have been relatively scarce, recent research has emphasized the role that average daily levels of identity certainty and uncertainty play in the daily dynamics of identity formation (Becht et al., 2021; Klimstra et al., 2010). Consistently, Becht et al. (2021) found that adolescents who experienced low daily identity certainty and high uncertainty were

increasingly likely to experience identity uncertainty in emerging adulthood. Exploring the links between identity and psychosocial functioning, Schwartz et al. (2011) found that daily identity certainty predicted decreased levels of depressive and anxiety symptoms. Taken together, these findings suggest that long-term identity development emerges through a dynamic between certainty and uncertainty and is influenced by day-to-day mood as youth navigate their social and cultural contexts. Moving forward, however, it is critical for the study of identity development to contextualize these daily identity dynamics and understand key factors that may serve to destabilize day-to-day identity processes. Given the incidence of cultural stress among Hispanic youth, such stress is likely not only to impact daily identity certainty (i.e., coherence), identity uncertainty (i.e., confusion), and depressive symptoms directly, but also to impact the association between these identity processes and depressive symptoms.

Conceptualizing cultural stress

Although conceptualizations of cultural stress have varied, recent evidence has highlighted a cluster of cultural stressors, including negative context of reception (Schwartz et al., 2014), perceived discrimination (Pascoe & Smart Richman, 2009), and bicultural stress (Romero & Roberts, 2003), that load onto a singular construct representing cultural stress and are associated with depressive symptoms (e.g., Cano et al., 2015; Schwartz et al., 2015). A *negative context of reception* refers to the degree to which youth feel welcomed (or not) into the destination society or perceive that they are afforded the same opportunities compared to non-immigrants or to individuals from other immigrant groups, regardless of whether specific discriminatory events have occurred (Schwartz et al., 2014). *Perceived discrimination*, refers to perceptions of unfair treatment based on one's ethnic or racial group membership (Pascoe & Smart Richman, 2009). Finally, *bicultural stress* refers to pressures associated with balancing U.S. and Hispanic values and ways of behaving (Romero & Roberts, 2003). In essence, whereas bicultural stress represents the stress associated with conflicts between one's heritage and destination society's cultural streams, perceived discrimination and negative context of reception refer to experiences or feelings of rejection within the destination society (Cano et al., 2015). Taken together, this constellation of negative experiences, referred to as cultural stress, represents a unique form of stress that is directly linked to the U.S. political climate (Salas-Wright & Schwartz, 2019).

Cultural stress, mental health, and identity development

Collectively, research has indicated that cultural stressors, represented as a latent variable consisting of discrimination, bicultural stress, and perceived negative context of reception, compromise mental health among Hispanic youth (e.g., Cano et al., 2015; Lorenzo-Blanco et al., 2019; Meca, Zamboanga, et al., 2019). Although the day-to-day underlying mechanisms are unclear, a cultural and developmental psychopathology theoretical framework (Causadias, 2013) suggests that the effects of cultural stress on psychopathology are likely operate through its negative impact on normative developmental processes. Research has shown that cultural stressors, such as perceived discrimination, can adversely impact identity development (Grigsby et al., 2018; Oshri et al., 2014), although the outcomes can vary across ethnic groups (Donovan et al., 2012). Specifically, in Hispanic Americans bicultural stress, negative context of reception and perceived discrimination have been shown to predict greater identity confusion, which in turn, predicts increased risk for alcohol abuse, more positive attitudes toward drugs, and more depressive symptoms (Donovan et al., 2012; Grigsby et al., 2018; Oshri et al., 2014).

Although these studies serve as important starting points toward understanding how cultural stress detrimentally impacts Hispanic youth, there are important limitations. To begin with, these studies did not address the impact of cultural stress on identity development at the day-to-day or micro-level. Secondly, in understanding the mechanisms underlying the impact of cultural stress, prior studies have found that identity development mediates the association between cultural stress and psychopathology; however, cultural stress may also attenuate or strengthen the association between identity

development and depressive symptoms. Indeed, in the presence of high cultural stress, which has been found to undermine ones' sense of belonging to their heritage (Zeiders et al., 2019) and host (Martienz-Fuentes et al., 2020) cultures, identity confusion may be even more unsettling and destabilizing resulting in greater depressive symptoms. Likewise, in the face of high cultural stress, the impact of identity coherence on depressive symptoms may be attenuated as individuals face potential threats to their sense of belonging to their heritage and/or host cultures.

The current study

To address these gaps, the current study utilized a 12-day diary study conducted among 792 Hispanic college students to determine the impact of cultural stress/stressors on daily identity coherence, identity confusion, depressive symptoms, and the association between identity and depressive symptoms. Specifically, we sought to determine whether cultural stressors (a) directly impact mental health and identity development as well as (b) moderate the within-person associations between daily identity confusion and coherence with depressive symptoms. Finally, because much of the literature on cultural stress has focused on how cultural stressors either independently or jointly (as a latent variable) predict psychopathology, we sought to decompose cultural stress and explore the unique effects of each of these cultural stressors on daily identity development and depressive symptoms. Given the extensive literature examining links between identity and depressive symptoms, we hypothesized that daily identity coherence and confusion would be negatively and positively, respectively, associated with daily depressive symptoms. Additionally, we hypothesized that cultural stress would be associated with higher daily average depressive symptoms and identity confusion, and negatively associated with average daily identity coherence. We also hypothesized that cultural stress would decrease the negative association between daily identity coherence and depressive symptoms and heighten the positive association between daily identity confusion and depressive symptoms. Finally, because no study has explored the individual effects of these cultural stressors on identity development and depressive symptoms, we did not advance specific a priori hypotheses.

Method

Participants

The current study used data collected as part of a 12-day daily diary study (Meca et al., 2021) on acculturation, identity, and psychosocial functioning among Hispanic college students. The sample consisted of 792 Hispanic college students (75.9% female, M_{age} = 20.14 years, SD = 1.85, Range = 18– 24 years). The sample was primarily composed of second-generation (42.5%; i.e., born in the U.S. but both parents were born abroad) and first-generation immigrants (32.6%; i.e., born outside the U.S.). Participants, or their families, originated from 20 different countries in Latin America including Cuba (41.0%), Colombia (13.2%), Nicaragua (7.5%), Venezuela (7.2%), the Dominican Republic (6.5%), and other Hispanic countries (24.6%).

Procedure

As reported in greater detail elsewhere (Meca et al., 2021), participants were recruited from a psychology department participant pool at a large public Hispanic serving institution in South Florida. Only participants who self-identified as Hispanic or Latino/a were eligible to participate. To simplify the conduct of the study, data were collected across ten weekly cohorts of approximately 90 participants each. Analyses indicated no significant cohort differences in any of the study variables. Participants completed a longer battery on the first day consisting of demographic questions as well as closed-ended measures of identity, acculturation, well-being, and psychosocial functioning. On Days 2–11, participants received a shorter survey with single-item indicators, which have been shown to be

valid when they are domain specific and when they index subjective constructs such as identity and well-being (Robins et al., 2001), selected for each construct out for purposes of brevity. Average daily completion rate was 87.2%, and rates of missing data ranged from 7.89% to 19.68% with the majority of participants completing at least 10 of the 12 days of data collection (Mean = 10.46 days; Median = 11 days).

Measures

Day 1 measures (predictors)
Cultural stress was assessed in terms of bicultural stress, perceived discrimination, and negative context of reception on Day 1. Alpha coefficients presented are from the current sample.

Bicultural stress. Bicultural stress (α = .84; Sample item: "I have felt pressure to learn Spanish.") was assessed on Day 1 using the 20-item Bicultural Stress Scale (BSS; Romero & Roberts, 2003). Responses were recorded on a 5-point Likert scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*).

Perceived discrimination. Perceived discrimination (α = .86; e.g., "How often do professors treat you unfairly or negatively because of your ethnic background?") was assessed using the 7-item Perceived Discrimination Scale (Phinney et al., 1998). Response choices were on a 5-point Likert scale ranging from 1 (*never*) to 5 (*daily or nearly daily*).

Perceived negative context of reception. Perceived negative context of reception (α = .80; e.g., "People from my family's country are not welcome here.") was measured using the 6-item subscale of the Perceived Context of Reception Scale (Schwartz et al., 2014) with responses assessed on a 5-point Likert scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*).

Daily measures (micro-level variables)
Sample items presented below reflect the items chosen as part of the daily portion of the study. As detailed in (Meca et al., 2021), items were selected from well-validated measures that have been widely utilized with Hispanic college students. Selection of specific items was informed by findings from confirmatory factor analyses on Hispanic participants from a prior cross-sectional study at the same institution. Specifically, for each daily construct, the highest loading was selected and reworded to reflect individuals' daily experiences. Reliability for single-item measures was calculated at the between-level using mean Heise's (1969) reliability estimates, an estimate of test–retest reliability that separates true change from measurement error. High Heise's coefficients indicate the presence of little variability across daily measurement occasions. However, there should be a balance between overtime fluctuations and reliability coefficients, such that there is enough stability to produce acceptable reliability coefficients.

Identity coherence and confusion. Personal identity was assessed using a single-item indicator drawn from the coherence (selected item: "Today, I know what kind of person I am.") and confusion (selected item: "Today, I have changed my opinion of myself a lot.") subscales of the Erikson Psychosocial Stage Inventory (EPSI; Rosenthal et al., 1981). Items were rated on a 5-point Likert scale ranging from 1 (*almost never true*) to 5 (*almost always true*). Average reliability was .62 (range = .55–.67) for identity coherence and .55 (range = .42–.70) for identity confusion.

Depressive symptoms. Depressive symptoms were assessed each day using a single-item indicator ("Today, I have felt down and unhappy.") drawn from the 20-item Center for Epidemiologic Studies Depression Scale (CES-D; Radloff, 1977). Items were rated on a 5-point Likert scale ranging from 1

(*Strongly Disagree*) to 5 (*Strongly Agree*). Average reliability was .57 (range = .53–.66) for depressive symptoms.

Analytic overview

Analyses were conducted using multilevel modeling (MLM) in Mplus 8.2 (L. K. Muthén & Muthén, 2010), to explore data at the level of the individual (between-person variation) and the day (within-person variation). Across all steps, missing data were handled using robust maximum likelihood (MLR) estimation, which uses all available data and has been demonstrated to be superior to other missing data techniques (B. Muthén & Asparouhov, 2002). To facilitate interpretation, all continuous variables were grand mean centered. Analyses proceeded in three steps. First, we computed descriptive statistics, bivariate correlations, and estimated a "null model (unconditional model)" to estimate the intraclass correlations (ICC) for identity coherence, identity confusion, and depressive symptoms to determine the extent to which these indices vary across days and individuals.

Second, we estimated the daily-level associations of identity coherence and confusion with depressive symptoms by adding two Level-1 random slopes, one between identity coherence and depressive symptoms and another between identity confusion and depressive symptoms. In doing so, we explored whether these associations vary between individuals at the daily level. To address measurement reactivity or fatigue (Barta et al., 2012), we included study day as a level-1, within-person control variable. Next, Day 1 cultural stress (i.e., bicultural stress, perceived discrimination, and perceived negative context of reception), gender (−1 = male, 1 = female), age, and nativity (−1 = Foreign Born, 1 = U.S. Born) were added as between-person level latent predictors of average levels of daily identity coherence, identity confusion, and depressive symptoms and the two random intercepts representing the average daily association between identity coherence and identity confusion with depressive symptoms, respectively. Establishing whether gender, age, and nativity impacts the daily-level associations is not only consistent with previous daily diary studies (e.g., Klimstra et al., 2010), but consistent with longitudinal studies that have found significant differences in terms of the relationship between identity processes and psychosocial functioning across gender (e.g., Schwartz et al., 2014) and with age (Luyckx et al., 2013). Similarly, studies have also documented differences in cultural stress across nativity (e.g., Cheon & Yip, 2019). Finally, controlling for gender, age, and nativity, we decomposed the latent cultural stress variable and explored the specific and unique effects of the cultural stress indicators, treated as observed variables and while controlling for gender, age, and nativity on average levels of daily identity coherence, identity confusion, and depressive symptoms, and the two random intercepts representing the average daily association between identity coherence and identity confusion with depressive symptoms, respectively.

Results

Descriptive statistics and preliminary analyses

As indicated in Table 1, cultural stressors were moderately intercorrelated (r = .357 to .508), suggesting that these cultural stressors represent related yet distinct constructs. Additionally,

Table 1. Descriptive statistics and bivariate correlations for day 1 and average daily variables.

	Mean (S.D.)	2	3	4	5	6
1. Bicultural Stress	2.268 (0.363)	.357*	.508*	−.227*	.234*	.336*
2. Perceived Discrimination	1.826 (0.418)		.395*	−.149*	.183*	.240*
3. Negative Context of Reception	1.645 (0.955)			−.266*	.232*	.299*
4. Average Daily Coherence	4.268 (0.731)				−.531*	−.552*
5. Average Daily Confusion	2.451 (1.529)					.539*
6. Average Daily Depression	2.265 (1.444)					

* $p < .001$

bivariate correlations indicated significant associations of average daily identity coherence (r = −.552) and average daily identity confusion (r = .539) with average daily depressive symptoms. Put another way, individuals with higher average daily identity coherence experienced lower average daily depressive symptoms, whereas those with higher average daily identity confusion reported higher average daily depressive symptoms. Finally, whereas cultural stressors at baseline were negatively associated with daily average identity coherence (r = −.149 to −.227), they were positively associated with both daily average identity confusion (r = .183 to .234) and depressive symptoms (r = .240 to .336).

Next, we sought to calculate intraclass correlations (ICC) for identity coherence, identity confusion, and depressive symptoms. Results indicated significant variability in identity coherence, identity confusion, and depressive symptoms at the within- and between-person levels. Specifically, ICC values indicated that 54%, 48%, and 44% of the total variance in identity coherence, identity confusion, and depressive symptoms, respectively, was associated with between-person differences. Put another way, identity coherence, identity confusion, and depressive symptoms all vary at both the between-person and within-person (daily) levels.

Within-person associations between daily identity and depressive symptoms

Next, utilizing MLM, we explored the general daily-level associations of identity coherence and identity confusion with depressive symptoms. In terms of reactivity, study day was not significantly associated with either depressive symptoms (β = .001, p = .732) or identity coherence (β = .006, p = .248). However, results did indicate a small reactivity (fatigue) effect in terms of identity confusion (β = .020, p < .001). In terms of daily within-person associations between identity and depressive symptoms, on average, Hispanic college students reported greater depressive symptoms than their average scores on days when they felt greater identity confusion (β = .134, p < .001). On the other hand, Hispanic college students reported lower depression than their average scores on days when they felt greater identity coherence (β = −.224, p < .001). Despite these average trends, there was significant random slope variability in the within-person associations of identity coherence (var = .052, p < .001) and identity confusion (var = .020, p < .001) with depressive symptoms. Although the average association between daily identity confusion and depressive symptoms was positive for nearly the entire sample (96.9%), for about a quarter (23.9%) of the sample, the within-person association was fairly weak (r ranged from .001 to .100). Similarly, although the within-person association between identity coherence and depressive symptoms was negative for 96.9% of the sample, for 14.1% of the sample, it was fairly weak (r ranged from −.001 to −.100).

Effects of cultural stress on daily identity and depressive symptoms

Building on these models, we sought to explore the extent to which cultural stress on Day 1 predicted average levels of daily identity coherence, identity confusion, and depressive symptoms, and moderated the average daily-level associations between identity coherence and identity confusion with daily depressive symptoms.[1] As displayed in Table 2, Day 1 cultural stress positively predicted average daily depressive symptoms (β = .332, p < .001, 95% CI = .252 to .411) and identity confusion (β = .386, p < .001, 95% CI = .278 to .493). In other words, individuals who reported greater cultural stress also reported higher average daily depressive symptoms and identity confusion compared to individuals who experienced lower cultural stress. In contrast, Day 1 cultural stress negatively predicted identity coherence (β = −.394, p = .001, 95% CI = −.506 to −.283). Cultural stress was also associated with a stronger daily association between identity confusion and depressive symptoms (β = .069, p = .001, 95% CI = .027 to .112). Finally, it is worth noting that age was positively associated with average daily identity coherence (β = .071, p < .001, 95% CI = .038 to .104) and negatively associated with both average daily identity confusion (β = −.072, p < .001, 95% CI = −.111 to −.033) and depressive symptoms (β = −.030, p = .047, 95% CI = −.060 to −.001). Gender (being female) was also found to be

Table 2. Between-person path estimates for the multi-level model.

Outcome	Predictor	Estimate	*p*-value	95% *C.I.*
Average Daily Identity Coherence	Cultural Stress	−.394	<.001	−.506 to −.283
	Age	.071	<.001	.038 to .104
	Gender	.097	.002	.036 to .159
	Nativity	−.024	.399	−.081 to .032
Average Daily Identity Confusion	Cultural Stress	.386	<.001	.278 to .493
	Age	−.072	<.001	−.111 to −.033
	Gender	−.063	.049	−.126 to .001
	Nativity	.020	.531	−.043 to .083
Average Daily Depressive Symptoms	Cultural Stress	.332	<.001	.252 to .411
	Age	−.030	.047	−.060 to .001
	Gender	−.028	.277	−.078 to .023
	Nativity	.002	.945	−.045 to .048
Coherence & Depressive Symptoms (Random Slope 1)	Cultural Stress	.033	.081	−.004 to .070
	Age	−.006	.432	−.020 to .009
	Gender	.002	.925	−.033 to .036
	Nativity	−.013	.301	−.039 to .012
Confusion & Depressive Symptoms (Random Slope 2)	Cultural Stress	.069	.001	.027 to .112
	Age	.001	.979	−.015 to .016
	Gender	−.006	.733	−.044 to .031
	Nativity	−.006	.635	−.028 to .017

Gender and nativity were centered to allow for interpretation. Specifically, we centered gender such that −1 represented male and 1 represented female. Similarly, nativity was centered such that −1 represented foreign born and 1 represented U.S. born.

positively and negatively associated with average daily identity coherence (β = .071, p < .001, 95% CI = .036 to .159) and identity confusion (β = −.063, p = .049, 95% CI = −.126 to .001), respectively.

Decomposing the effects of specific cultural stressors

As a final step, we conducted the same analyses but decomposing cultural stress into its component stressors (i.e., bicultural stress, perceived discrimination, and negative context of reception). As indicated in Table 3, bicultural stress was negatively associated with average daily identity coherence (β = −.105, p = .001, 95% CI = −.167 to −.042) and positively associated with average daily identity confusion (β = .110, p < .001, 95% CI = .051 to .170) and depressive symptoms (β = .124, p < .001, 95% CI = .074 to .173). Similarly, negative context of reception was negatively associated with average daily identity coherence (β = −.148, p < .001, 95% CI = −.211 to −.085) and positively associated with average daily identity confusion (β = .102, p = .001, 95% CI = .044 to .161) and depressive symptoms (β = .060, p = .023, 95% CI = .008 to .111). Finally, although perceived discrimination was not directly associated with daily identity development and depressive symptoms, it was associated with a stronger daily association between identity confusion and depressive symptoms (β = .026, p = .049, 95% CI = .001 to .051).

Discussion

Identity has been increasingly conceptualized as a complex self-organizing system that shapes, and is shaped by, day-to-day interactions (Lichtwarck-Aschoff et al., 2008). Indeed, prior studies have highlighted that micro-identity processes not only serve as a driving force in long-term identity development (Becht et al., 2021), but also influence daily mood (Klimstra et al., 2016). As an important next step toward understanding real-time identity processes, the current study sought to determine the role that cultural stress plays in daily identity certainty (i.e., coherence), identity uncertainty (i.e., confusion), and depressive symptoms as well as the association between these identity processes and depressive symptoms. Additionally, we sought to decompose the effect of cultural stress and examine the unique effects that bicultural stress, perceived discrimination, and negative context of reception

Table 3. Between-person path estimates for the specific cultural stressors model.

Outcome	Predictor	Estimate	*p*-value	95% *C.I.*
Average Daily Identity Coherence	Bicultural Stress	−.105	.001	−.167 to −.042
	Perceived Discrimination	−.003	.926	−.063 to .057
	Negative Context of Reception	−.148	<.001	−.211 to −.085
	Age	.056	.002	.021 to .091
	Gender	.088	.003	.030 to .147
	Nativity	−.036	.182	−.090 to .017
Average Daily Identity Confusion	Bicultural Stress	.110	<.001	.051 to .170
	Perceived Discrimination	.055	.065	−.004 to .113
	Negative Context of Reception	.102	.001	.044 to .161
	Age	−.061	.001	−.096 to −.026
	Gender	−.051	.089	−.110 to .008
	Nativity	.036	.227	−.023 to .095
Average Daily Depressive Symptoms	Bicultural Stress	.124	<.001	.074 to .173
	Perceived Discrimination	.034	.170	−.014 to .082
	Negative Context of Reception	.060	.023	.008 to .111
	Age	−.028	.086	−.060 to .004
	Gender	−.026	.330	−.078 to .026
	Nativity	.008	.744	−.038 to .053
Coherence & Depressive Symptoms (Random Slope 1)	Bicultural Stress	.001	.971	−.037 to .038
	Perceived Discrimination	−.011	.460	−.041 to .018
	Negative Context of Reception	.026	.084	−.004 to .056
	Age	−.003	.694	−.018 to .012
	Gender	−.010	.559	−.044 to .024
	Nativity	−.015	.293	−.042 to .013
Confusion & Depressive Symptoms (Random Slope 2)	Bicultural Stress	.004	.731	−.020 to .029
	Perceived Discrimination	.026	.049	.001 to .051
	Negative Context of Reception	.004	.742	−.021 to .029
	Age	.002	.699	−.010 to .015
	Gender	−.010	.505	−.040 to .020
	Nativity	−.007	.520	−.027 to .013

Gender and nativity were centered to allow for interpretation. Specifically, we centered gender such that −1 represented male and 1 represented female. Similarly, nativity was centered such that −1 represented foreign born and 1 represented U.S. born.

exert on daily identity processes and depressive symptoms. In doing so, the current results provide a more nuanced understanding of how these cultural stressors might prove detrimental to identity development and mental health.

Within-person associations between identity and depressive symptoms

Consistent with Erikson's (1968) conceptualization of the role of identity development in psychopathology and building on prior research exploring the links between identity processes and well-being in real time (Klimstra et al., 2016; Schwartz et al., 2011), the current study provided further support for the influence that identity coherence and confusion have on day-to-day levels of depressive symptoms. Indeed, Hispanic college students reported feeling greater depressive symptoms than their average scores on days when they felt greater identity confusion. At the same time, Hispanic college students reported feeling less depressed than their average scores on days when they felt greater identity coherence. These findings suggest that a coherent sense of self serves to anchor individuals during times of transition (Meca et al., 2020), such as the transition to adulthood (Schwartz et al., 2015). At the same time, entering into a state of identity confusion may temporarily destabilize individuals as they seek to make lasting commitments (Crocetti et al., 2008). Although identity development often involves navigating a period of uncertainty, prolonged confusion may lead to a diffused sense of self marked by long-term anxiety and depressive symptoms (Kroger & Marcia, 2011).

That being said, it is important to note that there was significant variability around these average daily associations. Whereas the average daily within-person association between identity confusion and depressive symptoms was positive for nearly everyone, this association was fairly weak for nearly a

quarter of the sample. For these participants, confusion may represent part of the more normative process of exploring one's sense of self and identity (Crocetti et al., 2008). In contrast, the average daily within-person association between identity coherence and depressive symptoms was not only negative for the overwhelming majority of the participants, but it was also fairly substantive. That being said, for 3% of the sample, the within-person association between identity coherence and depressive symptoms was positive. Although this may be counter-intuitive, for some, identities may be grounded in aspects or dimensions that are either not personally satisfying or represent a "negative identity" (Ritchie et al., 2013).

Effects of cultural stress on real-time identity processes and depressive symptoms

Consistent with recent studies linking cultural stress with internalizing problems (Lorenzo-Blanco et al., 2019; Ward et al., 2021), cultural stress was significantly associated with higher average levels of daily depressive symptoms. These findings provide further support for the detrimental role that cultural stress plays in the lives of Hispanic emerging adults within the United States. Building on prior research with adolescents (Grigsby et al., 2018; Oshri et al., 2014), cultural stress was associated with decreased daily identity coherence and heightened daily identity confusion. Given Becht et al. (2021) recently documented how day-to-day levels of identity certainty and uncertainty impact long-term identity development, these effects may be particularly problematic for long-term identity development. In essence, although a coherent sense of self has been increasingly conceptualized as an anchor during times of transition (Schwartz et al., 2015b), in the face of cultural stress, establishing a coherent identity may be particularly difficult as youth are faced with threats to their capacity to develop an understanding of where they fit. This results in confusion as youth attempt to orient themselves within the broader sociocultural context (Meca et al., 2015).

Not only did cultural stress directly predict day-to-day identity processes, but it also impacted the association between daily identity confusion and depressive symptoms, such that the daily positive association increased between identity confusion and depressive symptoms for those experiencing greater cultural stress. Interestingly, cultural stress was not found to impact the strength of the average daily association between identity coherence and depressive symptoms. In the face of cultural stress, experiencing greater than normal identity confusion may be more destabilizing, reflecting difficulties in understanding one's role and place within the broader sociocultural and historical context – where these difficulties ripple into various identity domains (Meca et al., 2015). In contrast, other factors may play a greater role in predicting the observed variance in the day-to-day association between identity coherence and depressive symptoms, such as identity valence (Hihara et al., 2018) and the degree to which enacted identity commitments are personally expressive (Waterman et al., 2013).

Finally, it is worth noting that age was directly associated with daily levels of identity coherence and confusion. Specifically, older participants exhibited higher daily averages of identity coherence and lower daily averages of identity confusion. These findings are highly consistent with prior work indicating that identity development becomes increasingly consolidated with age (e.g., Becht et al., 2021). That being said, in contrast to prior studies that have also documented that identity exploration becomes more strongly related to depressive symptoms (Luyckx et al., 2013), age did not moderate the daily association between either identity coherence or confusion with depressive symptoms. Additionally, consistent with prior work (e.g., Schwartz et al., 2014), gender was positively and negatively associated with average daily identity coherence and confusion, such that females had higher average identity coherence and lower average identity confusion compared to males.

Decomposing the effects of cultural stressors

Finally, two important patterns of findings emerged by decomposing cultural stress into its component indicators. First, it was bicultural stress and perceived negative context of reception that were particularly detrimental. The impact of bicultural stress is consistent with recent work that found bicultural

stress was an important cultural stressor that was associated with alcohol initiation (Meca, Zamboanga, et al., 2019). Individuals experiencing high bicultural stress may feel the need to walk a tightrope between their two cultural streams, which, in the absence of capacity to effectively shift between cultural streams (Ward et al., 2021), may prove overwhelming. On the other end, perception of negative context of reception reflects feelings of rejection, largely from the destination society (Schwartz et al., 2014). Given prior studies that have found that establishing a U.S. identity plays an important role in psychological functioning among Hispanic young adults (Meca et al., 2020), rejection from the receiving society may be sufficiently destabilizing to impair broader identity development. Taken together, bicultural stress and negative context of reception may reflect more systemic stressors when compared to discrimination. Given their pervasiveness, it is not surprising that bicultural stress and negative context of reception directly impact average day-to-day identity processes and depressive symptoms.

Second, perceived discrimination was the only cultural stressor that predicted the strength of the association between confusion and depressive symptoms. It was, however a small and nearly marginal effect ($p = .049$); therefore, this finding should be taken with a word of caution. In contrast to bicultural stress and negative context of reception, the detrimental role of discrimination on depressive symptoms may be contingent on the degree to which youth experience identity confusion as a result. This may arise from the fact that discrimination reflects more direct personal experiences of unfair or differential treatment which may not be commonly experienced by Hispanic youth. However, future research is necessary to replicate these findings to provide greater confidence in the differential impact of cultural stressors.

Limitations and future directions

Results from the present study should be interpreted in light of several limitations. First, data from the current study was drawn from a heavily Hispanic university in a highly bicultural urban area among the top five cities in the U.S. in terms of its proportion (72.5%) of Hispanic or Latino residents (Index Mundi, n.d.). As such, whether these findings generalize to Hispanic youth living in other areas of the country remains unknown. Future research is necessary to replicate these findings across sociocultural and historical context. Second, the data from this study comes from a brief two-week period. Future research may explore the combinational effects of micro- and macro-level processes through the use of micro- and macro-level assessment schedules. Third, the current study relied largely on single-item indicators. Although selection of single items were informed by prior research and is appropriate for diary studies, the selected items may not have reflected the specific construct under investigation or insufficiently captured the nuances of these constructs. Future studies should employ more comprehensive measures as indicators of these processes. Finally, although the current study examined whether cultural stress moderates the association between daily identity development and depressive symptoms, given prior research that has established mediated effects (Grigsby et al., 2018; Oshri et al., 2014), future work is necessary to gauge the ecological validity of these competing models (i.e., mediation and moderation).

Conclusion

The current study explored the relationship between daily cultural stress and identity development in Hispanic emerging adults, as well as the relationship between identity coherence and confusion and depressive symptoms. Our findings emphasize the detrimental role that routine cultural stress can have on identity development and on depressive symptoms both directly and by impacting the relation between identity and depressive symptoms. We hope this research will contribute to the development of interventions responsive to the unique day-to-day cultural stressors faced by this population.

Note

1. In this case and the following analyses that examined the independent effects of perceived discrimination, negative context of reception and bicultural stress, the analyses were conducted with and without gender, age, and nativity. Because there were no substantive differences between these models (see Supplemental Materials), we report the analysis with these control variables.

Disclosure statement

No potential conflict of interest was reported by the author(s).

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Data availability statement

The data that support the findings of this study are available from the corresponding author upon reasonable request.

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