

Ethnic–Racial Discrimination, Identity, and Out-Group Contact in Context: A Systematic Review of Daily Process Studies

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Objectives: Understanding how ethnicity and race shape individuals' everyday experiences in context is critical for advancing scientific rigor and addressing ethnic–racial inequities. Daily process studies (e.g., experience-sampling method, ecological momentary assessment, daily diary methods) offer unique utility for studying ethnic–racial discrimination (ERD), ethnic–racial identity, and ethnic–racial out-group contact. The goals of this systematic review were to (a) summarize novel contributions of research using daily process designs to understand these ethnic–racial-related processes in everyday life, and (b) inform avenues for future research directions using daily process approaches to understand everyday ethnic–racial experiences and their implications for health and well-being. **Method:** We identified a total of 97 studies from 77 unique study samples that used daily process approaches to measure ERD (52 studies), ethnic–racial identity (33 studies), and ethnic–racial out-group contact (22 studies). **Results:** Novel contributions of daily process studies include enhancing external validity by centering individuals' everyday experiences as they go about typical life routines; using time-lagged approaches to test directionality of effects; and identifying within-person variability as a function of social context, individual differences, and time interval. **Conclusions:** Our recommendations for advancing integrative daily process studies of ethnic–racial experiences and identity are to include measures of multiple ethnic–racial-related constructs to understand their interrelations and interactions and broaden the representation of study samples in this research (e.g., ethnic–racial backgrounds, developmental periods, regional contexts). Despite limitations (e.g., missing data), daily process approaches offer considerable promise for advancing research on the dynamics and consequences of ERD, identity, and out-group contact in context.

Public Significance Statement

This systematic review identified 97 studies that have used daily process approaches (i.e., gathering brief surveys from the same individuals across moments, days, and weeks) to understand ethnic–racial discrimination, identity, and out-group contact in context. Future daily process studies should integrate multiple measures together, such as discrimination and identity, for a more holistic understanding of the complex dynamics of ethnicity and race.

Keywords: ethnic-racial, discrimination, identity, daily process, diary

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All research materials are available from the corresponding author upon request. This review was not preregistered. Portions of these data were presented at the 2023 annual meeting of the Society for Research on Adolescence.

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continued

In ethnoracially diverse societies, ethnicity and race are central organizing features that shape how individuals are treated, make meaning of their ethnic–racial group memberships, and interact with others of different ethnic–racial backgrounds (Umaña-Taylor, 2023; D. R. Williams et al., 2019). Within the macrolevel context of a societal ethnic–racial hierarchy that unevenly distributes power and resources as a function of ethnicity and race, individuals' microlevel ethnic–racial experiences and identities have significant implications for health and well-being (Benner et al., 2018; Tropp & Barlow, 2018; Umaña-Taylor & Rivas-Drake, 2021). Common approaches to studying the complex dynamics of ethnic–racial experiences and identity have primarily relied on conventional survey methods, assuming that individuals' retrospective reports adequately reflect everyday experiences and identity processes when collected once (cross-sectionally) or several times over months or years (longitudinally). Daily process designs, which assess social and psychological phenomena relatively close in time to their real-time occurrence using intensive but brief repeated survey measures (e.g., moment-to-moment, day-to-day; Bolger & Laurenceau, 2013; Tennen & Affleck, 2002), offer alternatives particularly suited to study ethnic–racial experiences and identity in context (O'Donnell et al., 2021; Potter et al., 2019; Wang, 2022; Yip & Douglass, 2013). In this systematic review, we summarized novel contributions of daily process studies that have measured individuals' experiences of being treated unfairly based on their ethnic–racial background (i.e., discrimination), psychological meaning making related to their ethnic–racial identity (ERI), and attitudes toward and contact with ethnic–racial out-group members. Based on this review, we also sought to identify gaps in the literature and inform future directions for daily process research attending to issues of ethnicity, race, and identity.

A Unifying Ecological Perspective for Studying Ethnic–Racial Discrimination, Identity, and Out-Group Contact in Context

The Phenomenological Variant of Ecological Systems Theory (PVEST) posits that human development, health, and well-being are shaped in part through individuals' processes of meaning making about their everyday social encounters, which unfold dynamically over time within societal systems of inequality (Spencer, 2008). These meaning-making processes, which arise as a function of person–context transactions, influence “not only the nature of social interactions but the makeup of attitudes and beliefs about ‘self’ and others” (Spencer, 2008, p. 696). As these social interactions occur within conditions of societal ethnic–racial inequalities, PVEST offers a unifying ecological perspective for studying meaning-making

processes that pertain to individuals' experiences related to ethnicity and race in daily life, including individuals' perceptions of how they are treated (e.g., discrimination), their awareness of and feelings about their sense of self (e.g., identity), and their attitudes toward and actions with others in social interactions (e.g., out-group contact). Thus, informed by PVEST, the joint consideration of ethnic–racial discrimination (ERD), identity, and out-group contact *together* has important and unique implications for understanding how individuals make sense of the role of ethnicity–race in their daily lives.

Importantly, though ethnicity–race shapes the social experiences and identities of all individuals, the salience and implications of ethnicity–race on an everyday basis vary significantly due to conditions of social marginalization across groups and contexts (Umaña-Taylor, 2023). Specifically, in the U.S. context, the results of systemic racism and White supremacy ideology marginalize the experiences and identities of people of color, while also rendering ethnicity–race relatively invisible for White Americans (DiAngelo, 2018; Helms, 2020). Ethnicity–race is constructed by and must be understood within a given society's sociohistorical context, and systemic ethnic–racial marginalization can be observed in national contexts that vary with respect to ethn racial diversity (Umaña-Taylor, 2023). Below, we introduce further theoretical foundations and key definitions for constructs within this unifying ecological perspective.

ERD refers to unfair treatment based on one's ethnic–racial group membership, which has been linked with increased risk for mental and physical health problems such as depression, cardiovascular disease, and premature cellular aging (for reviews, see Benner et al., 2018; D. R. Williams et al., 2019). According to the biopsychosocial model of racism (Clark et al., 1999), experiences of unfair treatment and related forms of ethnic–racial marginalization such as micro-aggressions and race-based stress are conceptualized as interpersonal stressors that produce distress, thereby leading to disturbances in emotional and physical health. ERD is contextual, occurring in everyday settings and perpetrated by a variety of actors (e.g., among peers, in schools and workplaces; Benner et al., 2018; Hughes et al., 2016). The theoretical foundation for studying ERD within an understanding of systemic racism (Clark et al., 1999) informs the empirical research focus on ERD and its consequences among individuals who face ethnic–racial marginalization (Benner et al., 2018).

ERI is a multidimensional construct informed by individuals' ethnic heritage and racialized experiences within a specific sociohistorical context, including the beliefs and attitudes individuals have regarding their ethnic–racial group memberships and the process through which ERI develops over time (Umaña-Taylor et al., 2014). ERI content dimensions stem from a social/personality psychology

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perspective and include how important ethnicity and race are to individuals' self-concept (i.e., *centrality*), the affect individuals feel toward their ethnic-racial group (i.e., *private regard* or *affirmation*), and individuals' beliefs regarding how their ethnic-racial group is viewed or valued by others (i.e., *public regard*; Sellers et al., 1998). In addition, *salience* is the extent to which individuals are aware of their ERI across everyday situations (Sellers et al., 1998). ERI process dimensions stem from a developmental perspective and include *exploration* (i.e., learning and looking for information) and *resolution* (i.e., gaining clarity or understanding) about the role of ethnic-racial group membership in one's sense of self (Umaña-Taylor et al., 2014). In addition, *ERI commitment*, also stemming from a developmental perspective, includes aspects of both affirmation and resolution (Phinney, 1992; Yip et al., 2019). Meta-analyses and reviews (primarily based on cross-sectional studies) have found that aspects of ERI serve as developmental competencies for youth of color, both directly promoting positive adjustment (e.g., self-esteem, academic achievement, mental health) and offering stress-buffering protection in the face of ERD (Miller-Cotto & Byrnes, 2016; Rivas-Drake, Seaton, et al., 2014; Umaña-Taylor & Rivas-Drake, 2021; Yip et al., 2019). These reviews have also suggested important caveats to this general pattern of findings, noting that attention to the contextually informed aspects of ERI is necessary. Though much ERI research has focused on youth of color in the U.S. context, there is also research on the construct validity of ERI among U.S. White youth (e.g., Sladek et al., 2020a), cultural heritage or ethnic identity across a range of national contexts that vary regarding ethnoracial diversity (e.g., Chen et al., 2019), and ERI across the lifespan (C. D. Williams et al., 2020).

Living in an ethnoracially diverse society precipitates interactions with ethnic-racial out-group members (hereinafter referred to as *ethnic-racial out-group contact* [EROC]). Social psychological theories, including Allport's (1954) intergroup contact theory and Tajfel's (1982) theory of intergroup relations, generated important questions and hypotheses for examining interactions across social groups, with the purpose of identifying factors that promote positive intergroup interactions. Meta-analytic evidence suggests that intergroup contact among adults can have positive effects for reducing intergroup prejudice over time (Pettigrew & Tropp, 2006). On the other hand, research specifically focusing on the more immediate effects of EROC has shown that many individuals (including people of color and White people) experience distress during and following such interactions, including acute psychological and physiological effects (e.g., cognitive depletion, cardiovascular reactivity; Richeson & Shelton, 2007). As EROC is a reality of individuals' everyday experiences in ethnoracially diverse societies, with varying implications and consequences based on ethnic-racial background and minoritized group status, better understanding contextual variability in these out-group interactions is important for informing avenues to reduce intergroup prejudice and promote opportunities for positive relationship building (O'Donnell et al., 2021). Providing further insights into EROC from an ecological perspective attending to ethnic-racial marginalization, developmental theories suggest that the extent to which children and adolescents begin to establish openness and acceptance of people from other ethnic-racial groups (i.e., other group orientation) is theoretically linked with both ERD and ERI (Phinney et al., 2007; see also Cross, 1991; Quintana et al., 1999). Indeed, studies of both youth and adults have shown that those with a more developed understanding of their ERI tend to hold

more positive attitudes toward EROC, a pattern that emerges for White people and people of color (e.g., Phinney et al., 2007; Umaña-Taylor et al., 2018). These positive attitudes, in turn, have important implications for youth's psychosocial adjustment and furthering societal inclusion, such as supporting diverse friendships and promoting empathy (Tropp & Barlow, 2018).

Daily Process Research for Studying ERD, Identity, and Out-Group Contact

Daily process research stems from the search for better understanding the extent to which social and psychological phenomena vary within individuals across time and situations (i.e., study of within-person differences or idiographic research), between individuals (i.e., study of between-person differences or nomothetic research), and individual differences in within-person processes (Ong et al., 2023; Tennen & Affleck, 2002). Daily process research encompasses related methodologies from varying disciplines, including the experience-sampling method (ESM; Csikszentmihalyi & Larson, 1987), ecological momentary assessment (EMA; Stone & Shiffman, 1994), daily diary methods (e.g., Wang, 2022), and other intensive longitudinal approaches assessing the same individuals across relatively short intervals (e.g., moments, days, weeks). Daily process methods have been applied to study dynamic aspects of the human experience that include *both* between- and within-individual differences (e.g., emotions, stress, coping; Tennen & Affleck, 2002), including ethnic-racial experiences and identities.

Daily process studies offer several methodological strengths, including utility over and above other methods (e.g., lab-based experiments, cross-sectional surveys, less intensive longitudinal designs over longer intervals) for examining questions of context (i.e., *where* and *with whom* did it happen?), timing (i.e., *when* did it happen or change?), and proximal mechanisms for observed relations (i.e., *how*, or through what process, did an experience precede a later emotion or health consequence?). Daily process studies address limitations of cross-sectional survey data and less intensive longitudinal designs spaced over months or years by allowing for examination of temporal ordering between variables from moment-to-moment and day-to-day, reducing retrospective recall bias by measuring phenomenological processes closer in time to their occurrence, tracking emotion and stress processes that fluctuate rapidly within and across days (while accounting for individual differences that are more consistent over time), and measuring dynamic features of ecological contexts in individuals' everyday lives (Bolger & Laurenceau, 2013; Ong et al., 2023). Cross-sectional and other less intensive longitudinal designs (e.g., biennial, annual) are not able to address these issues because they are rooted in the epistemological assumption that an individual's report of their experience (i.e., meaning-making process) is consistent with zero variability from moment to moment and day to day across contexts of everyday life. This is an assumption directly in tension with an ecological perspective for studying person-context transactions involved in ERD, ERI, and EROC.

As an epistemological alternative, researchers have advanced daily process approaches to address limitations of the aforementioned research designs, as well as to specifically center the perspectives of marginalized groups and prioritize the significant and everyday nature of ethnic-racial-based stress and meaning-making identity processes (Morris et al., 2023; Wang, 2022). Though there is no available

systematic review of this literature, to our knowledge, daily process studies have shown promise for uniquely furthering the study of ERD, ERI, and EROC in context. For example, measuring discrimination is often incomplete when not assessed close in time to its occurrence and in concert with contextual factors that inform the type, severity, and real-time consequences of discrimination for health and well-being (Potter et al., 2019). As another example, daily process studies allow for measuring how multiple dimensions of an individual's ERI function across social situations within the same day and across days, such as in conjunction with ERD and EROC, as well as the extent to which these within-person processes (i.e., ERI being more or less salient depending on context of ethnic-racial diversity) vary across individuals, groups, and development (Yip & Douglass, 2013). Finally, daily process approaches provide an important avenue for examining the nature, context, and outcomes of EROC that are difficult to answer using other prevailing research designs, such as identifying *who* is involved in out-group interactions in everyday settings, *where* these interactions occur, *when* emotional and cognitive consequences of these interactions arise or subside, and *how* these questions of context relate to individuals' motivations and attitudes toward EROC (O'Donnell et al., 2021).

Overview of Systematic Review

The goals of this systematic review were twofold: first, to summarize novel contributions of research using daily process approaches (e.g., ESM, EMA, daily diaries) to the field's understanding of ERD (Study 1), ERI (Study 2), and EROC (Study 3) in everyday contexts; second, to use this research synthesis to inform avenues for future directions using daily process methods to examine individuals' ethnic-racial experiences and identities in context. This review was informed by prior commentaries on daily process methods that did not engage in a systematic review of the literature (Wang, 2022; Yip & Douglass, 2013) as well as a systematic review of daily process studies measuring discrimination (based on a variety of social group categories; Potter et al., 2019). Three searches were used to identify eligible studies published in print or online in English prior to 2024 in both APA PsycInfo and Pubmed databases. Dissertations and book chapters were eligible in addition to peer-reviewed journal articles. The daily process approach was defined as collecting intensive repeated measures within individuals across situations (e.g., ESM, EMA), days (e.g., daily diaries), or weeks (e.g., modified daily diary designs over relatively longer periods of time). As longitudinal survey studies that assess the same individuals across monthly or yearly intervals are typically based on different theoretical foundations and have differing goals (e.g., understanding human development processes, testing temporal precedence or reciprocal relations between variables across monthly or yearly intervals), longitudinal methodology on its own (i.e., without also incorporating daily process methods) did not warrant inclusion.¹

Study 1: Daily Process Studies of ERD

Method

See Figure 1 for an overview of search and screening details. Search terms were determined based on common descriptors used in ERD research and in daily process studies, reflecting both the substantive and methodological focus of the present review. The

following search term logic was entered in APA PsycInfo and Pubmed to identify potentially eligible records: ("ethnic discrimination" OR "racial discrimination" OR "ethnic microaggression" OR "racial microaggression") AND ("daily diary" OR "diary" OR "experience sampling" OR "ecological momentary assessment").² This search approach was necessary to meet the scope of this review. For instance, there is a large literature on ERD, in general, and daily process studies, in general, with a more focused pool of studies examining ERD using a daily process approach, specifically. This search identified 136 records. The lead author screened the Abstracts and Methods sections of all records for eligibility, in consultation with the investigative team. Records that did not meet eligibility criteria for this review were excluded for the following reasons: (a) did not report on results of an empirical study (e.g., review or conceptual article); (b) did not measure ERD (e.g., used daily process approach to assess constructs not including ERD, and simply mentioned ERD in the report); (c) did not employ a daily process approach to assess ERD (e.g., cross-sectional survey); or (d) record was duplicated across search engines (e.g., appeared in both APA PsycInfo and Pubmed). Next, additional eligible records were identified via cross-referencing using reference lists of the eligible records.

Of the 52 eligible records (hereinafter referred to as "studies"), 11 used data from the same sample (e.g., multiple articles using same data set). All of these studies were independently reviewed by two researchers, who coded each study for type of publication (e.g., peer-reviewed journal article, dissertation, book chapter), sample size, sample ethnic-racial composition, country and region, developmental period (childhood; adolescence; young adult college sample; adulthood), gender composition, data collection schedule (e.g., surveys once a day for 14 days), measure(s) details, average compliance rate (e.g., % surveys completed), and primary findings from the analysis of daily process variables. Coders held weekly meetings to discuss discrepancies and refine and expand the coding scheme. Discrepancies were resolved through consensus discussions. All study details were checked a final time following the two independent reviews.

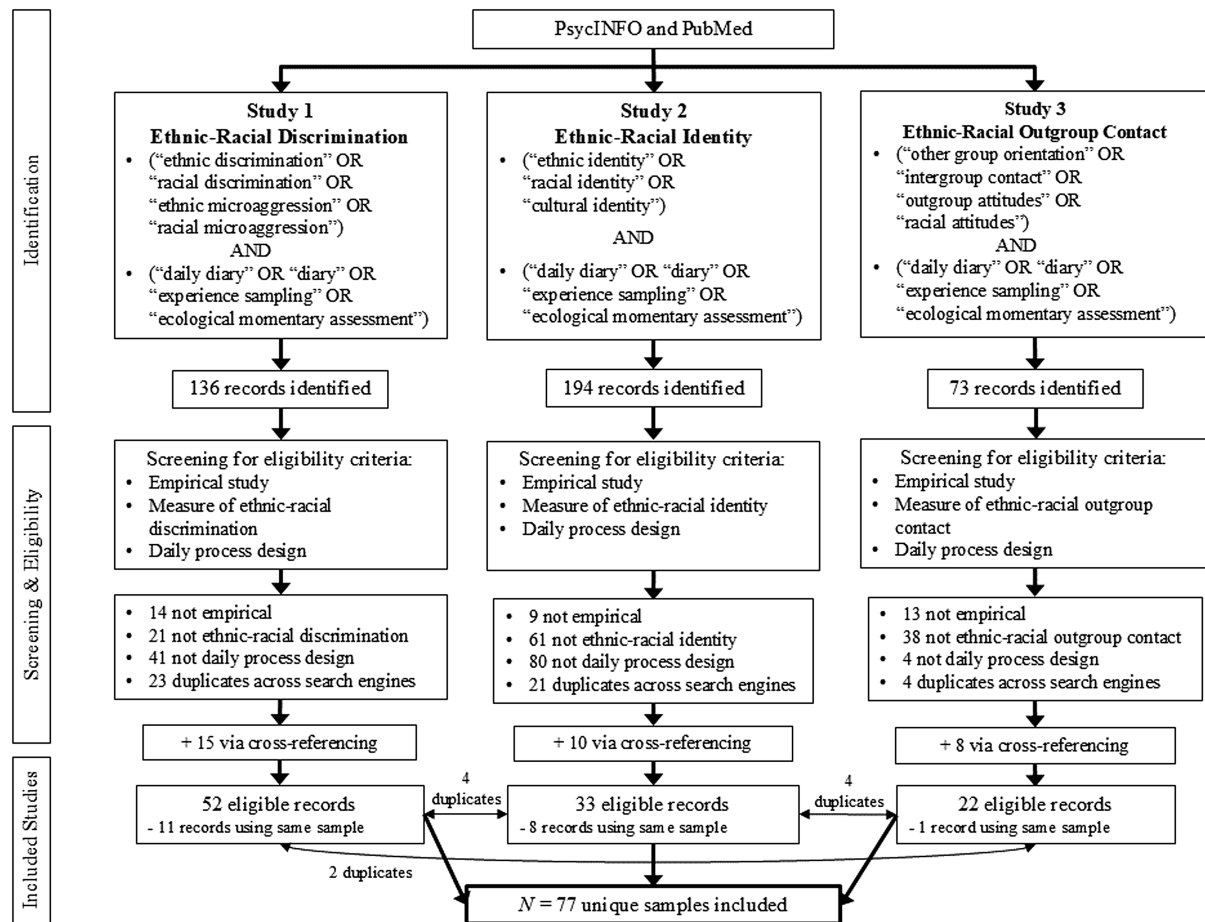
Results

See Table 1 for journals that published these studies. See Figure 2 for the number of studies plotted by publication year. Almost all of the 52 studies examined ERD as a predictor of other outcomes. Thus, study results are organized by the most common outcome domains and then by developmental period (Table 2). See Supplemental Materials for a summary of data collection schedules (e.g., daily diary, ESM) and for results from studies examining additional outcomes.

¹ This systematic review was conducted following PRISMA standards (Page et al., 2021). Data are not publicly available. All research materials (e.g., search code, coding files) are available from the corresponding author upon request. This review was not preregistered.

² The Boolean operator "OR" in this search approach returns results that contain either "ethnic discrimination," "racial discrimination," "ethnic microaggression," or "racial microaggression." Paired with this logic in parentheses, adding the Boolean operator "AND" returns only results that contain both one of those terms (e.g., ethnic discrimination) and either "daily diary," "diary," "experiencing sampling," or "ecological momentary assessment".

Figure 1
Overview of Systematic Review Search and Screening Procedures



ERD and Affect, Mood, and Well-Being

Five studies with adolescents examined the daily emotional impact of ERD among youth of color, finding that youth reported higher negative mood and lower positive mood in daily life following ERD experiences (Arrington, 2002; Cheeks et al., 2020; Potochnick et al., 2012; Wang & Yip, 2020; Yip et al., 2022). Studies also identified variability in within-person processes based on timing and features of the social context of ERD, which reflect analytic possibilities afforded by daily process methods. For example, in a daily diary study of Black³ adolescents, Cheeks et al. (2020) adopted a time-lagged approach and found that when adolescents experienced ERD (compared to days of not experiencing ERD), they reported more negative affect the following day. Furthermore, this day-to-day association was evident specifically when youth received family racial pride messages (i.e., emphasizing their ethnic-racial group's positive accomplishments and attributes). In contrast, youth were buffered from the negative emotional impact of daily ERD when they received family racial barrier messages (i.e., drawing attention to racial discrimination toward Black people). Other daily diary studies found consistency across U.S. geographic regions in daily negative ethnic treatment predicting lower happiness among Latino adolescents (Potochnick et al., 2012), and sleep quality as a

protective factor for positive well-being on days that Asian, Black, and Latinx adolescents experienced ERD (Wang & Yip, 2020).

Eight studies with college students found that ERD experiences in daily life were associated with higher negative and lower positive mood among students of color using daily diaries (Dang, 2013; Deckard et al., 2023; Mendoza-Denton et al., 2002; Ong et al., 2013; Swim et al., 2003; Yip, 2016), weekly diaries for 1 month (A. M. Brown et al., 2022), and EMA (Volpert-Esmond, 2020). For example, accounting for between-person differences, negative affect was higher on days when Asian American college students reported experiencing more racial microaggressions, a pattern that was amplified when one microaggression followed another (Ong et al., 2013). Four of these studies also focused on exploring identity-related individual differences in these daily dynamics, offering insights into psychological meaning-making processes and their implications for emotion-related outcomes following discrimination. For instance, in a daily diary study of ethn racially diverse college students of color, reports of being negatively affected by group stereotypes on a daily basis predicted higher negative mood and lower positive mood, and these day-to-day associations were

³ Ethnic-racial group labels are reported based on original authors' wording.

Table 1
List of Journals That Published Empirical Articles Using Daily Process Approaches to Assess Ethnic–Racial Discrimination, Ethnic–Racial Identity, and Ethnic–Racial Out-Group Contact by Number of Articles Published

Journal ^a	Total articles	2022 Journal Impact Factor ^a	Transparency and Openness Promotion Guidelines factor ^b	Ethnic–racial discrimination	Ethnic–racial identity	Ethnic–racial out-group contact
<i>Cultural Diversity & Ethnic Minority Psychology</i>	14	3.3	17	X	X	X
<i>Child Development</i>	8	4.6	7	X	X	
<i>Personality and Social Psychology Bulletin</i>	5	4.0	13	X	X	X
<i>Journal of Personality and Social Psychology</i>	4	7.6	20	X		X
<i>Developmental Psychology</i>	3	4.0	12		X	
<i>Self and Identity</i>	3	2.0	2	X	X	
<i>American Psychologist</i>	2	16.4	16	X	X	
<i>Asian American Journal of Psychology</i>	2	1.5	2	X	X	
<i>Journal of Adolescent Health</i>	2	7.6	2	X		
<i>Journal of Counseling Psychology</i>	2	3.9	8	X		
<i>Journal of Personality</i>	2	5.0	20	X	X	
<i>Basic and Applied Social Psychology</i>	1	2.4	6	X		X
<i>British Journal of Social Psychology</i>	1	5.4	10			X
<i>Development and Psychopathology</i>	1	3.3	0	X		
<i>Experimental and Clinical Psychopharmacology</i>	1	2.3	10	X		
<i>Group Processes and Intergroup Relations</i>	1	4.4	0			X
<i>Health Psychology</i>	1	4.2	14	X		
<i>International Journal of Eating Disorders</i>	1	5.5	8	X	X	
<i>International Journal of Intercultural Relations</i>	1	2.8	1		X	
<i>International Journal of Psychology</i>	1	3.2	0			X
<i>Journal of Medical Internet Research</i>	1	2.2	3	X		
<i>Formative Research</i>						
<i>Journal of Applied Developmental Psychology</i>	1	3.0	1	X		
<i>Journal of Behavioral Medicine</i>	1	3.1	Not available ^c	X		
<i>Journal of Black Psychology</i>	1	5.2	0	X		
<i>Journal of Clinical Psychology</i>	1	3.0	3		X	
<i>Journal of Community & Applied Social Psychology</i>	1	2.7	5		X	
<i>Journal of Experimental Social Psychology</i>	1	3.5	12			X
<i>Journal of Research on Adolescence</i>	1	3.6	0	X		
<i>Journal of Sleep Research</i>	1	4.4	0	X		
<i>Journal of Social Psychology</i>	1	2.1	7		X	
<i>Journal of Social and Personal Relationships</i>	1	2.8	4			X
<i>Journal of the American Academy of Child and Adolescent Psychiatry</i>	1	13.3	5	X		
<i>Journal of Youth and Adolescence</i>	1	4.9	2		X	
<i>PLOS ONE</i>	1	3.7	11	X		
<i>Proceedings of the National Academy of Sciences</i>	1	11.1	10	X		
<i>Psychological Assessment</i>	1	3.6	13	X		
<i>Psychological Science</i>	1	8.2	13		X	
<i>Psychology of Women Quarterly</i>	1	4.0	5	X		

(table continues)

Table 1 (continued)

Journal ^a	Total articles	2022 Journal Impact Factor ^a	Transparency and Openness Promotion Guidelines factor ^b	Ethnic-racial discrimination	Ethnic-racial identity	Ethnic-racial out-group contact
<i>Race and Social Problems</i>	1	3.1	Not available ^c		X	
<i>Sleep Health</i>	1	4.1	1	X		
<i>Social Psychological and Personality Science</i>	1	5.7	7		X	
<i>Social Psychology Quarterly</i>	1	2.7	0	X		
<i>Social Science Quarterly</i>	1	1.9	Not available ^c	X		

Note. There were also 12 dissertations and three book chapters included in this review. ERD = ethnic-racial discrimination; ERI = ethnic-racial identity; EROC = ethnic-racial out-group contact. ^a2022 journal impact factor from *Journal Citation Reports* (Clarivate, 2023) indicating the citations to the journal in the year 2022 for articles published in the previous 2 years, divided by the total number of citable articles published in the journal in the previous 2 years. The journal impact factor is only one among many additional indices that can be used to judge rigor and importance of journals (e.g., rejection rate, diversity of authorship). ^bTransparency and Openness Promotion Guidelines (TOP) Factor is a metric indicating the steps that a journal is taking to implement Open Science practices, available from *Journal Citation Reports* (Clarivate, 2023). ^cTOP Factor not reported in *Journal Citation Reports* (Clarivate, 2023), Transparency and Openness Promotion website (<https://factor.org/>), or journal website.

evident specifically for students with generally higher ERI centrality and private regard (Yip, 2016).

With adults, three daily diary studies measured the day-to-day emotional impact of ERD (Burrow & Ong, 2010; Ong & Burrow, 2018; Ong et al., 2009), and three studies examined ERD impacts from moment-to-moment several times a day with ESM or EMA (Broudy et al., 2007; Cook et al., 2011; Joseph et al., 2021). Similar to findings in studies of college students, this research with adult populations has indicated that ERD has been more consistently associated with higher negative mood when race is more central to one's identity. For example, in a daily diary study of African American adults, the day-to-day link between ERD experiences and higher negative affect was more pronounced for adults with higher (compared to lower) ERI centrality (Burrow & Ong, 2010). In an EMA study of African American adults that collected brief momentary reports every hour for 2 days, momentary ERD (including personal experiences and vicariously witnessing its occurrence) was associated with higher negative emotions, specifically for adults who lived in areas with fewer African American individuals, who had lower psychosocial resources (i.e., self-esteem, control, connectedness, racial identity pride), and who experienced greater past discrimination (Joseph et al., 2021).

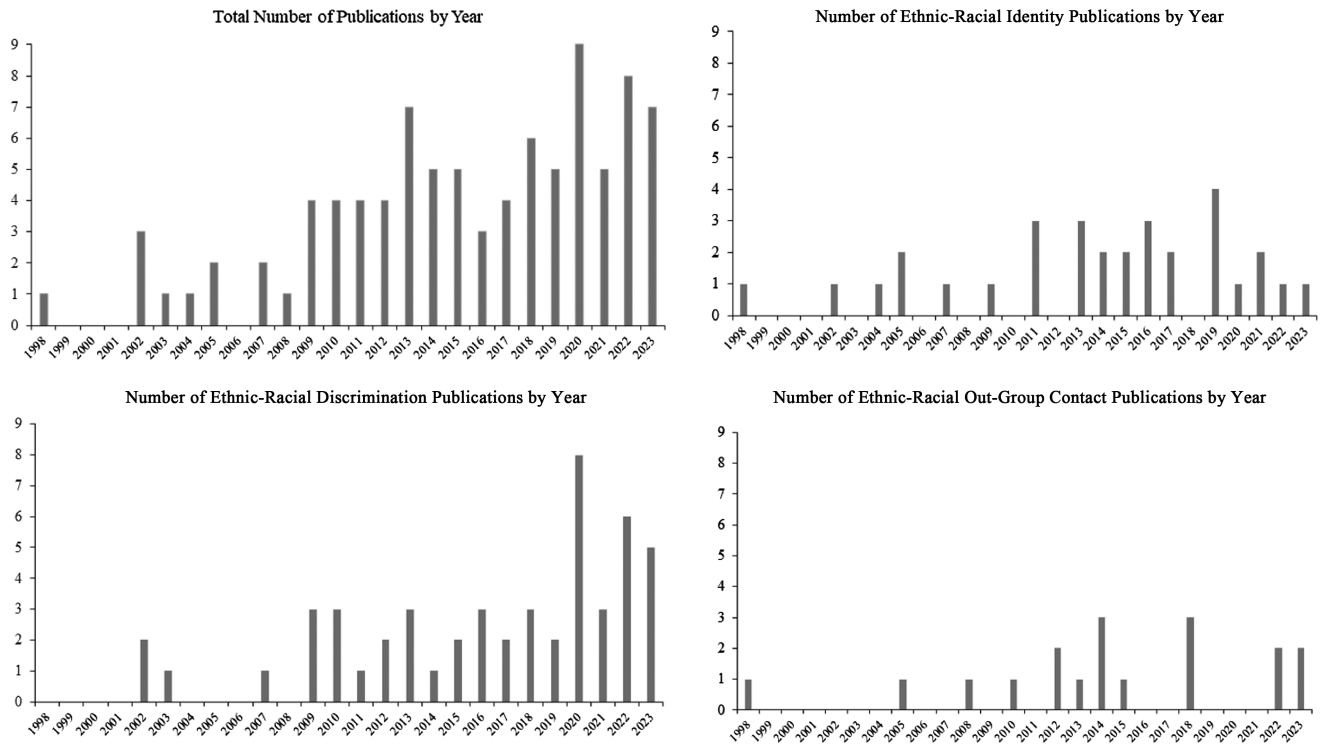
ERD and Internalizing Symptoms

Nine studies with adolescents examined the associations between ERD and internalizing symptoms. By developing a new ESM measure that included individual and vicarious experiences of discrimination, teasing, and microaggressions offline and online, English et al. (2020) found that Black adolescents reported between five and six ERD experiences per day, on average, and these multiple ERD dimensions were positively associated with depressive symptoms over the course of 2 weeks. These findings suggest that prior studies using both cross-sectional surveys and daily diaries have underestimated the frequency with which Black youth experience ERD and may have also underestimated relations between discrimination experiences and depressive symptoms. Daily diary studies of Black youth have shown that daily ERD predicted increased depressive symptoms the following day, specifically when youth reported lower levels of ERI public regard (Seaton & Iida, 2019), and for youth attending predominantly White and predominantly Black high schools, but not for youth attending more ethnoracially diverse schools (Seaton & Douglass, 2014). Other daily diary studies of Black adolescents (Del Toro & Wang, 2023) and ethnoracially diverse adolescents of color have found similar evidence for associations of daily ERD (including being targeted for ethnic-racial-based teasing and online discrimination) with depressive, anxiety, and somatic symptoms (Budesu et al., 2023; Douglass, Mirpuri, et al., 2016; Huynh & Fuligni, 2010; Potochnick et al., 2012; Yip et al., 2022).

Five studies with college students assessed ERD as a predictor of internalizing symptoms among students of color using daily diaries (Hoggard et al., 2015; Ong et al., 2013; Taylor et al., 2018), weekly diaries for 1 month (A. M. Brown et al., 2022), and EMA (Volpert-Esmond, 2020). Each of these studies demonstrated the unique utility of daily process approaches to examine within-person differences in daily experiences from intensive repeated measures data in relation to internalizing outcomes. For example, Hoggard et al. (2015) gathered 20 daily diaries from African American college students and examined daily deviations in depressive symptoms

Figure 2

Number of Publications Using a Daily Process Approach to Measure Ethnic–Racial Discrimination, Identity, and Out-Group Contact by Year



linked with racially stressful events, while accounting for average trends in depressive symptoms over time. In contrast to the results of adolescent studies, findings showed that depressive symptoms were higher on the day *before* a racial stressor occurred, and these symptoms then decreased after the event. As this pattern was most pronounced for African American college students with higher ERI centrality and lower ERI public regard, the authors suggested this could be due to racial vigilance, whereby these students live in a state of worry and anticipation of race-based stress that contributes to internalizing symptoms regardless of the presence of racially stressful events (Hoggard et al., 2015). In a daily diary study of Asian American college students, while accounting for individual differences in reports of racial microaggressions, somatic symptoms were higher on days when students reported experiencing more racial microaggressions; this within-person effect was amplified when one microaggression followed another (Ong et al., 2013).

In daily diary studies with adults, similar support has emerged linking everyday ERD experiences and internalizing symptoms (Burrow & Ong, 2010; Ong & Burrow, 2018; Ong et al., 2009; Torres & Ong, 2010). For example, among African American adults, levels of depression and anxiety symptoms were higher on days when participants reported one racial discrimination event (compared to days not reporting these events; Ong et al., 2009), and increased affective reactivity to these daily ERD experiences predicted elevated depressive symptoms 1 year later (Ong & Burrow, 2018). Researchers have also used daily diaries combined with cross-sectional ERI survey measures to examine theorized individual differences in ERD-internalizing associations. For

instance, the day-to-day association between ERD and depressive symptoms was more pronounced for African American adults with higher ERI centrality (Burrow & Ong, 2010) and for Latino adults with higher ERI exploration (Torres & Ong, 2010). Some aspects of ERI may be protective, based on findings that the day-to-day association between ERD and depressive symptoms was attenuated for Latino adults with higher ERI commitment (Torres & Ong, 2010).

ERD and Coping Responses

Eight daily diary studies examined psychological and behavioral coping strategies that adolescents (Wang & Yip, 2020; Xie et al., 2024) and college students (Foster, 2009; Greenfield, 2015; Hoggard et al., 2012; Mallett & Swim, 2009; Swim et al., 2003; Taylor et al., 2018) use in response to ERD. For example, in a sample of Asian, Black, and Latinx adolescents, sleeping better at night predicted the use of more active coping strategies (e.g., problem solving, peer support seeking) on days when adolescents experienced ERD; in turn, this active coping predicted higher psychological well-being (Wang & Yip, 2020). In the same sample, the positive association of daily ERD with more proactive coping responses was stronger for youth who reported higher ERI exploration and weaker for youth with higher ERI commitment (Xie et al., 2024). In a study of African American college students, in comparison to nonracially stressful daily events, students' responses to racially stressful events included less planful problem solving and more confrontive, ruminative, and avoidance coping strategies

Table 2
Summary of Daily Process Studies of ERD

Study	Type	N	Ethnic-racial composition of sample ^a	Country/region	Developmental period	% Female	Data collection schedule	Average compliance rate (% complete)	Measure
Daily diary studies Budesu et al. (2023)	PR	96	39% Other, Non-White 32% Latinx 29% Black/African American	U.S. East	Adolescence	80	1x/day; 14 days	99	Daily discrimination: 18-item RLE-DLE ^b
	PR	174	100% African American	United States ^c	Adulthood	82	1x/day; 21 days	74	Racial discrimination: 20-item RLE-DLE ^b
	PR								
	PR								
	PR								
Burrow and Ong (2010)	PR								
Ong et al. (2009)	PR								
Ong and Burrow (2018)	PR								
Cheeks et al. (2020)	PR	164	100% African American—Black	U.S. Midwest	Adolescence	57	1x/day; 21 days	74	Racial discrimination: seven items, adapted RLE-DLE ^b
Richardson (2015)	D								Perceived discrimination: 10 items adapted from six measures in four categories: general racism, perpetual foreigner, model minority myth, inferiority to the dominant race (e.g., D. W. Sue et al., 2007)
Dang (2013)	D	40	35% East Asian 28% Southeast Asian 23% Filipino 8% Hmong 8% Multiracial (Asian and another ethnic-racial group)	U.S. West	Young adult college sample	83	1x/day; 14 days	Not reported	
Deckard et al. (2023)	PR	81	64% African American/Black 29% Hispanic/Latinx 7% Other	U.S. Midwest	Young adult college sample	60	1x/day; 58 days	89	Interpersonal discrimination: 10 items adapted from the Everyday Discrimination Scale (D. R. Williams et al., 1997) Vicarious racism: “Did you learn about racial injustices or the mistreatment of people of color online (such as Facebook, Twitter, newsfeed, etc.) or in the news yesterday?”
Del Toro and Wang (2023)	PR	602	58% Black 42% White	United States ^c	Adolescence	61	1x/day; 21 days	Not reported	Daily online racial discrimination: Online Victimization Scale (Tynes et al., 2010)
Douglass, Mirpuri, et al. (2016)	PR	79	43% Hispanic or Latino/a 24% White or European American 8% Black, African American, or West Indian 6% Other	U.S. East	Adolescence	65	1x/day; 14 days	71	Ethnic-racial teasing: teasing interaction related to “race or ethnicity,” who made the teasing comment (I did/someone else did), and who the comment was directed toward (myself/someone else) (table continues)

Table 2 (continued)

Study	Type	N	Ethnic-racial composition of sample ^a	Country/region	Developmental period	% Female	Data collection schedule	Average compliance rate (% complete)	Measure
English et al. (2020)	PR	101	88% African American or Black 8% Other 2% Biracial/multiracial 1% African 1% Afro-Latino	U.S. East	Adolescence	57	1×/day; 14 days	81	<i>General racial discrimination and racial teasing</i> : 12 items randomly selected daily from a pool of 88 items adapted from seven measures to capture individual and vicarious experiences of discrimination, teasing, and types of microaggressions offline and online (e.g., Fisher et al., 2000; Harrell, 1997; Tynes et al., 2010)
Feng et al. (2021) Wang and Yip (2020) Xie et al. (2024) Yip et al. (2020) Yip et al. (2022) Foster (2009)	PR	256 ^d	40% Asian 38% Latinx 22% Black	U.S. East	Adolescence	73	1×/day; 28 days	79	<i>Daily ethnic/racial discrimination</i> : six-item Racial/Ethnic Discrimination Index and five-item Everyday Discrimination Scale (D. R. Williams et al., 1997)
Fuller-Rowell et al. (2021) Greenfield (2015) ^e	PR D	32 61	42% White Canadian 21% Chinese 15% South Asian 9% Latin American 3% Black 3% South East Asian 3% Arabic 3% Filipino 100% African American 100% Native American	Canada U.S. East U.S. South	Young adult college sample Young adult college sample	93 74 63	1×/day; 9 days 1×/day; 21 days 1×/day; 20 days	81 78 81	<i>Perceived pervasive discrimination</i> : severity of discrimination experience that occurred to self or others on the basis of racism or sexism, the likelihood of happening again, and affecting other areas of life (Foster et al., 2004) <i>Perceived racial discrimination</i> : 20-item RLE-DLE ^b <i>Racial discrimination</i> : discrimination due to being Native American; what happened, when, perceived impact, and likely race of individual(s) involved <i>Coping with racial discrimination</i> : “accept it as a fact of life” versus “try and do something about it” and “keep it to yourself” versus “talk to other people about it” (Krieger et al., 2005)
Hoggard et al. (2012)	PR	35	100% African American	U.S. East Midwest South	Young adult college sample	74	1×/day; 20 days	Not reported	<i>Occurrence of racially stressful events</i> : descriptions of racially stressful events coded for stress characteristics (Lazarus & Folkman, 1984) <i>Appraisals and coping with racially stressful events</i> : how taxing event was to own resources and coping?

(table continues)

Table 2 (continued)

Study	Type	N	Ethnic-racial composition of sample ^a	Country/region	Developmental period	% Female	Data collection schedule	Average compliance rate (% complete)	Measure
Hoggard et al. (2015)	PR	225	100% African American	U.S. East Midwest South	Young adult college sample	76	1x/day; 14 days	Not reported	<i>Occurrence of racially stressful events</i> : “Have you experienced a situation today in which you feel that you have been discriminated against because of your race?” and description of event
Huynh and Fuligni (2010)	PR	601	43% Asian 36% Latin American 19% European	United States ^c	Adolescence	51	1x/day; 14 days	95	<i>Ethnic discrimination</i> : yes/no whether “something bad happened to you or you were treated poorly because of your race or ethnicity” and source (a student at school, adult at school, or someone out of school)
Kiang and Witkow (2017)	BC	180	28% Hmong 23% Other Asian group 22% Multiethnic 11% South Asian Indian 8% Chinese 8% Pan-ethnic	United States ^c	Adolescence	58	1x/day; 7 days	93	<i>Race-related experiences</i> : yes/no whether “something bad happened to you or you were treated poorly because of your race or ethnicity” and description of event
Mallett and Swim (2009)	PR	77	100% African American	U.S. East	Young adult college sample	82	1x/day; 21 days	49	<i>Appraisals of racial discrimination</i> : 10 primary appraisal items (e.g., “How intimidated were you by this event?”) and three secondary appraisal items (e.g., “How confident were you that you had enough skills to overcome the potentially negative outcome?”; Lazarus et al., 1985)
Mendoza-Denton et al. (2002)	PR	78	100% Black or African American	United States ^c	Young adult college sample	68	1x/day; 14 days	Not reported	<i>Daily proactive coping with racial discrimination</i> : 14 items to report use of proactive coping strategies (e.g., self-focused, situation-focused, avoidance) if ERD occurred <i>Race-based rejection</i> : described racial/ethnic-related experiences and indicated nature of negative experiences (e.g., exclusion, insults) <i>Feelings of rejection and alienation following race-based experiences</i> : nine items, feelings corresponding with race-related experiences (e.g., insecure, resentful) (table continues)

Table 2 (continued)

Study	Type	N	Ethnic-racial composition of sample ^a	Country/region	Developmental period	% Female	Data collection schedule	Average compliance rate (% complete)	Measure
Ong et al. (2013)	PR	152	59% Chinese Americans	U.S. East	Young adult	43	1×/day; 14 days	83	<i>Racial microaggressions:</i> frequency counts of 20 racial microaggressions based on eight categories (e.g., alien in their own land, denial of racial reality; D. W. Sue et al., 2007)
Ong et al. (2017)	PR		13% Asian Indians 8% Taiwanese 6% Koreans 5% Vietnamese 4% Filipinos 3% Japanese		Young adult college sample				
Potochnick et al. (2012)	PR	463	2% Other Asian group 100% Latino	U.S. East West	Adolescence	NR ^f	1×/day; 14 days	Not reported	
Seaton and Douglass (2014)	PR	75	64% African American 15% Afro-Latino 12% Biracial/multiracial 8% Caribbean Black 1% African	United States ^e	Adolescence	77	1×/day; 14 days	79	<i>Discrimination/negative ethnic treatment:</i> yes/no if “something bad happened to you or you were treated poorly because of your race or ethnicity” <i>Perceived racial discrimination:</i> 18-item RLE-DLE ^b
Seaton and Iida (2019) ^e	PR	103	61% African American 21% Afro-Latino 9% Biracial/multiracial 7% Caribbean Black 2% African	United States ^g	Adolescence	81	1×/day; 14 days	59	<i>Perceived racial discrimination:</i> adapted 18-item RLE-DLE ^b
Seaton and Zeiders (2021)	PR	93	100% Black American	U.S. West	Young adult college sample	78	1×/day; 7 days	94	<i>Perceived racial discrimination:</i> adapted 18-item RLE-DLE ^b
Sladek et al. (2020b)	PR	207	100% Hispanic/Latino(a)	U.S. West	Adolescence	64	1×/day; 2 weeks	91	<i>Daily bicultural stress:</i> five items adapted from Romero and Roberts (2003), including ethnic discrimination; for example, “Today I felt uncomfortable when others made jokes or put down people of my ethnic background.”
Swim et al. (2003)	PR	51	100% African American	U.S. East	Young adult college sample	53	1×/day; 21 days	Not reported	<i>Race-related incidents:</i> coded qualitative responses for place, behaviors, and people involved <i>Appraisal of race-related incidents:</i> extent to which incident reflected or reinforced prejudice <i>Emotional and behavioral responses to race-related incidents:</i> reactions to incidents, 24 emotions (e.g., “shock,” “feeling threatened”) (table continues)

Table 2 (*continued*)

Study	Type	N	Ethnic–racial composition of sample ^a	Country/region	Developmental period	% Female	Data collection schedule	Average compliance rate (% complete)	Measure
Taylor et al. (2018) ^b	PR	119	36% Asian American 29% Black 19% Hispanic/Latino 11% Multiracial 3% Other 3% did not indicate a race	U.S. East	Young adult college sample	63	1×/day; 13 days	Not reported	<i>Metastereotype</i> : one item, feelings of being viewed stereotypically by White individuals in interracial interaction
Torres and Ong (2010)	PR	91	45% Mexican, Mexican American, or Chicano 21% Central or South American 19% Other Latino group 15% Puerto Rican	United States ^c	Adulthood	79	1×/day; 30 days	89	<i>Discrimination</i> : modified 35-item Perceived Racism Scale for Latinos (Collado-Proctor, 1999) assessed ERD specific to Latinos in academic, work, and public contexts
Wu et al. (2023) ^b	PR	209	79% Asian 8% Black or African 8% Multiracial 1% Native 1% Latino or Hispanic 8% Other	Canada	Young adult college sample	69	1×/day; 21 days	70	<i>Daily perceived discrimination</i> : seven items, for example, “Were you made fun of or picked on because of your race/ethnic group?” (Contrada et al., 2001; Landrine et al., 2006)
Yip (2016) ^e	PR	129	32% Asian 27% African/African American 24% Other, biracial/multiracial, or missing	U.S. East	Young adult college sample	62	1×/day; 14 days	Not reported	<i>Ethnic/racial stereotype appraisal</i> : one item, feeling affected by stereotypes about one’s ethnic/racial group
Zhang et al. (2022)	PR	82	51% Asian Canadian 49% Asian American	United States ^c and Canada	Adulthood (United States) and young adult college sample (Canada)	67	1×/day; 14 days	86	<i>Daily COVID-19 discrimination</i> : yes/no experienced discrimination behaviors toward “me” (personal), “an Asian American/Canadian person that I know” (vicarious), or “other Asian Americans/Canadians that I don’t personally know” (indirect)
Experience-sampling method and ecological momentary assessment studies									
Arrington (2002)	D	463	100% Black	U.S. East	Adolescence	78 F	3×/week; 3 weeks	Not reported	<i>Racial stress engagement</i> . 20-item RLE-DLE ^b (Harrell, 1997)
Broudy et al. (2007)	PR	113	40% Black 35% Latino 12% White 9% Mixed ethnicity 3% West Asian 1% East Asian 1% Native American	U.S. East	Adulthood	70	Every 30 min; 1 day	Not reported	<i>Perceptions of social interactions</i> : if interacting with someone, feeling “comfortable,” “harassed,” “unfairly treated,” or “excluded” (types of ERD; Feagin, 1991)

(*table continues*)

Table 2 (continued)

Study	Type	N	Ethnic-racial composition of sample ^a	Country/region	Developmental period	% Female	Data collection schedule	Average compliance rate (% complete)	Measure
K. L. Brown et al. (2022) ^e	PR	27	100% Black or African American	U.S. South	Young adult college sample	100	3×/day; 14 days	77	<i>Racial discrimination</i> : yes/no and briefly describe the exposure, informed by the Index of Race-Related Stress (Utsey, 1999)
Cook et al. (2011)	PR	64	67% European American 33% African American	U.S. West	Young adult college sample and adulthood	58	Every social interaction, at least 10× daily; 1 week	Not reported	<i>Feeling stereotyped</i> : Likelihood of being stereotyped by interaction partner for interactions >3 min, including stereotype attribution (e.g., race/ethnicity)
Hunter et al. (2022)	PR	72	64% Black/African American 36% White/European American	U.S. East	Adulthood	72	4×/day; 17 days	81	<i>Racial discrimination</i> : six-item version of the Everyday Discrimination Scale (D. R. Williams et al., 1997)
Joseph et al. (2021)	PR	54	100% African American	U.S. East	Adulthood	74	Every hour; 2 days	Not reported	<i>Momentary personal racial discrimination</i> : 10 items adapted from the Everyday Unfair Treatment Scale (D. R. Williams et al., 1997)
Nam et al. (2021) Nam et al. (2022)	PR	12	100% African American or Black	U.S. East	Adulthood	67	5×/day; 7 days	83	<i>Momentary vicarious racial discrimination</i> : two items informed by the Index of Race-Related Stress–Brief Version (Utsey, 1999); asked if witnessed someone else being treated unfairly due to being Black <i>Racial discrimination</i> : randomly presented 60% of 11-item Experiences of Discrimination Scale (Krieger et al., 2005) <i>Microaggressions</i> : randomly presented 60% of 32-item Racial Microaggression Scale (Torres-Harding et al., 2012)
Volpert-Esmond (2020)	D	110	100% African American or Black	U.S. Midwest	Young adult college sample	77	3×/day (and self-initiated event-based reports); 28 days	84	<i>Race-related event</i> : reported interactions involving being treated differently because of race, including what happened and who was involved (gender, race, relationship to person)
Other daily process studies A. M. Brown et al. (2022)	PR	53 ⁱ	70% Black 30% Latino	U.S. Midwest	Young adult college sample	72	1×/week; 4 weeks	Not reported	<i>Microaggressions</i> : 35-item Racial and Ethnic (table continues)

(table continues)

Table 2 (continued)

Study	Type	N	Ethnic-racial composition of sample ^a	Country/region	Developmental period	% Female	Data collection schedule	Average compliance rate (% complete)	Measure
Davenport et al. (2021)									Microaggressions Scale (Nadal, 2011)
Davenport et al. (2023)									Racial and ethnic discrimination: 18-item RLE-DLE ^b
Zeiders et al. (2018)	PR	151	64% White 36% Latino American	U.S. West	Adolescence	50	Biweekly up to 6 times	Not reported	Identity threat: two items, feeling judged at school based on racial/ethnic group (Cohen & Garcia, 2005)

Note. Type: PR = peer-reviewed journal article; BC = book chapter; D = dissertation; country/region: East = northeastern and mid-Atlantic states; Midwest = midwestern states; South = southern states; West = California, Pacific northwest, southwestern and mountain states; developmental period: childhood = majority of participants 12 years or younger; adolescence = majority of participants 13–18 years of age; young adult college sample = majority of participants generally 18–25 years of age, recruited from undergraduate student population; adulthood = majority of participants were 18 years and older, recruited through community sampling and not a college sample; ERD = ethnic-racial discrimination.

^a Based on authors' wording. ^b RLE-DLE = Racism and Life Experience Scale—Daily Life Experience subscale (Harrell, 1997). ^c U.S. region not specified. ^d Total *N* across articles ranged from 254 to 350 based on the analytic sample. Details in this table are reported from the first study published from this data set (Wang & Yip, 2020). ^e Also assessed ethnic-racial identity (see Table 3). ^f Gender for the total sample not reported. See Potochnick et al. (2012), for gender by data collection sites. ^g Participants were recruited online including various U.S. regions. ^h Also assessed ethnic-racial out-group contact (see Table 4). ⁱ Total *N* across articles ranged from 53 to 141 based on the analytic sample. Details in this table are reported from the first study published from this data set (Zeiders et al., 2018).

(Hoggard et al., 2012). In a monthlong daily diary study of ethnoracially diverse Canadian college students, active coping was initially higher and behavioral disengagement was initially lower for students who generally perceived discrimination to be less (compared to more) pervasive; however, when examining responses to daily discrimination over time using diaries, students who were generally more aware of the pervasiveness of discrimination subsequently maintained higher levels of active coping and decreased behavioral disengagement (Foster, 2009).

Discussion

Daily process studies have shown that ERD temporally precedes negative emotional consequences (e.g., higher negative affect and internalizing symptoms than an individual's usual level) on an everyday basis for people of color, including adolescents, college students, and adults. A key contribution of this research has been to enhance temporal proximity between the measurement of ERD and its occurrence, thereby reducing retrospective recall bias and increasing scientific rigor for the identification of ERD frequency, severity, and outcomes. For example, ESM studies have identified higher frequency of ERD when respondents are asked at more frequent intervals throughout the day as compared to estimates reported in daily diaries (e.g., English et al., 2020). ERD daily process studies also offer innovative time-lagged approaches allowing for prospective prediction while simultaneously accounting for within-person (e.g., day to day) and between-person variance. For example, the temporal precedence established by the strengths of these within-person study designs has demonstrated that experiencing ERD spills over into sleep disturbances that night, emotional well-being the following day, and can even carry over into longer term internalizing symptoms, all while accounting for average between-person differences in these constructs.

In conceptual alignment with PVEST (Spencer, 2008), this research also identified individual and contextual moderators of the links between ERD and mental and physical health outcomes. These moderating factors include individual and daily differences in ERI (e.g., centrality, public regard), family ethnic-racial socialization, and ethnic-racial diversity of one's surroundings. This information is useful to inform identity-centered health promotion interventions (e.g., Umaña-Taylor et al., 2018) that support potential cognitive behavioral, interpersonal, and community-based strategies for responding to and ultimately reducing the societal occurrence of ethnic-racial-based stress.

Despite significant and novel contributions, extant ERD daily process studies are limited with respect to the representativeness of participant samples, the inclusion of conceptually related constructs in daily process study design (e.g., ERI), and the number of available studies examining specific outcomes. First, this review revealed the skewed focus on young adult college samples (20 out of 41 unique samples), as well as limited within-group studies for many ethnic-racial groups and developmental periods (e.g., one study with Native American college students, two studies with Latino adolescents). These sampling decisions limit the generalizability of findings and point to important future directions for diversifying study samples across developmental periods and ethnic-racial groups. Second, though some studies measured ERD alongside ERI in a daily process design to investigate additive and interactive effects (four out of 52 studies), this work is limited and warrants

further attention to advance ERD research with attention to resilience processes that promote and protect individuals from ERD's negative consequences. Last, due to the relatively limited number of studies for specific outcomes, it is difficult to draw firm conclusions about outcomes other than affect/mood and depressive symptoms, such as anxiety and psychosomatic distress, which is an important avenue for future research.

Study 2: Daily Process Studies of ERI

Method

Procedures for identifying, screening, and reviewing ERI daily process studies mirrored those of Study 1. See Figure 1 for an overview of search and screening details for Study 2. Of 194 records identified, 33 studies measuring varying dimensions of ERI using a daily process approach were eligible from 25 unique study samples.

Results

See Table 3 for all ERI studies included in this review. The most common ERI dimension measured was salience (16 studies), followed by private regard (eight), public regard (six), centrality (six), exploration (six), and other ERI-related constructs (four; see Supplemental Materials). Ten of these studies measured more than one ERI dimension. Results are organized by these dimensions with additional attention to the developmental period, when possible, based on the number of studies.

ERI Salience

ERI salience refers to the extent to which one is thinking about or aware of one's ERI in a given situation (Sellers et al., 1998). These studies examined whether ERI salience corresponded with psychological well-being and other ERI dimensions (e.g., private regard); whether individual, developmental, and contextual differences helped to explain variability in relative levels of ERI salience; and whether these factors moderated the links between salience, well-being, and other ERI dimensions. These 16 studies focused on children and adolescents (one), adolescents (eight), college students (seven), and no studies outside the college context.

One daily diary study recruited a sample including children and adolescents (i.e., fourth- to eighth-grade students), using adult-assisted diary reports after school days (C. S. Brown et al., 2011). In this sample of ethn racially diverse youth, 53% mentioned their ethnicity was salient at least once during a typical school week. Furthermore, the proportion of days that youth indicated their ethnicity was salient to them was positively related to higher positivity/importance of ethnicity assessed in interviews.

Research has also examined the interplay between social context influences (e.g., school ethnic-racial composition), developmental differences in ERI, and ESM reports of ERI salience in an ethn racially diverse sample of adolescents recruited from New York City public schools (e.g., Yip, 2014). Results from this ESM study showed that ERI was more salient on days when youth reported more frequent daily interactions with ethnic-racial in-group members; this day-to-day association was stronger for youth attending more ethn racially diverse schools (compared to less

diverse schools) and for youth reporting less exploration and less understanding about what their ERI means to them (i.e., "diffused" identity status, compared to youth with a more developed or "achieved" identity status; Douglass & Yip, 2015). Yip (2014) found that the moment-to-moment link between salience and private regard also varied by adolescents' ERI developmental status. Specifically, when youth reported more exploration and resolution about what their ERI means to them (i.e., "achieved" identity status), they felt *more* positively about their ERI during moments of the day when their ERI was more salient than usual. Conversely, when youth reported more resolution without also reporting more exploration (i.e., "foreclosed" identity status) and reported that their ERI was less central to their identity, they felt *less* positively about their ERI during moments when ERI was more salient. Thus, situations when ethnicity and race are more salient for youth in everyday life can correspond with either more or less positive feelings about their ethnic-racial group membership, and this depends on youth's ERI developmental progression and centrality of their ethnic-racial background to their identity.

Additionally, for youth whose ERI was generally more salient on average, increased situational ERI salience (compared to situations of less salience) was characterized by less negative and anxious mood (Douglass, Mirpuri, et al., 2016). For youth whose ERI was generally less salient on average, increased situational ERI salience was characterized by increased positive mood and decreased negative mood. This suggests that being aware of one's ERI in everyday situations carries positive emotional benefits for youth who are generally more aware of their ethnic-racial background and for youth who are generally less aware, but these associations are contingent on other facets of youth's ERI. This research has also demonstrated the developmental implications of variability in ERI salience across daily life—adolescents who reported more day-to-day variability in salience engaged in more ERI exploration 6 months later (Wang et al., 2017).

Seven studies have examined variability in the extent to which young adult college students are aware of their ethnic-racial background in daily life as a function of differences across social and cultural contexts using ESM (Aries et al., 1998; Chung et al., 2024; Yip, 2005) and daily diaries (Chen et al., 2019; Ferguson et al., 2017; Inchaurregui, 2021; Schwartz et al., 2021). Results from ESM studies demonstrated that features of peer, family, and community contexts shape within-person differences in ERI salience from situation to situation within the same day. For example, students of color were generally more aware of their race during situations in which they were in the racial majority, whereas White participants were more aware of their race when they were in the racial minority (Aries et al., 1998). In a study of Chinese American college students, ERI was more salient in situations when students were with ethnic-racial in-group members, with family, and when Chinese was the predominant language in their social setting (Yip, 2005). In addition, these instances of heightened ERI salience were positively associated with psychological well-being, particularly for students with generally higher ERI private regard. ERI was also more salient among ethn racially diverse Canadian college students of color during situations when they reported being in public, interacting with others, having a face-to-face conversation, and being in majority White spaces, relative to daily situations that did not involve such social engagement (Chung et al., 2024).

Table 3
Summary of Daily Process Studies of Ethnic–Racial Identity

Study	Type	N	Ethnic–racial composition of sample ^a	Country/region	Developmental period	% Female	Data collection schedule	Average compliance rate (% complete)	Measure
Daily diary studies C. S. Brown et al. (2011)	PR	350	47% Latino/Hispanic 34% White/European American 19% African American	U.S. West	Childhood and adolescence	59	1×/day; 5 days	59	<i>Salience</i> : yes/no thought about their ethnicity any point during day <i>Centrality</i> : rank-order importance from list of eight social identities (e.g., “Latina,” “girl”); Alvarez et al., 2001) <i>Salience</i> : one item, think about ethnicity and indicate prominence/salience of this identity (Yip, 2005) <i>Private regard</i> : seven items from MIBI ^b revised to be used for diverse ethnic/racial groups (e.g., “I believe that because I am a member of my racial/ethnic group, I have many strengths.”; Fuligni et al., 2005)
Chen et al. (2019)	PR	100	NR	China	Young adult college sample	61	1×/day; 22 days	61	
Cheon et al. (2020)	PR	102	77% Asian or Asian American–Chinese 12% Asian or Asian American–Other 10% more than one ethnic–racial group 7% Asian or Asian American 3% Asian or Asian American–Korean 1% Asian or Asian American–Japanese	U.S. East	Adolescence	72	1×/day; 7 days	72	
Douglass (2013): Sample 1 of 2	D	79	43% Hispanic or Latino/a 24% White or European American 19% Asian or Asian American 8% Black, African American, or West Indian 4% American Indian or Native American 3% Other	U.S. East	Adolescence	65	1×/day; 21 days	65	<i>Public regard</i> : two items from MIBI ^b (e.g., “Overall, my racial/ethnic group was considered good by others today.”) <i>Salience</i> : one item: “How much did you feel like a member of your racial/ethnic group today?” (Yip & Fuligni, 2002) <i>Private regard</i> : two items from MIBI ^b (e.g., “I was happy that I am my race/ethnicity.”) Same as Douglass (2013; Sample 1)
Douglass (2013): Sample 2 of 2	D	113	37% Asian or Asian American 34% Black, African American, or West Indian 24% Hispanic or Latino/a 5% Other	U.S. East	Young adult college sample	71	1×/day; 21 days	71	

(table continues)

Table 3 (continued)

Study	Type	N	Ethnic-racial composition of sample ^a	Country/region	Developmental period	% Female	Data collection schedule	Average compliance rate (% complete)	Measure
Ferguson et al. (2017)	PR	242	36% European American/White 29% Asian 17% Mixed/Other 12% Black 7% Hispanic/Latino	U.S. Midwest	Young adult college sample	71	1×/day; 7 days	71	<i>Salience</i> : one item was adaptive to each participant's cultural identification: "How [own cultural identity label] do you feel today?"
Fuller-Rowell et al. (2011)	PR	108	100% African American	U.S. East	Young adult college sample	74	1×/day; 4 days	74	<i>Exploration</i> : five items modified from MEIM ^c (e.g., "I thought about specific experiences and how they relate to my understanding of race.") <i>Centrality</i> : six items modified from MIBI ^b (e.g., "Today, being Black was an important part of my self-image.") <i>Private regard</i> : four items modified from MIBI ^b (e.g., "Today, I felt good about being Black.") <i>Public regard</i> : four items modified from MIBI ^b (e.g., "Today, I felt that others respect Black people.") <i>Cultural participation</i> : sum of 12 yes/no questions (e.g., "participate in traditional healing ceremonies"; Les Whitbeck et al., 2004; May, 1982)
Greenfield (2015) ^d	D	61	100% Native American	U.S. West	Young adult college sample	63	1×/day; 21 days	63	<i>Ethnic identity salience</i> : one item: "How much did you feel like each of the following today?" including self-identified ethnic identity from a list of identities (Yip & Fuligni, 2002)
Inchaurregui (2021)	D	42	45% Hispanic/Latino 36% Asian/Asian-American 7% Mixed ethnicity 5% Black/African-American 5% Armenian 2% White	U.S. West	Young adult college sample and adulthood	83	1×/day; 14 days	83	<i>Daily racial uplifts</i> : 18 items, specifically three-item <i>ethnic bonding</i> (e.g., "ate or cooked an Asian meal," "went to a social event that was hosted by Asians/Asian Americans")
Ong et al. (2023)	PR	152	59% Chinese American 13% Asian Indian 8% Taiwanese 6% Korean 5% Vietnamese 4% Filipino 3% Japanese 2% Other Asian	United States ^e	Young adult college sample	43	1×/day; 14 days	43	

(table continues)

Table 3 (continued)

Study	Type	N	Ethnic-racial composition of sample ^a	Country/region	Developmental period	% Female	Data collection schedule	Average compliance rate (% complete)	Measure
Schwartz et al. (2021)	PR	824	41% Cuban 13% Colombian 8% Nicaraguan 7% Venezuelan 7% Dominican 25% Other Hispanic 61% African American 21% Afro-Latino 9% Biracial/multiracial 7% Caribbean Black 2% African	U.S. South	Young adult college sample	76	1×/day; 12 days	76	<i>Ethnic identity</i> : one item from MEIM ^c . “Today, I have a strong sense of belonging to my own ethnic group.”
Seaton and Iida (2019) ^d	PR	103		United States ^f	Adolescence	81	1×/day; 14 days	81	<i>Centrality</i> : four items from MIBI ^b (e.g., “I have a strong attachment to other Black people.”) <i>Private regard</i> : four items from MIBI ^b (e.g., “I feel good about Black people.”) <i>Public regard</i> : four items from MIBI ^b (e.g., “In general, others respect Black people.”) <i>Feelings about one’s racial group</i> : think about an important event and respond to the statement: “My feelings about my racial group in this situation were” (e.g., “confused,” “very aware,” “did not consider my racial group in this situation”) <i>Disidentification</i> : two items (e.g., “I did NOT feel like a member of my ethnic/racial group today.”) <i>Identity assertion</i> : Sum of 6 yes/no items (e.g., “I ate food that is typically associated with my racial/ethnic group.” “I wore clothing that expressed my racial/ethnic group.”) <i>Private regard</i> : two items adapted from MIBI ^b (e.g., “I was happy that I am my race or ethnicity.”) <i>Centrality</i> : four items adapted from MIBI ^b (e.g., “In general, my race or ethnicity was an important part of my self-image.”)
Strauss and Cross (2005) ^g	BC	35	100% African American	U.S. East	Young adult college sample	83	1×/day; 15 days	83	<i>Salience</i> : one item: “How much did you feel like each of the following today?” including “Chinese” from a list of social identities
Trujillo et al. (2015) Yip (2016) ^d	PR	129	35% Asian or Asian American 31% Black, African American, or West Indian 19% Hispanic or Latino 10% Biracial/multiracial 2% Other 3% NR	United States ^e	Young adult college sample	62	1×/day; 21 days	62	
Yip et al. (2013)	PR	132	45% Chinese 34% Asian 21% other Asian ethnicities	U.S. East	Adolescence	70	1×/day; 7 days	70	
Yip and Fuligni (2002) Yip and Cross (2004)	PR PR	96	100% Chinese descent	U.S. East	Adolescence	54	1×/day; 14 days	54	

(table continues)

Table 3 (continued)

Study	Type	N	Ethnic–racial composition of sample ^a	Country/region	Developmental period	% Female	Data collection schedule	Average compliance rate (% complete)	Measure
<i>Ethnic behaviors: indicated yes/no for engaging in seven activities/behaviors (e.g., “speaking Chinese”)</i>									
<i>Race awareness: one item, awareness of one’s race</i>									
<i>Private regard: MIBI^b</i>									
<i>Public regard: MIBI^b</i>									
<i>Centrality: MIBI^b</i>									
<i>Identity salience: one item: “Thinking about all the aspects of yourself that make up who you are, which of those were most prominent or salient to you in the last hour?” (ethnic, ancestral or national origins, race, Canadian; Yip, 2005)</i>									
<i>Cultural identification: one item: “During the past 2 hr, which specific cultural group did you most identify with?”</i>									
<i>Categorized into an Asian culture (e.g., Chinese, Korean) or a Western culture (e.g., Canadian, Western)</i>									
<i>Same as Perunovic et al. (2007)</i>									
<i>Centrality: one item adapted from CSE-R^b: “At this moment, I feel that my [white or minority] racial background is an important part of myself image.”</i>									
<i>(table continues)</i>									
<i>Experience-sampling method and ecological momentary assessment studies</i>									
Aries et al. (1998) ^c	PR	78	68% Caucasian 14% Asian American 6% Hispanic American 6% Multiracial 5% African American 100% Black or African American	U.S. East	Young adult college sample	51	7×/day; 7 days	63	
K. L. Brown et al. (2022) ^d	PR	27	100% Black or African American	U.S. South	Young adult college sample	100	3×/day; 14 days	77	
Chung et al. (2024) ^e	PR	180	51% South Asian 17% East Asian 11% African 11% Middle Eastern/West Asian 9% Southeast Asian 8% North American 5% Caribbean 3% Afro-Caribbean 2% Central American 2% White or European 1% South American 1% North African <1% South and Central American <1% Afro-European 3% Another	Canada	Young adult college sample	79	5×/day; 12 days	65	
Perunovic et al. (2007)	PR	177	51% European Canadian 49% East Asian Canadian	Canada	Young adult college sample	70 (European Canadian) 66 (East Asian Canadian)	3×/day; 10 days	50	
Perunovic et al. (2011)	PR	136	54% European Canadians 46% East Asian Canadians	Canada	Young adult college sample	74 (European Canadian) 73 (East Asian Canadian)	3×/day; 10 days	50	
Sanchez and Garcia (2009)	PR	78	37% Asian/White biracial 33% Latino/White biracial 29% Black/White biracial	U.S. East and West	Adulthood	64	7×/day; 7 days	77	
Wilton et al. (2013)	PR								

Table 3 (*continued*)

Study	Type	N	Ethnic-racial composition of sample ^a	Country/region	Developmental period	% Female	Data collection schedule	Average compliance rate (% complete)	Measure
Yip (2005)	PR	62	100% Chinese descent	U.S. East	Young adult college sample	55	6×/day; 7 days	67	<i>Public regard</i> : one item adapted from CSE-R ^b : "Right now, I feel that my [Asian/Latino/Black] background is valued by others." <i>Salience</i> : one item, "Think about all the identities that make up who you are, which of those are prominent or salient to you right now?" including "Your ethnicity"
Yip (2014) Douglass and Yip (2015)	PR BC	354 ⁱ	34% Asian 25% Hispanic/Latino 23% White	U.S. East	Adolescence	63	5×/day; 7 days	80	<i>Salience</i> : one item, "How aware are you of your race/ethnicity right now?" <i>Private regard</i> : two items adapted from MIBI ^b (e.g., "I was happy that I am my race/ethnicity.")
Douglass, Mirpuri, et al. (2016)	PR		12% African American 1% American Indian						
Wang et al. (2017)	PR								
Wang et al. (2019)	PR								
Other daily process studies									
Dane et al. (2020)	PR	66	62% Asian 20% European 8% South African and Middle Eastern	Australia	Adulthood	74	1×/day; 4 days total across 2 months	Not reported	<i>Cultural group closeness</i> : one item: "How close do you feel now to people of your heritage culture who live in Australia?"
Hammack et al. (2014) ^g	PR	28	25% Jewish Israeli 21% Muslim Palestinian from occupied territory 18% Christian American 14% Muslim American 7% Jewish American 4% Mixed religious identity American 4% Christian Palestinian from occupied territory 4% Christian Palestinian citizen of Israel 4% Muslim Palestinian citizen of Israel	United States ^e	Adolescence	NR	26× total across 2-week period	Not reported	<i>Salience</i> : 14 items adapted from MEIM ^c (e.g., "My [Israel/Palestinian/American] identity is important to me.")

Note. Type: PR = peer-reviewed journal article; BC = book chapter; D = dissertation; ethnic-racial composition of sample: NR = not reported; country/region: East = northeastern and mid-Atlantic states; Midwest = midwestern states; South = southern states; West = California, Pacific northwest, southwestern and mountain states; developmental period: childhood = majority of participants 12 years or younger; adolescence = majority of participants 13–18 years of age; young adult college sample = majority of participants generally 18–25 years of age, recruited from undergraduate student population; adulthood = majority of participants were 18 years and older, recruited through community sampling, and not a college sample; CSE-R = Collective Self-Esteem Scale.

^aBased on authors' wording. ^bMultidimensional Inventory of Black Identity (Sellers et al., 1997) or Multidimensional Inventory of Black Identity–Short (Martin et al., 2005). ^cMultigroup Ethnic Identity Measure (Phinney, 1992). ^dAlso assessed ethnic-racial discrimination (see Table 2). ^eU.S. region not specified. ^fParticipants recruited online including various U.S. regions. ^gTotal *N* across articles ranged from 214 to 405 based on the analytic sample. Details in this table reported from the first study published from this data set (Yip, 2014). ^hCollective Self-Esteem Scale (Luhtanen & Crocker, 1992). ⁱAlso assessed ethnic-racial out-group contact (see Table 4).

ERI Private Regard

Eight studies assessed ERI private regard (i.e., positive feelings about one's ethnic-racial group), of which five studies examined the extent to which social context factors are related to adolescents' ERI private regard using daily diaries (Cheon et al., 2020; Douglass, 2013; Seaton & Iida, 2019; Yip et al., 2013) and ESM (Wang et al., 2019). Other studies examined ERI private regard using ESM among young adult college students (K. L. Brown et al., 2022) and incorporated daily diaries into mixed methods (Strauss & Cross, 2005) and longitudinal research (Fuller-Rowell et al., 2011).

Studies with adolescents have identified the sensitivity of ERI private regard to contextual influences, including ethnic-racial in-group contact, ethnic-racial teasing, school ethnic-racial composition, and family ethnic-racial socialization. For instance, in a daily diary study of Asian American adolescents, having more daily contact with ethnic-racial in-group members was associated with higher ERI private regard the next day, specifically for youth with higher average ERI centrality and those who attended predominantly White or ethnoracially diverse schools (and not those attending a predominantly Asian school; Yip et al., 2013). In a daily diary study with ethnoracially diverse youth, Douglass (2013) found that ERI private regard was lower on days when adolescents observed occurrences of ethnic-racial teasing and engaged in teasing directed toward themselves (e.g., making publicly disparaging statements regarding one's group, often with humorous intention), compared to days with no reports of ethnic-racial teasing. In other words, youth reported more positive feelings about their ERI in contexts free from ethnic-racial-based teasing. In a study of ethnoracially diverse adolescents using ESM and a longer term longitudinal design, within-person association between interacting with ethnic-racial in-group members and ERI private regard mediated the longitudinal association between parent cultural socialization and private regard over time (Wang et al., 2019). Thus, the extent to which youth feel positively about their ethnic-racial group varies as a function of person-context transactions across social settings of everyday life, including the combination of youth's ERI centrality and contextual factors spanning peers, schools, and families.

ERI Public Regard

Six studies assessed ERI public regard—individuals' beliefs regarding how their ethnic-racial group is viewed by others—using daily diaries (Douglass, 2013; Fuller-Rowell et al., 2011; Seaton & Iida, 2019) and ESM (K. L. Brown et al., 2022; Sanchez & Garcia, 2009; Wilton et al., 2013). Similar to ERI dimensions reviewed above, these studies have examined social context factors in relation to ERI public regard in ways that are not possible without daily process methods. For example, among Black adolescents, daily racial discrimination experiences predicted increases in next-day depressive symptoms only following days when youth reported lower ERI public regard (Seaton & Iida, 2019). Thus, days characterized by higher public regard served a protective function—believing that others view their ethnic-racial group more positively disrupted the link between ERD and depressive symptoms. In a sample of biracial-identifying adults (i.e., Black and White, Asian and White, Latino and White), an ESM approach indicated that

being around a higher percentage of minoritized individuals during the day predicted higher well-being; this association was partially explained by participants feeling that their multiracial identity was more valued (i.e., higher public regard) when in these contexts (Sanchez & Garcia, 2009).

ERI Centrality

Six studies measured ERI centrality—the extent to which ethnic-racial group membership is a defining feature of one's self-concept—using daily diaries (C. S. Brown et al., 2011; Fuller-Rowell et al., 2011; Seaton & Iida, 2019; Yip et al., 2013) and ESM (K. L. Brown et al., 2022; Wilton et al., 2013). Centrality is considered a facet of identity that remains relatively stable (Sellers et al., 1998), with more attention in the literature devoted to individual differences and less to intraindividual variability by context and development. Consistent with this notion, limited daily variability in ERI centrality emerged across five school days in a sample of Latino/Hispanic, African American, and White/European American fourth- to eighth-grade students (C. S. Brown et al., 2011). Students were asked to rank the relative importance of various social identity categories (e.g., ethnic-racial group labels, gender) for how they thought of themselves that day, and the rank ordering of ERI (though distinguishing as a measure between students) had low within-person day-to-day variation.

Other studies examined ERI centrality as a moderator of other day-to-day associations by aggregating daily scores into a person-level measure. For example, in a sample of Asian American youth, Yip et al. (2013) found that adolescents with higher average levels of ERI centrality (assessed using daily diaries across 1 week) showed daily associations between having contact with ethnic-racial in-group members and private regard, whereas this association did not emerge for adolescents with lower levels of diary-reported centrality. Other studies point to the possibility for contextual differences in ERI centrality that emerge in daily life, though these changes may only be prompted by events with a high degree of significance for ERI. For instance, in a sample of African American university students, Fuller-Rowell et al. (2011) found that daily diary reports of ERI centrality increased from before to after the 2008 election of President Barack Obama.

ERI Exploration

ERI exploration refers to the developmental process through which individuals gain information about their ethnic-racial group membership (Umaña-Taylor et al., 2014). Six daily diary studies measured ERI exploration or related constructs, such as engaging in ethnic behaviors and traditions. These daily diary studies have shown within-person differences in exploration from day-to-day, and these differences predict and are predicted by other ERI dimensions. For example, in a sample of Chinese American adolescents, engaging in more ethnic behaviors (e.g., speaking Chinese, eating Chinese food) was linked with feeling more Chinese on a daily basis (Yip & Fuligni, 2002), and adolescents who identified more strongly as Chinese and bicultural (both Chinese and American) endorsed more daily ethnic behaviors than adolescents who identified more strongly as American (Yip & Cross, 2004). In a sample of African American college students, Fuller-Rowell et al. (2011) found that daily ERI exploration

increased from before to after the 2008 presidential election. Furthermore, higher postelection daily exploration levels predicted higher and more stable levels of private regard over the next 5 months, whereas private regard significantly decreased over this period for students who reported lower exploration immediately following the election. Participating in ERI exploration may also have direct promotive associations with health and well-being. For instance, evening marijuana use was less frequent following days of greater cultural participation (e.g., language learning, attending meetings) in a sample of Native American college students (Greenfield, 2015), and the negative affect was lower (while the positive affect was also higher) on days when Asian American college students reported more instances of ethnic bonding (e.g., eating or cooking an Asian meal, attending Asian/Asian American social events; Ong et al., 2023).

Discussion

Salience was the most commonly measured ERI construct in daily process studies, particularly using ESM. Aligning with Sellers et al.'s (1998) conceptualization, these studies have illustrated that the salience of one's ERI is sensitive to everyday social interactions and settings, showing considerable within-person variability across daily life. Studies of adolescents and young adult college students of color have shown that ERI salience is positively associated with psychological well-being and ERI private regard, though there is important variability by developmental differences in ERI. Engaging in interactions with in-group members, family, and in public in general has emerged as a social context factor predicting heightened salience. Such nuanced contributions are not possible using cross-sectional or longitudinal surveys, as salience is situation-specific and must be understood and assessed with repeated measures across time and contexts. Examining correlates of ERI salience is important because intraindividual variability and individual differences in average levels of salience may help to account for developmental and health outcomes. With few exceptions (e.g., Wang et al., 2017), there is limited longitudinal research that has tested this notion. Notably, none of the 16 studies recruited adults outside a university context and only two were conducted outside the United States (Chen et al., 2019; Chung et al., 2024). Thus, future research is needed to assess ERI salience across developmental periods and sociocultural contexts.

One takeaway from ERI private regard daily process studies with adolescents is that there may be unique utility in considering multiple contextual factors (e.g., peer groups, school settings, family socialization) together to support resilience processes. Channeling integrative social opportunities for boosting private regard, identified in these studies in isolation rather than synergistically, may serve as intervention settings that maximize youth health and adjustment. Additional research is needed, as no studies measured private regard with adults outside the college context.

Given the small number of ERI public regard studies conducted in each developmental period (e.g., adolescents, adults), with members of particular ethnic-racial groups (e.g., Black adolescents, biracial adults), and with varying operationalization of measurement, more daily process research is needed prior to drawing definitive

conclusions about patterns of variability in public regard. Emerging evidence has shown social context variation within the same individuals from day-to-day and across daily situations. This points to the uniquely novel contribution of these methods for studying ERI—capturing how beliefs about others' perceptions vary across context and time for the same individual, as well as how changes in these beliefs inform health and well-being based on context. These processes are difficult to capture using cross-sectional or longitudinal surveys that prompt individuals to reflect on their own general patterns of thinking retrospectively. Additionally, findings point to the potential for promoting mental health in the face of everyday ERD through attending to ways that individuals make meaning about their ERI, based on not only how *they* think and feel about their own ethnic-racial group but also how they think *others* view their group.

ERI centrality may be less sensitive to daily fluctuations in comparison to other facets of ERI such as salience or private regard; however, daily process studies have shown there is value in measuring centrality alongside other constructs. Further daily process research is needed to better understand how ERI centrality may inform other identity dynamics and help to explain differences in health and well-being. For example, though centrality may not substantially change from day to day for the same person, measuring centrality at the daily level alongside ERD and other facets of ERI has shown that centrality can moderate everyday ethnic-racial dynamics related to health (e.g., Seaton & Iida, 2019; Seaton & Zeiders, 2021).

With relatively few studies attending to ERI developmental processes, there are ample opportunities for incorporating daily process methods into studies of ERI exploration. Assessing ERI processes using these methods is important, because experimental evidence has indicated that ERI exploration promotes positive health and adjustment for youth via gains in ERI resolution and greater clarity in one's overall identity (Umaña-Taylor et al., 2018). As meta-analytic findings have shown that ERI exploration can increase vulnerabilities for adverse health outcomes associated with ERD (Yip et al., 2019), daily process studies may help examine temporal precedence to clarify understanding of contextual dynamics between exploration and ERD. For example, does exploring one's ERI precede, coincide with, and/or follow experiences of ERD? Furthermore, are there individual and contextual differences in these dynamic processes?

Study 3: Daily Process Studies of EROC

Method

Procedures for identifying, screening, and reviewing EROC daily process studies mirrored those of Studies 1 and 2. See Figure 1 for an overview of search and screening details for Study 3. To unify disparate definitions across studies, and consistent with the literature on interracial interactions (e.g., O'Donnell et al., 2021; Richeson & Shelton, 2007), EROC is defined here as spending time and/or interacting with others of different ethnic-racial backgrounds, including behaviors, psychological attitudes, and feelings associated with this contact (e.g., intergroup anxiety). Of 73 records identified, 22 studies measuring EROC using a daily process approach were eligible from 21 unique study samples.

Results

See Table 4 for all EROC studies. Of 22 studies, 12 assessed EROC among young adult college students (see [Supplemental Materials](#) for three adolescent studies and five adult studies).

Studies with college students focused on out-group contact-related outcomes, including discomfort, anxiety, and preferences about interacting with out-group members, using daily diaries (Eggen, 2014; Shelton et al., 2014; Strauss & Cross, 2005; Taylor et al., 2018; Wu et al., 2023), ESM (Aries et al., 1998; Chung et al., 2024; Kreienkamp et al., 2023), and other daily process designs (Makwana, 2022; Shelton et al., 2010). Many of these studies also examined whether associations varied by situational features of the context of EROC, such as the ethnic-racial backgrounds of the social actors involved. For instance, among ethnoracially diverse college students of color, higher daily contact with White individuals was associated with feeling misunderstood and having lower positive mood, but these associations were attenuated for students who reported a higher proportion of White friends (Shelton et al., 2014). In another daily diary study, students of color reported greater intergroup anxiety during daily interracial interactions involving a White person and an in-group member who they believed confirmed a stereotype about their group, compared to other interracial interactions not involving a stereotype-confirming in-group member (Taylor et al., 2018). In a study examining relationship quality and EROC using one measure per week across 10 weeks, Black students reported more self-disclosure of their feelings and personal information, perceived disclosure from friends, feelings of intimacy, and partner responsiveness when with an in-group compared to out-group (i.e., White) friend (Shelton et al., 2010). For White students, there were no differences in most of these relationship quality indicators when with in-group versus out-group (i.e., Black) friends, but White students did report lower feelings of intimacy (i.e., closeness, liking) when with Black friends compared to White friends. In a series of ESM studies involving students with migrant backgrounds in the Netherlands, positive out-group attitudes were higher following out-group contact interactions, specifically when those interactions met Allport's (1954) theorized conditions for "optimal contact" (e.g., equal status, sharing common goal; Kreienkamp et al., 2023).

Two studies with college students incorporated the use of EROC daily diary measures into study designs involving additional methodological innovation, such as naturalistic assessment of physiological stress (Trawalter et al., 2012) and within the context of an experiment designed to support intergroup contact (Page-Gould et al., 2008). Among White students, more frequent interracial contact predicted "flatter" diurnal cortisol slopes (i.e., physiological dysregulation and risk for health problems) for those who reported feeling motivated to avoid appearing prejudiced, whereas interracial contact predicted the reverse (i.e., "steeper" cortisol slopes) for those lower on motivation to avoid appearing prejudiced (Trawalter et al., 2012). Thus, White students' concerns about appearing prejudiced may heighten the effects of stress from interracial interactions. Page-Gould et al. (2008) designed an experiment to encourage Latino and White students to make a friend from a different ethnic-racial group across three weekly sessions focused on supporting self-disclosure and working together toward a common goal. Students with initially higher implicit prejudice randomly assigned to make an out-group friend initiated more intergroup interactions and reported lower

anxiety after the experiment, as measured by 10 days of diary reports (compared to students with similarly high levels of implicit prejudice who were randomly assigned to make an in-group friend); results were similar for Latino and White students.

Discussion

Results of EROC daily process studies suggest that interacting with ethnic-racial out-group members in everyday life can correspond with negative feelings and stress, such as feeling misunderstood, social anxiety, and heightened physiological stress. Yet, there was also some evidence for situational factors that can counter these feelings and support positive EROC, such as the presence of out-group friends and activities that support the formation of out-group friendships—data that can only be gleaned with the use of daily process methods. Therefore, although daily process studies suggest EROC can be a source of anxiety or discomfort, there are certain interpersonal supports and paths forward for interventions that may ease these tensions and promote more positive out-group contact experiences. The contribution of these findings to understanding EROC would not be possible without daily process methods, which allow for asking questions related to *who*, *where*, and *when* as social interactions unfold. Though much has been gained using daily process methods with samples of college students of varying ethnic-racial backgrounds, future research is needed outside college campuses and across developmental periods to broaden understanding of EROC antecedents and consequences.

General Discussion and Future Directions

A total of 97 daily process studies from 77 unique study samples identified in this systematic review have offered novel insights into ERD, ERI, and EROC in everyday contexts. There has been growth in these studies over time (see Figure 2; Table 1). Researchers have used daily process measures to examine important questions regarding the dynamic nature of everyday experiences (i.e., *where*, *when*, *with whom*, and *how*?) that are difficult, if not impossible, to address with other available methods. Strengths of daily process studies align well with PVEST (Spencer, 2008) and other theories, offering researchers opportunities to examine contextual transactions of ERD, ERI, and ethnic-racial socialization and the significant implications of these ethnic-racial-related processes *together* for development and health (Hughes et al., 2016; C. D. Williams et al., 2020). Despite the proliferation of this research and novel contributions to date, there are important limitations to acknowledge. We discuss these limitations below and follow with proposed future directions.

Regarding limitations of studies included in this review, we identified a need for strengthening the alignment of conceptualization with measurement design to better inform how often ethnic-racial dynamics should be measured within a single day (e.g., ESM or EMA) and/or across days (e.g., daily diaries). There were a variety of data collection schedules in the current daily process literature, without clarity for discerning researchers' decisions about these designs, rendering difficult the identification of patterns across multiple studies examining similar temporal dynamics. For example, as only eight studies utilized ESM or EMA to examine within-day variability in ERD (compared to 38 daily diary

Table 4
Summary of Daily Process Studies of Ethnic–Racial Out-Group Contact

Study	Type	N	Ethnic–racial composition of sample ^a	Country/region	Developmental period	% Female	Data collection schedule	Average compliance rate (% complete)	Measure(s)
Daily diary studies Berry (2017)	D	79	100% White	U.S. South	Adulthood	100	1×/day; 14 days	Not reported	<i>Racial out-group helping behavior</i> : 21-item behavior checklist (e.g., gave directions, held open door; Morelli et al., 2014); race of person in interaction (e.g., White, Black, East Asian)
Eggen (2014)	D	64	90% Chinese 5% Korean 2% Hong Kong Chinese 2% Taiwanese 2% Singapore Chinese	U.S. Midwest ^b	Young adult college sample	59	1×/day; 5 days	Not reported	<i>Contact condition-based quality</i> : number of minutes interacting with European American peers on university campus; reported on six intergroup contact conditions (e.g., “Did you work with the American(s) toward a common goal?” Allport, 1954; Pettigrew, 1998). <i>General contact quality</i> : three questions on interaction contact quality with European Americans, including perceived level of intimacy, valence, and anxiety
Page-Gould et al. (2008)	PR	144	56% White 44% Latino/a	U.S. West	Young adult college sample	72	1×/day; 10 days	Not reported	<i>Self-initiated cross-group social interactions</i> : yes/no interacted with someone of another ethnic group (lasting > 10 min); who initiated the interaction (e.g., self, other, both)
Prati et al. (2022)	PR	698	56% White British 44% Asian British	United Kingdom	Adulthood	60 (White British) 58 (Asian British)	1×/day; 5 days	67 (White British) 34 (Asian British)	<i>Positive and negative daily intergroup contact</i> : how many positive/good contacts and negative/bad contacts with out-group members
Shelton et al. (2014): Study 3 of 3	PR	100	35% Asian 31% Black, African American or West Indian 19% Hispanic or Latino 10% Multiracial 3% NR 2% Other	United States ^c	Young adult college sample	64	1×/day; 21 days	Not reported	<i>Frequency of interracial contact</i> : frequency of interacting with White people

(table continues)

Table 4 (continued)

Study	Type	N	Ethnic-racial composition of sample ^a	Country/region	Developmental period	% Female	Data collection schedule	Average compliance rate (% complete)	Measure(s)
Strauss and Cross (2005) ^d	BC	35	100% African American	U.S. East	Young adult college sample	83	1×/day; 15 days	Not reported	<i>Individuals in daily situation:</i> racial composition (e.g., European American, Black, people of other ethnicity); relation (e.g., friend or roommate, romantic partner), and perceived closeness to people present <i>Emotions toward European Americans:</i> feelings toward European Americans (e.g., “positive,” “ambivalent,” “negative,” “did not consider European Americans”)
Tan (2013)	D	58	55% East Asian 28% Southeast Asian 7% South Asian 7% Asian, more than one race 3% Native Hawaiian/ Pacific Islander	United States ^e	Adulthood	0	1×/day; 21 days	52	<i>Racial composition of social venue:</i> racial composition of social venues frequented in person and online (e.g., dating sites) as predominantly White, predominantly Asian/ Pacific Islander, or mixed ethnicity <i>Type of interracial interaction:</i> most vivid type of social interaction: (a) interracial interaction with White person and stereotype-confirming in-group member, (b) general interracial interaction with White person and (nonstereotypical) in-group member, or (c) other interaction (e.g., intraracial, intraminority, with White individuals and not other minority or in-group member present) <i>Intergroup anxiety:</i> feelings when interacting with White persons (e.g., “awkward,” “self-conscious”; Stephan & Stephan, 1985)
Taylor et al. (2018) ^f	PR	119	36% Asian American 30% Black 19% Hispanic/Latino 11% Multiracial 3% Other 3% NR	U.S. East	Young adult college sample	63	1×/day; 21 days	Not reported	

(table continues)

Study	Type	N	Ethnic–racial composition of sample ^a	Country/region	Developmental period	% Female	Data collection schedule	Average compliance rate (% complete)	Measure(s)
Trawalter et al. (2012)	PR	37	100% White	United States ^c	Young adult college sample	70	1×/day; 5 days on three occasions (15 total days across 7 months)	Not reported	<i>Future contact</i> : likelihood to engage in future contact with White person(s) who witnessed racial in-group member behave stereotypically <i>Interracial contact</i> : length and quality of interracial interaction with individuals who were “not White, Caucasian, or European American” and perceived concerns about whether interaction partner enjoyed the interaction and concerns about being judged <i>Interaction with immigrant minorities</i> : length of contact, location, role, relationship, ethnicity, emotion about, and appraisal of three most important contacts with immigrant minorities (Wheeler & Nezlek, 1977)
Van Acker et al. (2014)	PR	100	100% Belgian ^e	Belgium	Adolescence	55	1×/day; 7 days	Not reported	<i>Daily interethnic contact</i> : five items modified from Wang (2019), reported if engaged in activities (e.g., “studied together,” “had lunch/dinner together”) with peers who have different race/ethnicity
Wu et al. (2023) ^f	PR	209	79% Asian 8% Black or African 8% Multiracial 1% Native 1% Latino or Hispanic 8% Other	Canada	Young adult college sample	69	1×/day; 30 days	70	<i>Racial composition of group</i> : racial backgrounds of individuals present categorized as majority same race, roughly equal same and other race, or minority same race <i>Racial and ethnic composition</i> : two items: “Were you in a majority White space?”; “What percentage of people in your immediate environment were of the
Experience-sampling method and ecological momentary assessment studies									(table continues)
Aries et al. (1998) ^d	PR	78	68% Caucasian 14% Asian American 6% Hispanic American 6% Multiracial 5% African American	U.S. East	Young adult college sample	51	7×/day; 7 days	63	
Chung et al. (2024) ^d	PR	180	51% South Asian 17% East Asian 11% African 11% Middle Eastern/West Asian 9% Southeast Asian 8% North American	Canada	Young adult college sample	79	5×/day; 12 days	65	

Table 4 (continued)

Study	Type	N	Ethnic-racial composition of sample ^a	Country/region	Developmental period	% Female	Data collection schedule	Average compliance rate (% complete)	Measure(s)
			5% Caribbean 3% Afro-Caribbean 2% Central American 2% White or European 1% South American 1% North African <1% South and Central American <1% Afro-European 3% Another 67% White 33% Black						same ethnicity as you?" adapted from Yip (2005)
Cook et al. (2012)	PR	64		U.S. West	Young adult college sample and adulthood	58	5×/day; 7 days	Not reported	Partner demographics and friendship: dyadic social interactions, including interaction partner's ethnicity as same, different, or unsure; perceived partner similarity, difference, closeness, and degree of "liking"
Kreienkamp et al. (2023): Study 1 of 3	PR	23	100% non-Dutch western migrants from the global north ^b	Netherlands	Young adult college sample	83	2×/day; 30 days	86	Inter-group contact: "Did you meet a Dutch person this morning/afternoon?" Perceived interaction quality: "Overall the interaction was" on pleasantness and meaningfulness (Downie et al., 2008) Out-group attitudes: "How favorable do you feel toward the Dutch?" (Nelson, 2008) Same as Kreienkamp et al., 2023 (Study 1)
Kreienkamp et al. (2023): Study 2 of 3	PR	113	100% recently arrived non-Dutch international students ^b	Netherlands	Young adult college sample	74	2×/day; 30 days	71	Same as Kreienkamp et al., 2023 (Study 1)
Kreienkamp et al. (2023): Study 3 of 3	PR	71	100% recently arrived non-Dutch international medical students ^b	Netherlands	Young adult college sample	83	2×/day; 30 days	96	Same as Kreienkamp et al., 2023 (Study 1) And Allport's conditions: how much interaction fulfilled Allport (1954) conditions of optimal contact: equal status, common goal, support of authorities, intergroup cooperation (e.g., Al Ramiah & Hewstone, 2012)

(table continues)

Table 4 (*continued*)

Study	Type	N	Ethnic–racial composition of sample ^a	Country/ region	Developmental period	% Female	Data collection schedule	Average compliance rate (% complete)	Measure(s)
Shelton et al. (2014): Study 1 of 3	PR	314	37% Asian American 26% Hispanic or Latino 23% White 10% Black, African American or West Indian 4% Another race/ethnicity	United States ^c	Adolescence	52	5×/day; 7 days	69	<i>Situational interactions</i> : percentage of people present, including how many Whites and members of different racial/ethnic minority group
Other daily process studies									
Hammack et al. (2014) ^d	PR	28	25% Jewish Israeli from occupied territory 21% Muslim Palestinian 18% Christian American 14% Muslim American 7% Jewish American 4% Christian Palestinian from occupied territory 4% Christian Palestinian citizen of Israel 4% Mixed religious identity American 4% Muslim Palestinian citizen of Israel	United States ^c	Adolescence	NR	26× total across 2-week period	Not reported	<i>Inter-group closeness</i> : level of closeness to out-group member (“Palestinian,” “Jewish,” “Israeli”) using six visual diagrams (Aron et al., 1992)
Makwana (2022)	D	103	100% White	United Kingdom	Young adult college sample	82	3–4×/week; 3 weeks	Not reported	<i>Contact valence</i> : positive and negative feelings about interactions with people from different ethnic and/or national backgrounds <i>Daily intergroup anxiety</i> : level of anxiety when interacting with members of seven out-groups (i.e., Arabic, Black, East Asian, First Nations, Latino, South Asian, White) <i>Daily intergroup closeness</i> : perceived closeness with each out-group (Aron et al., 1992; Tropp & Wright, 2001) <i>Daily intergroup attitudes</i> : degree of warmth and positive feelings toward each out-group <i>Situational number of interactions</i> : number of interactions with members of different out-groups (<i>table continues</i>)
Sharples (2018)	D	104	36% East Asian 19% White 18% South Asian 11% Black 9% Latino 4% Arab 3% Multiracial	Canada	Young adult college sample and adulthood	62	1× day; 5 days (daily measures) 4×/day; 5 days (situational measures)	Not reported (daily measures) 89 (situational measures)	

Table 4 (continued)

Study	Type	N	Ethnic-racial composition of sample ^a	Country/region	Developmental period	% Female	Data collection schedule	Average compliance rate (% complete)	Measure(s)
Shelton et al. (2010)	PR	74	68% White 32% Black	NR	Young adult college sample	57	1×/2 weeks; 10 weeks	Not reported	<i>Situational interaction quality</i> : feelings corresponding with the interaction (e.g., happy, relaxed, anxious, angry) <i>Self-disclosure</i> : perceived disclosure of feelings and personal information during interaction with out-group friend <i>Perceived partner disclosure</i> : perceived disclosure of feelings and personal information from out-group friend <i>Perceived partner responsiveness</i> : feeling understood, accepted, and cared for by out-group friend <i>Intimacy</i> : feeling close to out-group friend, and degree of “liking” friend compared to other friends

Note. Type: PR = peer-reviewed journal article; BC = book chapter; D = dissertation; ethnic-racial composition of sample: NR = not reported; country/region: East = northeastern and mid-Atlantic states; Midwest = midwestern states; South = southern states; West = California, Pacific northwest, southwestern, and mountain states; developmental period: childhood = majority of participants 12 years or younger; adolescence = majority of participants 13–18 years of age; young adult college sample = majority of participants generally 18–25 years of age, recruited from undergraduate student population; adulthood = majority of participants were 18 years and older, recruited through community sampling, and not a college sample.

^aBased on authors’ wording. ^bParticipants were international students attending a U.S. university. ^cU.S. region not specified. ^dAlso assessed ethnic-racial identity (see Table 3). ^eParticipants were sampled from a variety of U.S. regions. ^fAlso assessed ethnic-racial discrimination (see Table 2). ^gAuthors specified that for the purposes of their study, “Belgian” did not include immigrant minorities. ^hAuthors reported participants’ countries of origin in Supplemental Materials.

studies), and each of these eight studies used a different response schedule ranging from three times per day to every 30 min per day, replication of time-specific associations has not yet been possible. Greater attention to conceptual reasons for measurement design decisions, along with awareness of the strengths and limitations of extant measurement approaches, should be a focus in daily process studies moving forward.

As daily process methods can be resource-intensive to implement on a large scale and ask much of research participants to report frequently about sometimes difficult topics, particularly among participants from minoritized backgrounds, conducting daily process research on these topics will benefit from careful consideration of conceptual and evidence-based reasons for adding measures that are sensitive to balancing research benefits with participant burden, and thereby study recruitment and retention. Researchers should consider attending to important questions such as *when*, *how*, and *in what context* do we expect to see associations unfold? For example, given evidence that the health consequences of ERD vary from day to day based on multiple ERI dimensions that are also sensitive to daily shifts, what additional insights will be afforded by asking participants to report on their experiences across multiple occasions of the same day, days of a typical week, or weekly across several months? What are participants' perspectives on their willingness to report on their experiences at varying frequencies? At what cost, to participants and to researchers, is it feasible to incorporate such a research design? Though attention to the burden on participants' time and energy is essential, given evidence for the therapeutic benefits of reporting on daily experiences (e.g., Mens et al., 2022), future research should balance such questions with opportunities for daily process methods to empower participants as experts of their own experiences.

Related to measurement decisions and participant burden is the reality that intensive longitudinal measurement can compromise person-level sample sizes and introduce missing data concerns. For instance, the median sample sizes in this review were relatively modest with a high degree of variability: ERD median $N = 99$ participants (range = 12–602), ERI median $N = 103$ (range = 27–824), and EROC median $N = 90$ (range = 23–698). Studies also varied in considering study attrition and missing data, which can be magnified in daily process research due to its intensive nature and limited statistical power. We were not able to identify the average participant “compliance” rate (i.e., percentage of expected/planned measures completed by participants) for 40 out of 97 studies (Tables 2–4); meaning the extent of missing data and how this was addressed was unclear in approximately 41% of reviewed studies. Even among studies that did report compliance rates, there was variability in reporting and addressing concerns about missing data bias. These standards have certainly advanced over time with more readily available techniques (e.g., full information maximum likelihood estimation, multiple imputations; Enders, 2022).

While attending to these limitations, there are also opportunities for future daily process studies to continue advancing the study of ethnic-racial experiences and identity from an ecological perspective. First, we see opportunities for incorporating measures of multiple ethnic-racial-related constructs in the same study to understand their interrelations and interactions, including ERD, ERI, and EROC. Some studies have started this effort, though only 10 out of 97 studies in this review measured two out of these three domains, and none measured all three. Although extant theories

offer important related insights, they have tended to focus on between-person associations (e.g., Clark et al., 1999) or developmental changes (e.g., C. D. Williams et al., 2020); thus, expanding on tenets of PVEST emphasizing person-context transactions in the phenomenology of everyday experience (e.g., Spencer, 2008), it will be important for theory building efforts to consider momentary and daily (i.e., within-person) variability in ethnic-racial-related experiences (including ERD, ERI, and EROC) and how such differences *within the same individual* shape health and well-being. For example, through what mechanisms do the health implications of ERD arise in particular contexts during particular moments of daily life, and how might these processes be disrupted through ERI-centered intervention? Studies measuring multiple ethnic-racial-related domains point to the significance of integrating them together in the same study of within-person processes. For instance, by measuring both daily ERD and ERI, Seaton and Iida (2019) found that higher public regard was a protective factor for Black youth that fluctuates across days within the same individual and disrupts the pathway from ERD to poor mental health. Daily process studies focusing solely on ERD or ERI, and not in combination, miss this examination of resilience processes that occur naturally in youth's everyday lives and account for better-than-expected outcomes in the face of ethnic-racial-based stress.

Furthermore, measures of additional ethnic-racial-related constructs should be incorporated into daily process studies, including ethnic-racial socialization and positive ethnic-racial-related experiences. For example, preliminary findings suggest that examining day-to-day associations between ERD and well-being is incomplete without considering the moderating role of daily-level family ethnic-racial socialization (Cheeks et al., 2020). As another example, Ong et al. (2023) found that Asian American college students' “daily racial uplifts,” including ethnic bonding experiences like sharing a meal and attending cultural events, predicted more positive emotional experiences on the same day. Another future direction in this work will be to consider experiences within additional contexts that did not emerge in this review, such as romantic or intimate relationships.

It will also be important to broaden the representation of daily process study samples to reflect the diversity of ethnic-racial backgrounds and attend more fully to the roles of *development* and *place*. Further diversifying daily process studies is needed through both within-group and ethnoracially diverse designs. For example, only one study employed a within-group design to focus on variability among Native American individuals (Greenfield, 2015), and only one focused on biracial individuals (Sanchez & Garcia, 2009). Within-group designs of Asian American and Latinx individuals were also limited in number. As psychology and related disciplines advance efforts to address White supremacy and its toxic effects (Roberts & Rizzo, 2021), daily process studies with White individuals (notably only one within-group study in this review) may prove another promising path forward to better understand everyday manifestations of Whiteness (Helms, 2020) and related psychological processes (e.g., White fragility, White guilt; DiAngelo, 2018). Furthermore, attention to intersectionality (Santos & Toomey, 2018), such as intersections of ethnicity, race, gender, and sexual orientation will be important for future daily process research. Many studies in this review focused on recruiting participants on U.S. college campuses, leaving open questions for future studies to answer regarding developmental change and continuity, as well as questions

about the salience and impacts of ethnicity and race in varying sociocultural contexts both between and within geographic regions of the world (60 out of 77 study samples were U.S.-based). For example: How do ERD and its daily consequences for well-being change across the lifespan? Does intervening show stronger effects in specific developmental periods? How do the daily protective functions of ERI differ across national contexts that vary in sociohistorical legacies of openness to dialogue about race and racism?

Conclusion

A systematic review of 97 daily process studies highlights important contributions to answering questions about ERD, ERI, and EROC that are difficult to answer with other methods. Moving forward, integrative daily process studies of ethnic-racial experiences and identity should include measures of multiple ethnic-racial-related constructs to understand their interrelations and interactions and diversify study participants for the continued advancement of research attending to issues of ethnicity, race, and identity in context.

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*References marked with an asterisk indicate studies included in the systematic review.

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