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Beyond Snapshots: A Systematic Review of Parent-Adolescent Ecological Momentary Assessment Studies Across Diverse and General Populations

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Beyond Snapshots: A Systematic Review of Dyadic and Triadic Parent-Adolescent Ecological Momentary Assessment Studies Across Diverse and General Populations

Abstract

The last decade has seen a surge in studies using Ecological Momentary Assessment (EMA), where participants complete brief daily questionnaires to capture real-time experiences. While widely used to study adolescents' social-emotional processes, EMA that simultaneously assesses adolescents *and* their parents (i.e., dyadic and triadic designs) remains underutilized, particularly within diverse families. This gap is surprising given the proven value of dyadic EMA in studying adult relationships and its potential to elucidate contextualized family dynamics. This systematic review synthesized and critically evaluated existing EMA research in parent-adolescent dyads and triads (i.e., an adolescent and both parents) published between 2014 and 2024, examining methodological and analytical practices as well as representation of diverse populations (i.e., racial/ethnic, sexual and gender minorities, lower-SES, non-traditional family structures, and clinical populations). Following a systematic search of electronic databases, we identified 85 publications originating from 44 distinct datasets that conducted EMA in parent-adolescent dyads or triads. Substantial variability was observed across studies in the number of daily assessments, EMA days, and data-waves collected. Utilization of the multilevel and dyadic features of the data also varied: most papers fully utilized the temporal aspect (e.g., examining within-family processes), while the dyadic/triadic aspect was only partially utilized (e.g., most studies examined unidirectional effects, typically parent-to-child). Regarding populations studied, while most focused on White, non-Hispanic, highly educated samples, some targeted only minority groups (e.g., Chinese-American). However, whether within-family processes differ between populations was rarely examined. Across dyadic (vs. triadic) studies, fathers were

underrepresented, and gender identity and sexual orientation were almost never assessed, likely masking the exclusion of gender and sexual minorities. Parent-adolescent dyadic and triadic EMA appears feasible and could provide unique insights into family dynamics in typical and diverse populations. Gaps in the literature and suggestions for advancing inclusion and diversity are discussed.

Keywords: Ecological Momentary Assessment, experience sampling method, parent-adolescent relationship, underrepresented populations, diversity, dyadic modelling, systematic review

Beyond Snapshots: A Systematic Review of Parent-Adolescent Ecological Momentary Assessment Studies Across Diverse and General Populations

Adolescence is a period of biological and psychosocial changes (Dahl et al., 2018), marked by intense emotions and developments in emotion regulation (Silvers et al., 2022). Despite relationships with peers becoming more salient as part of the social reorientation process, parents continue to play a central role in adolescents' development and daily experiences (Branje, 2018; Ho et al., 2024; Keijsers et al., 2022). Traditionally, research in adolescence relied on cross-sectional or single-informant designs, typically aggregating information over months or years. Alternatively, research relied on interaction paradigms conducted in laboratory settings, which are a close approximation of moment-level parent-adolescent processes (e.g., Arbel et al., 2016). While these paradigms have substantially advanced our understanding of parent-adolescent relationships and adolescent development, our knowledge of real-life daily processes within the parent-adolescent relationship – as well as similarities and differences in parent and adolescent experiences – remained limited (Keijers et al., 2022).

Dyadic and triadic ecological momentary assessment (EMA) overcomes key limitations of prior research by repeatedly assessing each family member within their daily lives. This approach captures real time reports of experiences, behaviors, and contextual factors from multiple interacting individuals, such as parents and adolescents, within their natural environments. Moreover, these methods also have the potential to increase inclusion by engaging participants in their own environments rather than requiring travel to the laboratory and thus might be particularly suited to gather data in diverse populations or minorities. Indeed, over the past years, researchers have increasingly used EMA in parent-adolescent dyads and triads (e.g., Fosco & Lydon-Staley, 2019; Janssen et al., 2023; Lippold et al., 2015; Yang et al., 2020).

Advantages of EMA research

EMA involves repeated brief structured assessments of participants' experiences or behaviors in their daily lives. Over the past years, EMA has been increasingly applied in adolescent research (Van Roekel et al., 2019), offering several advantages over traditional methods (Keijsers et al., 2022; Russell & Gajos, 2020; Shiffman et al., 2008). Emotional and behavioral states often fluctuate dynamically over short periods, influenced by contextual or environmental factors. Traditional assessments, like cross-sectional questionnaires, require participants to aggregate experiences retrospectively over extended periods. In addition, cross-sectional assessment does not allow for assessing within-person fluctuations and may introduce memory biases (Trull & Ebner-Priemer, 2009). EMA, which captures experiences in (near) real-time limits the effects of such biases. Finally, by collecting data in participants' natural environments, EMA also enhances ecological validity beyond what can be achieved in laboratory settings.

The repeated measurements generated by EMA offer rich analytic potential. Specifically, EMA allows for the simultaneous examination of between- and within-individual processes. Analysis at the within-person level makes it possible to identify not only who experiences certain states, but also when and under which circumstances. It also allows lagged and cross-lagged modelling to probe temporal processes. These analytical approaches are particularly valuable for developmental research, as micro-level experiences are theorized to accumulate over time and shape enduring patterns of behavior and adaptation (Bronfenbrenner, 1994; Pérez-Edgar et al., 2025). Multi-burst or multi-wave designs, in which EMA is repeated over longer time scales, are optimal for uncovering how daily processes may underlie developmental trajectories (Pérez-Edgar et al., 2025; Ram & Diehl, 2014).

EMA can additionally provide indirect assessments of psychological processes, detecting temporal links between variables without relying on insight. For example, instead of directly asking participants when they self-harm, EMA can assess negative affect and self-injurious behaviors and test whether adolescents' negative affect changes before and after self-injury behaviors (Koenig et al., 2021). Moreover, EMA allows capturing within-person emotion dynamic patterns such as affective instability (e.g., Santangelo et al., 2017). Finally, measurements can be aggregated across the EMA period to provide an estimation of average levels of behavior with less bias than retrospective self-reports.

Thus, EMA provides a powerful methodological framework for examining micro-level transactions as they unfold in real time and across real-world contexts. Relevant for diversity considerations specifically, the capacity of EMA to disentangle within-person fluctuations from between-person differences provides unique opportunities to explore whether micro-level processes operate similarly across individuals' social or cultural groups. Moreover, the intensive, repeated nature of EMA data increases statistical power in smaller or hard-to-reach samples. Together, these advantages make EMA an essential tool for advancing research in diverse adolescents and applied to adolescents' social context, such as parent-adolescent relationships.

Parent-adolescent dyadic/triadic research

To capture the dynamic links between parents and adolescents, research should assess both parents' and adolescents' experiences, behaviors, and mutual perspectives. Conceptually, multiple perspectives provide a more complete and nuanced understanding of family functioning and risk. Methodologically, they reduce shared-reporter bias, which occurs when predictors and outcomes are reported by the same individual and artificially inflates associations (Burk & Laursen, 2010). Parent-adolescent dyadic/triadic designs where both members report their own

experiences and perceptions of each other's emotions or behaviors, enable examination of discrepancies and alignments unavailable in single-informant studies. These discrepancies offer valuable insights into family dynamics and clinical risk (De Los Reyes et al., 2019; Shay et al., 2025), as evidenced by substantial literature on their meaning and utility (De Los Reyes et al., 2015, 2019; Janssen et al., 2023). Still, most developmental and clinical research continues to rely on single-informant reports from either parents or adolescents to characterize youth experiences and family functioning.

Parent-adolescent dyadic/triadic EMA

Parent-adolescent dyadic and triadic EMA simultaneously tracks both adolescents and their parents (Versyp et al., 2026). This approach captures dynamic, real-world processes from multiple perspectives, ensuring each family member's experience is represented. By mapping adolescents' and parents' daily experiences, behaviors, and perceptions onto one another, parent-adolescent EMA examines the dynamic interplay of family processes (Keijers et al., 2022). Specifically, these data enable researchers to investigate five distinct psychological insights.

First, this approach allows researchers to examine interpersonal influence and transmission, capturing how the daily experiences of one family member transmit to another. Methodologically, this is assessed by testing unidirectional "partner-effects" (Kenny et al., 2020). For example, adolescent-reported self-disclosure has been shown to positively predict mother-reported closeness (Huang et al., 2024).

Second, dyadic/triadic EMA capture reciprocal family dynamics, testing whether family members mutually regulate one another's states. To assess this bi-directionality, researchers typically employ the actor-partner interdependence model (APIM; Kenny et al., 2020; Laurenceau & Bolger, 2012). Using APIM, researchers have demonstrated how parents' and

adolescents' emotion regulation strategies relate to both their own and each other's same-day depressive symptoms (Gadassi-Polack et al., 2025). These models can also be extended to family triads (Ledermann et al., 2017; Wang et al., 2025).

Third, these designs enable the study of empathic accuracy and perceptual discrepancies by comparing how different family members view the same construct over time. For instance, researchers can measure how accurately parents perceive their adolescent's daily mood compared to the adolescent's self-report (Shay et al., 2024), or how day-to-day incongruencies in perceived parenting behavior relate to adolescent affect (Janssen et al., 2021).

Fourth, researchers can examine behavioral and emotional synchrony, capturing the degree to which family members' states match or link in daily life (Birk et al., 2022). For example, daily emotional synchrony has been linked to synchrony in neural resting-state connectivity patterns in parent-adolescent dyads (Lee et al., 2017c). Methodological frameworks outline how to apply these similarity approaches across both dyads (Carlier et al., 2024) and triads (Wang et al., 2024).

Finally, these designs allow researchers to compare intra-individual psychological processes across generations. By modeling within-person processes separately for parents and adolescents (i.e., isolating actor effects; Lüscher & Radtke, 2023) or comparing average levels of experienced affect (Janssen et al., 2020), researchers can assess how these daily processes differ depending on family role or developmental stage. In sum, parent-adolescent EMA enables the examination of distinct psychological insights, including (1) interpersonal transmission, (2) reciprocal dynamics, (3) empathic accuracy, (4) synchrony, and (5) generational comparisons of intra-individual processes.

Challenges of dyadic/triadic parent-adolescent EMA

Even though dyadic/triadic parent-adolescent EMA provides conceptual and analytical opportunities, it also poses several challenges. First, study design can be complex in terms of questionnaire development and prompt timing. That is, questions must be meaningful and interpretable for both parents and adolescents, which can be challenging given differences in cognitive development. One may, for example, opt for providing the same items to family members, but this may compromise validity as items designed for adolescents may not accurately capture parents' experiences (or vice versa). Alternatively, tailoring items to each informant may complicate data comparability across family members. Additionally, timing of prompts may require careful coordination when the goal is to capture interactions or shared experiences between family members. For example, if a study aims to assess emotional synchrony, it may be important for family members to respond to prompt at the same time or shortly after a shared event (e.g., a conflict). Second, as in single-informant EMA, compliance (i.e., the proportion of answered surveys) is of relevance and it may be more challenging to reach a high compliance when repeated responses are required from multiple family members (Verhees et al., 2024). Third, recruitment and retention can be more difficult than in single-informant EMA studies, as obtaining consent and commitment from multiple family members adds complexity. Fourth, the analytical approaches used to model dyadic or triadic data are statistically demanding and often require advanced modeling techniques and careful power planning (Lafit et al., 2022). Despite these challenges, a growing number of studies now apply dyadic or triadic EMA designs in families, demonstrating both the feasibility and the added value of these methods. This expanding body or work also provides an opportunity to evaluate not only methodological and analytical practices, but also the extent to which diverse families are represented in this research.

Diversity considerations

Throughout this review, we use "diverse populations" as an umbrella term referring to groups systematically underrepresented in developmental research, including racial, ethnic, and cultural minorities; sexual and gender minorities; lower socioeconomic status families; non-traditional family structures (e.g., single-parent, same-sex parent, multigenerational households; Pearce et al., 2018); and families affected by psychiatric or medical conditions. We contrast these with "general populations", by which we mean community samples not explicitly targeted for their minority status, which in the developmental literature have historically tended to be predominantly White, middle-to-high SES, cisgender, and drawn from two-parent households in Western contexts.

Methodological barriers such as technological access, participant burden, and structural factors like socioeconomic inequalities may contribute to the exclusion of some families. Fathers, in particular, have traditionally been less likely to be included in family research, even as their participation in childcare has grown in Western countries (Bakermans-Kranenburg et al., 2019). EMA's flexibility, its capacity to collect intensive longitudinal data without requiring travel to a lab, may offer unique opportunities to engage families often excluded from traditional research settings. Importantly, the distinction between general and diverse families is crucial as the generalizability of findings from majority samples to underrepresented groups cannot be assumed (Abubakar et al., 2024).

There are several reasons why within-family processes may not generalize uniformly across populations. First, cross-cultural research has documented systematic variation in parenting practices, family norms around autonomy and emotional expression, and the structure of parent-adolescent communication (Bornstein, 2012; Greenfield et al., 2003). To the extent that

these features shape moment-to-moment family interactions, daily-level processes such as conflict resolution would be expected to differ in form, frequency, and timing across cultural contexts. Second, structural factors associated with lower socioeconomic status and minority status, including parental work schedules, household composition, and access to private space, shape the temporal rhythm of family life (Evans & Kim, 2013). Third, in clinical populations, family processes themselves often differ in structurally distinct ways. Coercion theory describes how families of youth with externalizing problems develop escalating cycles of aversive parent-child exchanges sustained moment-to-moment, in which parental directives met with child defiance lead to mutual escalation (Patterson, 1982; Granic & Patterson, 2006). The parental accommodation literature describes how families of anxious youth reorganize daily routines around the child's distress, for instance by avoiding feared situations (Lebowitz et al., 2013). And the parental depression literature documents moment-to-moment disruptions in everyday caregiving, including reduced responsiveness and increased withdrawal during daily interactions (Lovejoy et al., 2000). Taken together, these literatures share a common implication: diverse family dynamics may differ from general family dynamics in degree and structure of moment-to-moment interaction, and they are precisely the kinds of processes dyadic/triadic EMA is suited to capture.

Current review

Given the growing use of EMA in adolescent-parent dyads and triads, and the importance of inclusive approaches in research, there is a need to understand how and with whom these methods are implemented. To date, no systematic review has synthesized EMA research examining parent-adolescent dyads or triads. While previous reviews and methodological papers have provided insight in and guidance on the use of EMA in youth and adolescent populations

(e.g., Heron et al., 2017; Thunnissen et al., 2022; Van Roekel et al., 2019), it remains unclear how EMA has been implemented in parent-adolescent dyads or triads. By mapping the current landscape, this review seeks to inform the design of future EMA studies that capture dynamic family processes in ecologically valid contexts and across diverse populations. Our aims were to:

(1) Clarify methodological characteristics and open science practices.

(2) Evaluate the contribution of dyadic/triadic EMA beyond traditional (cross-sectional or single-informant) methodology, and the corresponding analytical practices.

(3) Identify patterns of diversity, inclusion and exclusion across studies.

(4) Identify solutions to implementing inclusive EMA protocols with diverse families.

Methods

Data source and search strategy.

We conducted a systematic literature search following the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines (Page et al., 2021). The protocol for this review was preregistered on PROSPERO (Registration No. [anonymized]). Five electronic databases were searched for peer-reviewed journal articles published in English between January 2014 and December 2024: PubMed (MEDLINE), PsycINFO (via EBSCOhost), Social Science Citation Index (SSCI), ERIC, and Scopus. The timeframe was chosen to capture the past decade of EMA applications in adolescent and family research. In addition to this database search, a backward and forward citation search was conducted. Backward citation searching involved manually screening the reference lists of all articles eligible for full-text review. Forward citation searching was performed using the "Cited by" function in Google Scholar for five papers from different research groups that met the final inclusion criteria and

were published between 2014 and 2019 to identify newer, relevant publications. The full screening and selection process is illustrated in the PRISMA flow diagram (Figure 1).

Search terms

To ensure a comprehensive retrieval of studies, a Boolean search strategy was applied to the title fields (TI) and abstract (AB) using the following search terms: adol* or teen* or “youth” or “young people* or “emerging adult* or child*” AND parent* or mother* or father* or family or families or dyad* or triad* or caregiver*, AND "ecological momentary assessment" or "experience sampling" or "daily diar*" or "ambulatory assessment" or "intensive longitudinal" or "real-time assessment" or EMA OR ESM. The search was restricted to English-language publications in peer-reviewed journals between 2014 and 2024. Gray literature, dissertations, and books were excluded.

Eligibility criteria

Studies were included if they were peer reviewed articles written in English reporting original quantitative EMA data from at least one adolescent (mean sample age 10 to 18 years) and one parent or caregiver. Eligible EMA protocols involved self-report questionnaires, optionally supplemented by physiological or passive sensing measures, administered at least once daily across three or more consecutive days. Conversely, studies were excluded if they reported data from only one dyad member, focused on dyads without an adolescent, or conducted assessments exclusively within controlled clinical settings that failed to capture real world family dynamics.

Study selection

Search results were uploaded to the COVIDENCE platform. After duplicate removal, 825 records were screened. A two-stage screening process (first title\abstract, then full-text) was

conducted. At both stages, articles were independently reviewed by two of the co-authors, with disagreements resolved by consensus with a third co-author. The initial title and abstract screening generated 134 articles for full-text review, which were assessed against the eligibility criteria. Ultimately, after the exclusion of 49 papers, 85 papers met full inclusion criteria for this review. The complete study selection process is detailed in the PRISMA flow diagram (Figure 1).

Data extraction and coding

Data extraction was conducted on the remaining 85 publications using a coding template in Covidence (Covidence systematic review software, 2025). Two co-authors independently coded each paper, with disagreements resolved through discussion. Extracted information included study characteristics such as first author, year of publication, study location, study design, setting, and open science practices; sample characteristics such as age, gender, diversity indicators, and socioeconomic status; methodological characteristics such as recruitment strategy, data collection protocol, compliance with the protocol, and measures used; and main findings related to daily family dynamics, including how the intensive longitudinal and dyadic approaches were analyzed. Full list of the extracted information can be found in our online protocol.

Results

Search Results

As shown in supplementary Table S1, the 85 included publications originated from 44 distinct datasets, the vast majority (63.6%) from North America, 25% from Europe, 9.1% from East Asia, and 2.3% from the Middle East.

I. Dyadic/Triadic EMA methodological characteristics and open science practices

Participants. As can be seen in supplementary Table S1, most datasets (34/44) included parent-adolescent dyads, with sample size ranging 13-635 dyads (M=153.6, *SD*=132.37). Datasets that included parent-adolescent triads ranged 11-161 in sample size (M=78.82, *SD*=54.76). Characteristics of studied samples are elaborated in the *Diversity considerations* section.

Assessment frequency. Table 1 presents EMA characteristics for each of the 44 datasets. The datasets showed considerable variation regarding assessment frequency: More than a half (n= 24; 54.5%) used a single daily data measurement for both parents and child (N_{days}=4-100) and about 84% (n= 37) used a single data wave (i.e., measurement burst). Twenty datasets (45.5%) included several daily assessments ($N_{daily\ assessments}$=2-68) and 16% (n= 7) included several collection waves ($N_{data\ waves}$=1-15). Among the 20 datasets that included multiple daily assessments, 30% (n= 6) chose number and timing of assessments to differ between weekdays and weekends, with all measuring more frequently during weekends [e.g., Babinski et al., 2020; MATCH, dataset]). One dataset did not collect data on weekends (Chiang, dataset #6).

Moreover, datasets that opted for a single daily measurement typically asked parents and adolescents to complete the survey at the same time (n= 23; 95.8%) (cf., Tobin, 2015; ALOFT dataset). Of the studies with multiple daily assessments, seven varied in the number of measurements for adolescent and parent (35%). Two of these studies assessed adolescents less frequently than they did parents (e.g., MATCH dataset) and five assessed adolescents more frequently than their parents (e.g., Chiang 2023a,b, 2024a,b,c; Moschko et al., 2023; Zhang et al., 2022).

Compliance. As can be seen in Table 1, compliance rates differed across datasets, with similar compliance for parents and adolescents ($M_{compliance}$ = 57%-98.96% for parents and 56%-

98.83% for adolescents). However, with the exception of one study (Verhees et al., 2024), compliance on the dyad/triad level was not reported.

Assessment procedure. The EMAs were typically completed online on participants' personal devices, with parent and adolescent receiving the EMAs separately.

Open science. Of the 85 included publications, 60 (70.6%) used no open science practices. Five (5.9%) pre-registered design or hypotheses, and 10 (11.8%) had open data and/or code, and additional eight studies (9.4%) both pre-registered design/hypothesis and had open data/code. As can be seen in Figure 2, open science practices started in 2017, and the proportion of publications following open science increased over time.

II. Contribution beyond traditional (i.e., cross-sectional, single-informant) methodology and corresponding analytical practices

In the following section, we summarize how included publications utilized the two main features of the data structure – those related to it being generated by an EMA (i.e., intensive longitudinal design), and those related by it being generated by a dyadic/triadic design.

II.a. Utilization of EMA data

Supplementary Table S2 in the supplementary materials describes the analytic strategy used in each included publication along with assessment content (self-reported constructs, physiological measurements and passive sensing).

Examining within- vs. between-person processes. The majority of the publications (46/85, 54.1%) utilized the multilevel nature of the EMA data (assessments nested within individuals who are nested within dyads) to examine within-person and/or within-family processes. For example, Do et al. (2020) showed that greater-than-usual maternal encouragement of eating fruit and vegetables and more preparation of fruit and vegetables increased the odds of

adolescents eating them within a 2-hour window (i.e., within-family process). Additionally, they showed that mothers who typically prepared more fruit and vegetables had children who were likely to eat them (i.e., between-family process). Thus, this study shows how some processes are evident at the within-family levels (i.e., encouragement) while others (i.e., preparation) are also evident at the between-family level.

Another analytic choice that was frequently used was examining cross-level interactions (also referred to as state by trait interactions), i.e., whether within-family processes differ according to between-family factors. For example, Fosco and Lydon-Staley (2020) showed that within-family day-to-day variations in cohesion were associated with adolescents' daily fluctuations in depressed mood only in families with lower average levels of cohesion across days, but not in families with higher levels of average cohesion.

Temporal analysis. Several studies (18/85; 21.2%) utilized the longitudinal aspect of EMA to examine temporal associations, typically examining time-lagged processes in addition to concurrent (and between-) family processes. For example, Griffith and Hankin (2021) showed that adolescents' and parents' positive affect increased a few hours following parents' capitalization responses to their adolescents. Temporal analysis also allows for the test of mechanisms. Leveraging on that, a handful of studies utilized the longitudinal design to examine mediation of within-family processes (Bai et al., 2017; Beeckman 2019; Fosco 2019a; Wang et al., 2021, 2024a). For example, Bai et al. (2017) showed that the daily association between adolescents' academic problems and their experience of warmth and conflict with their parents were partially mediated by adolescents' negative mood.

Within-person dynamics. Some other studies (13/85; 15.3%) utilized the EMA to calculate within-person dynamic processes, mostly emotion dynamics (e.g., variability,

instability, emodiversity, inertia; Breaux et al., 2020; Chiang et al., 2024b; Lougheed et al., 2024) or of relational processes (e.g., conflict lability; Fosco et al., 2019a). For example, Byrd et al. (2022) used the EMA to calculate negative affect variability as an index of emotion dysregulation and showed that parental supportive and unsupportive responses to adolescents' affect were associated with adolescent negative affect variability.

Importantly, there appeared to be some unclarities in the literature regarding the measurement of emotion dynamic metrics, with within-person standard deviation, which should be defined as variability (Reitsema et al., 2022) mistakenly referred to as lability or inconsistency (e.g., Lawson et al., 2014; Lippold et al., 2015), and within-person Mean Squared Successive Difference (MSSD), which should be defined as instability (Reitsema et al., 2022), referred to as variability (e.g., Beveridge et al., 2024; de Vries 2023).

Aggregation of within-person levels. A handful of studies (3/85; 3.5%) averaged across the EMA period, therefore leveraging the high ecological validity of the processes (Mason et al., 2020; Raudsepp et al., 2017; Vize et al., 2023). For example, Raudsepp et al. (2017) conducted a multi-wave EMA, calculating average sedentary behavior over each EMA wave, and showed that mothers' sedentary behavior at baseline EMA predicted daughters' sedentary behavior in the EMA one year later.

Beyond self-reports. As can be seen in supplementary Table S1, several studies (8/85; 9.4%) reported assessing physiological measurement or passive sensing during the EMA (Fiedler et al., 2022; Keenan et al., 2024; Lippold 2020; Lippold et al., 2024; Tobin et al., 2015; Thomassin et al., 2023; Qu et al., 2020; Yang et al., 2020). Of those, three studies (3.5%) used the EMA data mainly to contextualize or validate the physiological measurement (Keenan et al., 2024; Lippold 2020; Tobin et al., 2015). For example, Keenan et al. (2024) studied sleep in

adolescents with Tourette syndrome using actigraphy in addition to dyadic EMA for an accurate estimation of sleep time.

Feasibility of dyadic EMA protocols. Four publications (4.7%) focused on the feasibility of specific EMA protocols (El Dahr et al., 2023; Reynolds et al., 2016; Thomassin et al., 2023; Verhees et al., 2024). For example, Verhees et al. (2024) examined the feasibility of two triadic EMA protocols, one including a single daily assessment and the other with 4-9 daily assessments and concluded that while individual compliance was good in both paradigms, triadic compliance was much higher in the once-a-day vs. several daily measurements' paradigm (84% vs. 49%).

II.b. Utilization of dyadic/triadic design

This section refers to whether and how studies used both parents and the adolescent EMA data to illuminate aspects of family daily dynamics. Before diving into the different analytical choices made, it should be noted the reviewed studies differed in which constructs were assessed for the parent and which for the adolescent. Some studies examined identical constructs in parents and adolescents (e.g., self-reported emotions; Mercado et al., 2019), others assessed completely or partially different constructs from the adolescent and the parent (e.g., parent reported family stress and adolescent reported support provision; Tsai et al., 2016), and a third group assessed the same construct but from different perspectives (e.g., both adolescent and parent reported on parenting behaviors; Xu et al., 2022). Supplementary Table S2 describes which constructs were assessed for each dyad member. The types of data were utilized in several different ways detailed below.

Unidirectional effects. The most popular approach to parent-adolescent data was examining unidirectional effects (37; 43.5%), predominantly the parent-to-adolescent direction.

For example, Xu et al. (2023) assessed different constructs from parents and adolescents and examined the effects of parental warmth and stress on adolescent positive affect and prosocial behaviors. One study used a multilevel person-centered approach to examine daily associations between parents' interpersonal emotion regulation of the adolescent and the adolescent mood (Arbel, 2024). Another example is Silva et al. (2018), that assessed the same constructs in parents and adolescents (i.e., emotion regulation strategy use) and examined whether parents emotion regulation predicted adolescents' emotion regulation (Silva et al., 2018). Only three studies examined the adolescent-to-parent direction (e.g., Lippold et al. 2024 examined whether adolescents' stress predicted their parents' wellbeing).

Bidirectional effects. Twenty publications (23.5%) utilized the dyadic/triadic design to conduct a bidirectional analysis – i.e., simultaneously examining how parents and adolescents influenced each other. Some studies (18; 21.2%) examined bi-directional effects using the APIM (Kenny et al., 2020). For example, Gadassi-Polack et al. (2024) utilized a longitudinal APIM and found that while both parents' and adolescents' use of interpersonal emotion regulation was associated to adolescents' depressive symptoms, parents' depressive symptoms were associated only with their own interpersonal emotion regulation strategy use. Some of the studies that examined bi-directional parent-adolescent processes additionally examined dyad-level variables (e.g., Janssen et al., 2023 examined how parents' and adolescents' perceptions of parenting - as well as the discrepancy between their reports – were associated with parent and adolescent daily affect). Another study utilized network analysis to examine affect dynamics in parent-adolescent triads (Veenman et al., 2024) and showed that parents and adolescents affective states are related concurrently and longitudinally. One study used Dynamic Structural Equation Modeling

(DSEM) to test bi-directional effects: Mastrotheodoros et al. (2020) used DSEM to examine spillover of interparental conflict to subsequent parent–child conflict and vice versa.

Parent-adolescent discrepancy and agreement. Fourteen publications (16.5%) used the parent as an additional informant that lends further validity to the adolescent report (i.e., parents providing proxy reports on adolescents' behaviors/emotions). These studies sometimes averaged across adolescent and parent reports of the same variable (e.g., parent and adolescent report on conflict and warmth; Wang et al., 2024b). At other times, the study focused on the agreement in across parents and adolescent perspectives (e.g., on stressors; Verhees et al., 2024). Importantly, some papers included parent-adolescent average (or discrepancy score) in addition to other analytic options (e.g., Breaux et al. 2020 that examined unidirectional models; Babinski et al., 2020 that examined aggregated family-level dynamics).

Aggregated family-level dynamics. Six publications (7%) utilized the EMA to calculate aggregate dynamic dyadic processes such as concordance/synchrony in sleep or emotions, creating a single index per dyad. For example, Lee et al. (2017c) showed that parent-adolescent affective synchrony in the EMA was associated with higher adolescent emotional competence. Similarly, Brinberg et al. (2017) conducted a grid-sequence analysis that examines whether the dyads were stable in feeling connected and showed that dyads that were in a stable disconnected state had adolescents with higher levels of depression and behavior problems. Also, Fuligni et al., 2015 examined parent-adolescent sleep pattern concordance and its within-person predictors.

Separate parent and adolescent analyses. Sixteen publications (7%) conducted separate analyses for the parent and the adolescent daily outcomes with only actor effects. Some of the publications assessed the same variables in the parent and adolescent (e.g., within person associations between physical activity and sleep; Fiedler et al., 2022). In others, parent and

adolescent reported the same predictor but from their own perspective and their own outcome. For example, using separate models, Griffith and Hankin (2021) parents and adolescents reported parents' capitalizing of adolescents' emotions as predicting adolescent and parent positive affect. Importantly, only one of these studies examined these parallel processes using a single (vs. separate) statistical model (i.e., Lüscher and Radtke (2023) who used the double-intercept model, thereby accounting for interdependence between family members).

Finally, two studies (2.4%) did not utilize the dyadic/triadic aspect of the data as they focused only on EMA feasibility concerns (El Dahr et al., 2023; Thomassin et al., 2023).

III. Patterns of diversity, inclusion and exclusion

Table 2 presents sample characteristics, including gender, race and ethnicity, family structure, socioeconomic status, and other special characteristics (e.g., clinical population) by dataset.

Gender. The vast majority of studies had adolescent samples with a relatively even number of girls and boys, though some datasets included more boys than girls (e.g., Irritability dataset #7), and some focused only on girls (e.g., Babinski et al., 2020). Notably, uneven number of boys and girls was more typical of studies that focused on special characteristics that are more prevalent in one gender (e.g., studies on depression had more girls whereas studies on behavior problem had more boys). Importantly, most datasets included cisgender (i.e., boy/girl or male/female) options only (cf., de Vries et al., 2023; El Dahr et al., 2023; Gadassi-Polack et al., 2024). To our knowledge, no studies inquired regarding adolescents' sexual orientation.

Concerning parents, dyadic datasets predominantly focused on mothers (100%-69.70% of the parents were female). As with adolescents, only few studies examined non-binary gender options for parents (El Dahr et al., 2023), and sexual orientation was not directly reported for any

dyadic dataset. In contrast, most triadic datasets (which comprised 12 of 44 datasets) succeeded in recruiting an equal number of mothers and fathers.

Family structure. As can be seen in Table 2, 20/44 (45.4%) of the datasets did not report family structure. Of those who did, all the triadic datasets included 100% two-parent households, though it was not clear whether both caregiving adults were in a romantic relationship. In dyadic datasets, the majority of families were two-parent households (48.1%-100%). Very few studies gave a clear definition for who is considered a parent or primary caregiver; when details were provided, the majority were biological parents, with a handful of studies reported including other adults such as aunts, grandparents, or adoptive parents (e.g., ALOFT dataset #16, FLOW dataset #1, RE-PAIR dataset #4), and even then, they were a minority of caregivers.

Race and ethnicity. As noted above and specified in supplementary Table S1, most datasets were collected in North America (USA/Canada). Within North American datasets, samples were predominantly White (33%-91.1%) and non-Hispanic (46.6%-97.3%). Interestingly, adolescents were typically more diverse than their parents (see Table 2). More diverse samples typically originated from studies of special populations (i.e., with physical or emotional problems; e.g., Silva et al., 2020; Irritability dataset #7), study questionnaires could be completed in an additional language (e.g., in Spanish; MATCH dataset #2), or deliberate over-sampling for minorities (e.g., Wang dataset #9). Finally, two datasets exclusively targeted groups based on race/ethnicity (i.e., dataset #3 targeting individuals with Mexican heritage and dataset #35 targeting Chinese-Americans). Studies from Europe, East Asia, and the Middle East did not report information regarding race/ethnicity; some reported nationality (e.g., Chiang et al., 2024c; Verhees et al., 2024), or whether participants were born in the country of data collection (e.g., de Vries et al., 2023; the RE-PAIR dataset #4).

Socioeconomic status. As shown in Table 2, most datasets 37/44 (84.1%) reported socioeconomic status indicators, typically parental education and family income. Most samples were relatively educated, with most parents receiving at least some post-high-school education (M=74.8%), though this percentage varied considerably (range 24.3-100%). Regarding income, reported income levels were difficult to interpret, as most studies did not provide comparison to average income in the region or other clear indicators (e.g., comparison to poverty levels, Merrilees et al., 2018; qualifying for a free lunch, Wang dataset #9).

Special populations. Most of the datasets (33/44; 75%) included community samples. Of the remaining, several databases included youth with a psychiatric condition (e.g., ADHD, depression, ADHD; RE-PAIR dataset #5, Irritability dataset #7, Babinski et al., 2020, Breaux et al., 2020, Keenan et al., 2024, Meigs et al., 2024, Silva et al., 2020), and a few additional datasets included youth with a chronic medical condition (e.g., Type 1 Diabetes, asthma, chronic pain; PATH dataset #12, ALOFT dataset #16, CP-IC dataset #20, Queen et al., 2016).

IV. Solutions to the implementation of inclusive EMA protocols

Examination of included studies procedures in conjunction with their participants' characteristics suggests that there are several strategies that facilitate inclusion of minorities in dyadic/triadic parent-adolescent EMA studies. These strategies can be largely divided into changes to the recruitment procedures vs. changes to study methodology.

IV.a. Recruitment. Several of the datasets included in the review deliberately oversampled minority groups. One study used professional recruitment services to reach Black or African American families (Wang dataset #9). Several studies explicitly recruited only minority groups, such as Mexican-heritage or Chinese-American families (datasets #3, #35; Qu et al., 2020). Other studies recruited through settings that reach populations often missed by

convenience sampling, such as schools (Respiratory illness risk dataset #8) or clinics for youth with specific mental or physical health conditions (e.g., Irritability dataset #7; Queen et al., 2016).

IV.b. Methodology. The most common methodological procedure to increase diversity was offering the option to participate in the language native to the specific ethnic population targeted. This was practice by all studies that specifically targeting only Ethnic minorities (e.g., dataset #3 Mexican heritage, or Qu et al., 2020 focusing on Chinese-American). This was also done in other studies that were characterized by high levels of minority inclusion. For example, the MATCH dataset (#2), which had over 50% Hispanic families, offered the option to participate in English or Spanish.

Other methodological alterations we identified were related to reducing participant burden by conducting onboarding meetings through home visits (Respiratory illness risk dataset #8). This option may be especially valuable for families whose participation might otherwise be limited by time, or transportation. Relatedly, acknowledging that some minority groups may not have access to technology or feel uncomfortable with it, some studies offered the option to complete the EMA using paper-and pencil or online (e.g., Qu et al., 2020) whereas others provided devices (e.g., MATCH dataset #2).

Discussion

The present review is the first to systematically assess dyadic/triadic parent-adolescent EMA. We aimed to assess the state of this literature, including methodological and analytical characteristics and the degree of diversity (vs. systematic exclusion) in it, and to provide recommendations for future directions. Our review shows that between 2014 and 2024, 85 publications generated from 44 distinct datasets were based on dyadic/triadic parent-adolescent

EMAs. Methodologically, most datasets included a dyadic (vs. triadic) one-wave EMA with once-a-day assessments (i.e., daily diary) and had high individual compliance rates. Population-wise, most studies were conducted in North America on predominantly White, highly educated, and cisgender community samples, with parent population consisting mostly of mothers from two-caregiver households. Analytically, most studies used the multilevel data to separate between- and within-family effects and used the dyadic/triadic structure to examine parent-to-adolescent effects. Still, as detailed below, there was considerable variance in these characteristics. In all, parent-adolescent EMA seems a feasible and promising approach to advance research on the lived experiences of different populations.

Methodological characteristics

Across 44 datasets there was considerable variance in methodological characteristics, including the number of daily assessments, EMA waves, and how parent and adolescent assessments were timed. Most studies reported good compliance at the individual level, suggesting that intensive designs are feasible for individual participants. However, only one included study reported compliance at the dyad or triad level (Verhees et al., 2024), and it found a substantial drop in compliance when comparing daily-diary (84%) to multi-assessment-per-day (49%) designs. This drop in family-level compliance can be an issue because many of the analytic opportunities unique to parent-adolescent EMA (e.g., discrepancy analyses) require concurrent responses from both family members. With only one study providing joint compliance data, it is premature to draw firm conclusions about how much dyadic/triadic compliance drops with increasing intensity, and we encourage future studies to routinely report dyad- and triad-level compliance alongside individual compliance. Some decline is probably unavoidable, but it may be addressable through design choices (e.g., incentives tied to

dyadic/triadic responding). Moreover, in some cases the added temporal resolution may be worth a lower compliance, such as when the research question targets short-timescale within-family dynamics. These trade-offs should be considered explicitly at the design stage. More broadly, design choices about timing of parent and adolescent assessments, weekend versus weekday sampling, and whether family members report on the same or different constructs should be driven by the research question, yet most studies did not report a rationale for these decisions (cf., Verhees et al., 2024). Greater transparency about measurement rationale would substantially help researchers planning their parent-adolescent dyadic/triadic EMA.

A related limitation is the limited adoption of open science practices, although there is a clear temporal trend toward increased use. For example, the validity of EMA items is a known concern, as many studies adopt items from self-report questionnaires designed for other timescales or generate their own items without validation (Siepe et al., 2025). Open data practices, and ideally a shared repository of items (e.g., Kirtley et al., 2025), would enable harmonization across datasets and Individual Participant Data meta-analyses, providing increased statistical power and enabling questions that cannot be addressed by single studies (Dora et al., 2023). This is just one example of the way in which Open Science practices could advance the field.

Analytical practices

Parent-adolescent dyadic/triadic EMA generates a uniquely rich dataset, but our review suggests that the field has not yet fully utilized this richness. Rather than walking through each analytic approach we identified, we focus here on what we see as the most consequential pattern: a mismatch between how the parent-adolescent relationship is conceptualized in developmental theory and how it is analyzed in EMA practice.

Two characteristics distinguish parent-adolescent relationships from other close relationships studied with EMA: power (i.e., the degree to which the relationship is hierarchical), and permanence (Laursen & Bukowski, 1997). Power, especially, shapes what kinds of analyses are theoretically warranted, and, we argue, have implicitly shaped analytical preferences in ways worth examining. Most reviewed studies adopted a unidirectional perspective in which parent variables predicted adolescent outcomes, with only a handful examining child-to-parent effects (e.g., Lippold et al., 2024). This dominance is striking given the well-developed developmental tradition that positions children as agents who actively shape parental behavior and wellbeing (Pérez-Edgar et al., 2021; Sroufe, 2009) and given that the data needed to test bidirectional questions were available. EMA is, in principle, an ideal method for capturing exactly the kind of moment-to-moment mutual influence that transactional models posit; the field's continued reliance on unidirectional analyses suggests that methodological inertia, rather than theoretical commitment, is shaping analytical choices.

Where studies did move beyond unidirectional analyses, most adopted bidirectional methods such as the APIM (Kenny et al., 2020). These approaches are a clear improvement and, importantly, always include child-to-parent processes. However, as they were developed in the context of adult romantic relationships which are less hierarchical, their default is to treat partner effects symmetrically, which sits uneasily with the inherently hierarchical and developmentally evolving nature of parent-adolescent relationships. We argue that asymmetry is not a nuisance to be averaged over, but a developmentally meaningful feature; we return to this point in our future directions.

Beyond bidirectional analyses, two additional analytical opportunities are particularly underutilized. The first is examining parent-adolescent agreement and discrepancy as substantive

phenomena. Existing work in this area shows that informant divergence is itself informative about family functioning and clinical risk (e.g., McCauley et al., 2021; Shay et al., 2024). The second analytical direction is the analysis of family-level dynamics over time, such as parent-adolescent synchrony (e.g., Mercado et al., 2019). Despite the centrality of family-level processes in developmental theory and their theorized importance for child development (Feldman, 2021), only a handful of reviewed studies examined them, paralleling a similar gap in lab-based research on family dynamics beyond early childhood (Birk et al., 2022). This may reflect a residual assumption that parents matter less for adolescents than for younger children.

A final methodological caveat pertains to cases in which parent and adolescent variables are analyzed unidirectionally or using parallel models. When running such models, shared variance from genetics, environment, and ongoing context (e.g., daily parent-child conflict) is typically uncontrolled, which can inflate or distort estimated effects (Kenny et al., 2020). Some included studies addressed this with partial controls (e.g., Qu et al., 2020 controlled for adolescent distress when predicting parental distress), but the more rigorous approach is to model parent and adolescent in the same model (e.g., APIM, double-intercept model, DSEM).

Patterns of diversity and exclusion

When embarking on this systematic review, we suspected that we would find a highly homogenous picture of the populations studied. However, although this was *typically* the case, there was substantial variance. Still, two cross-cutting patterns emerged that warrant attention. The first pattern is that reporting gaps systematically masked representation gaps. Sexual orientation was not reported for parents or adolescents in any included paper. Family structure was reported in only half of studies, with most reporting samples consisting of adolescents from two-parent households (e.g., the FLOW study, dataset #1). Race and ethnicity were generally not

reported in studies conducted outside North America. Income was typically reported in local currency without reference to regional benchmarks (e.g., poverty line), making cross-study comparison difficult. Each gap individually is a reporting issue; together they suggest that recruitment of diverse populations is often not a primary research priority, and that the field's understanding of parent-adolescent daily dynamics rests on a narrow demographic base, and perhaps on the implicit assumption that within-family processes are similar across groups.

The second pattern is that even when diverse samples were obtained, diversity was rarely used as an analytical lens. We found no studies using race or ethnicity as a moderator of parent-adolescent processes, even in studies with substantial minority representation (MATCH, dataset #2; Wang dataset #9). Similarly, we found no analyses examining whether family processes differed by family structure, even in studies with substantial representation of single-parent families. A notable exception was a small set of studies examining within-family processes by family income (Wang et al., 2021, 2024a). A related limitation appears in studies of populations with clinical (psychological or medical) conditions, which made up roughly 25% of included datasets and were typically more demographically diverse than community samples, likely because of recruitment through clinics. However, most of these studies did not include comparison groups, thus creating a confound between the clinical and ethnic/racial characteristics of the population. The combined effect of these patterns is that the field has accumulated descriptive data from increasingly diverse samples without using that diversity to test whether daily family processes differ across groups, the question that gives diversity its scientific (rather than descriptive) value.

A more focused observation concerns the inclusion of fathers. Across our review, dyadic datasets remained 70-100% mothers, whereas triadic datasets achieved roughly equal mother-

father representation. By removing the need for lab visits and allowing participation in brief time windows embedded in daily life, EMA may lower a practical barrier that has historically limited father participation in family research (Mitchell et al., 2007; Schoppe-Sullivan & Fagan, 2020). However, this potential is realized only when studies set out to recruit both parents from the start. Triadic EMA may therefore be a promising route to father inclusion, with two important caveats: our review cannot speak to the recruitment effort required to achieve triadic samples, and triadic designs may inadvertently exclude families with other structures, such as single-parent or multigenerational households. More transparent reporting of recruitment processes would help the field evaluate whether triadic EMA is, in fact, a more efficient strategy for engaging fathers.

Increasing diversity: Solutions and strategies

One clear finding that emerges from our review is that increasing diversity in parent-adolescent EMA studies requires deliberate effort: without it, minority and underrepresented families remain as absent from this literature as they are from developmental research more broadly. Recruiting diverse families into parent-adolescent EMA studies presents particular challenges, both because EMA protocols add participant burden on top of standard research demands, and because both parent and adolescent must consent and sustain engagement over the assessment period. The datasets in our review that achieved greater diversity point to two broad classes of solutions. The first concerns recruitment: deliberately oversampling minority groups, partnering with professional services to reach specific populations, and recruiting through schools or clinics rather than relying on convenience samples. The second type of solutions concerns study design: offering participation in participants' native languages, providing devices to families without their own, allowing paper-and-pencil alongside digital responding, and reducing logistical burden through home-based onboarding. What unites these strategies is that

they treat inclusion as a design problem to be planned for from the outset, rather than as a recruitment outcome to be hoped for at the end.

One strategy that was not explicitly mentioned in the included studies but is well-supported in the broader minority recruitment literature, is the inclusion of research team members from the populations being studied. Community-engaged approaches, including co-leadership and partnership with community members, have been shown to support the recruitment of minority and underrepresented participants (e.g., Wieland et al., 2021). For parent-adolescent dyadic/triadic EMA in particular, where sustained engagement matters as much as initial recruitment, building this kind of trust and cultural fluency into the research team itself may be especially consequential.

General recommendations

The first – and simplest – way to address many of the gaps in the literature is to improve reporting. We recommend researchers to be clear in their publications regarding the dataset from which it originated. Giving a name to the dataset (e.g., RADAR dataset #13) could be very helpful in that regard. Relatedly, increased adherence to open science, and particularly open materials, would greatly advance the field, and encourage researchers to conduct parent-adolescent EMAs. It could be highly beneficial if a dataset protocol was publicly accessible either as a publication or in a repository, as is often done with protocols of clinical trials. Such protocols could present the rationale for timing and frequency of measurements and inform other researchers who are gearing up to run a parent-adolescent EMA.

Another recommendation related to reporting may also be related to assessment. Studies should have more clear and detailed reporting of demographic variables. Even if the study does not focus on a minority group, assessing and reporting characteristics such as race/ethnicity,

sexual orientation, family structure, and socioeconomic status compared to the average could be highly important and of great use as preliminary data for future studies or for IPD meta-analyses.

Future directions in dyadic/triadic parent-adolescents EMA

Future dyadic/triadic parent-adolescent EMA research should move beyond description toward more integrative questions about how family processes unfold and differ across contexts. The gaps identified in this review, namely systematic exclusion of certain populations, underutilization of the method's analytical potential, and limited examination of whether daily processes differ across diverse groups, point toward three interrelated future directions.

First, future research should treat diversity as a theoretical mechanism rather than a descriptive variable. As we argued earlier, there are substantive reasons to expect that within-family daily processes differ across cultural, structural, and clinical contexts (e.g., Bornstein, 2012; Evans & Kim, 2013; Granic & Patterson, 2006). Yet most existing dyadic and triadic EMA research, including most studies that target diverse populations, relies on relatively homogeneous samples and does not test whether observed processes generalize (cf., Wang et al., 2021, 2024a). More studies should explicitly model diversity status by testing cross-level interactions, examining for instance whether race, socioeconomic status, family structure, or clinical status moderate daily dynamics. Importantly, the same daily process may operate as a protective buffer in some contexts and a vulnerability in others (Gonzales et al., 1996; Dearing, 2004), and this kind of moderation is not visible in samples drawn from a single demographic profile. Treating diversity as a moderator rather than a descriptor would shift the field toward understanding how social environments shape daily family functioning.

Second, researchers should adopt methods that model the potential unequal influence present in parent-adolescent relationships. Commonly used bidirectional tools, such as the APIM

(Kenny et al., 2020) in its standard form, treat partner effects symmetrically unless stringent statistical tests suggest otherwise; yet parent-adolescent relationships are inherently hierarchical and evolve as adolescents develop autonomy (Laursen & Bukowski, 1997). Approaches that explicitly compare parent-to-adolescent and adolescent-to-parent daily effects, and that allow asymmetry itself to be a parameter of interest rather than a derived contrast, would let the field test whether parents exert stronger daily influence than adolescents at different developmental stages, and how this hierarchy may shift toward more egalitarian dynamics over time. Developing and applying such methods is itself a methodological research agenda for the next decade of dyadic EMA work.

Third, studies should expand beyond self-report EMA. Objective assessments such as passive sensing and wearable physiology monitors are increasingly recommended in EMA research more broadly (Russell & Gajos, 2020), but they may have a particular importance in dyadic and triadic designs. Self-reports from multiple family members capture valuable between-informant discrepancies that reveal family dynamics and clinical risk, but they cannot capture what cannot be reported, such as physiological coregulation (e.g., Lippold et al., 2020). Combining subjective EMA reports with physiological or sensing data allows researchers to examine these between-person processes directly. For example, when parents and adolescents disagree about the severity of a conflict or the warmth of an interaction, physiological measures such as heart rate variability, or audio-based measures of vocal tone, can reveal layers of the interaction that neither party reported, including unspoken distress or arousal. More broadly, multimodal dyadic data offer an additional route to studying coregulation and physiological linkage as they unfold in daily life.

Conclusion

This systematic review demonstrates that parent-adolescent dyadic and triadic EMA is not only feasible but holds considerable promise for advancing our understanding of family dynamics across diverse and general populations. The method's accessibility (participants complete assessments in their natural environments without laboratory visits) makes it particularly well-suited for engaging families who are typically underrepresented in developmental research. The rich, multilevel data generated through parent-adolescent EMA enables examination of within-family processes as they unfold over time, investigation of temporal mechanisms, and simultaneous assessment of multiple family members' perspectives, with individual studies often yielding multiple publications that justify the substantial recruitment effort. However, our review also reveals significant gaps: systematic exclusion of certain populations (e.g., same-sex families), underutilization of the method's full analytical potential (particularly regarding bidirectional effects and family-level dynamics), and limited examination of whether daily family processes differ across diverse groups. As the field moves forward, researchers studying diverse families should embrace parent-adolescent EMA as a powerful tool for inclusion, while adopting stronger open science practices, more comprehensive demographic reporting, and deliberate recruitment strategies to ensure that the families studied reflect the full diversity of adolescent development contexts. Only through such intentional efforts can we move beyond studying predominantly White, highly-educated, two-parent families and build a truly representative science of parent-adolescent relationships in daily life.

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Figure 1. *PRISMA flow diagram of paper selection*

Figure 2. *Number of publications (general/with open science per year)*

Table 1. *Datasets methodological characteristics*

Table 2. *Datasets population characteristics*

Table S1. *Summary of datasets identified, organized by number of publications generated from the data.*

Table S2. *Included papers' open science practices, assessment content, statistical methods, and utilization of EMA/Dyadic-triadic data.*

Tables

Table 1. *Datasets methodological characteristics*

Dataset	EMA details Format	Contingency	Obs./day	Days	Compliance	Waves
1. FLOW	Online	Time	1	21	Adolescent: 90.48%, Parent: 96.52%	1
2. MATCH	Custom App	Signal	Adolescents weekdays: 3 Adolescents weekends: 7 Mothers weekdays: 4 Mothers weekends: 8	8[1]	Adolescent: 76.9% Mothers: 80.1%	6 (semi-annual)
3. Mexican heritage	Paper & Pencil	Time	1	14	Adolescents: 96%, Parents: 95%	2 (yearly)
4. RE-PAIR	Ethica App	Signal	4	14	DEP: ado 63.8%, parent 72.8% HC: ado 68.3%, parent 80.5%	1
5. WFHS	Phone interviews	Time	1	8	NA	1
6. Chiang SC	Online	Time	Adolescent: 2 Parent: 1[2]	10	Adolescents: 99% after-school reports and 98% evening reports Parents: 99%	1
7. Irritability	Research-provided device	Time	Weekdays:2 Weekends: 3	4	ado: 91.12% at time 1 and time 2; parent: 90% at time 1, 90.70% at time 2	2
8. Respiratory illness risk	Survey Monkey	Time	1	56	Adolescents: 94% Mothers: 95% Fathers: 94%	1
9. Wang M	Online	Time	1	15	ado: 93.4%	2

					parent: 94.8%	
10. Arbel R	Qualtrics	Time	1	7	Adolescents: 90% Mothers: 86% Fathers: 79%	1
11. Lee TH	Paper	Time	1	14	NA	1
12. PATH	Online	Time	1	7	Adolescents: 71.1% Parents: 85.5%	1
13. RADAR	Online	Time	1	5	NA	15 (3 times a year)
14. Xu J	Online	Time	1	30	Adolescents: 77.78% Parents: 91.67%	1
15. 100 days of my life	Ethica app	Time	1	100	Adolescents: 89% Parents: 94%	1
16. ALOFT	NA	Time	1[3]	4	NA	1
17. Babinsky D.	NA	Signal	Weekdays: 2 Weekends: 4	7	Adolescents: 84.0% Mothers: 91.0%	1
18. Breaux R	NA	Time	1	14-24	~87%	1
19. Chiang SC b	Online	Time	Adolescents: 2 Parents: 1	14	Adolescents: 98.83% Parents: 98.96%	1
20. CP-IC	REDCap	Time	Adolescent: 2 Parent: 1	14	Adolescents: 79.7%-68% Parents: 74%-72%	1
21. ElDahr Y	REDCap	Signal	2	14	82%	1
22. Erreygers S	Online	Event	2	5	Adolescent: 94.6%. Mothers: 98.8%. Fathers: 98.6%	1
23. Fiedler J	Costume app	Time & Event	Time: 2 Event: when participants were inactive for 60 mins	21	82.85%	1

24. Griffith J	LifeData RealLife Exp app	Signal & Time	Weekdays: 3 Weekend: 4	9	Adolescents: 79% Parents: 89%	1
25. Huang J	Online	Time	1	14	~99%	1
26. Human L	Paper or Online	Time	1	14	Adolescents: 82.59%, parents: 86.51%, dyads: 77.00%	1
27. Keenan L	Paper	Time	2	14	NA	1
28. Lougheed J	ExpiWell app	Time	1	14-21	Adolescents: 84% Caregivers: 88%	1
29. Lüscher J	NA	Time	1	14	NA	1
30. Meigs J	NA	Time	3	7	Adolescents: 80.2% Parents: 84.4%	1
31. Merrilees C	Research-provided device	Time	1	15	~88%	1
32. Moschko T	Online	Time	Adolescent: 3 Parent: 1	18	Adolescents: 57%, Parents: 56%	3 (every ~4 moths)
33. PAIRS	Qualtrics	Time	1	28	Adolescents: 90% Parents: 95%	1
34. Peltz J	Online	Time	2	7	85.7%	1
35. Qu Y	Paper or Online	Time	1	14	NA	1
36. Queen TL	Secure website	Time	1	14	86%	1
37. Raudsepp L	NA	Time	Adolescents Weekday: 44 Adolescents weekend: 68 Mothers: 68	4	Adolescents: 83.2% Parents: 77.8%	4 (yearly)
38. Silva E	NA	Signal	8	7	Adolescents: 68% Fathers: 74% Mothers: 79%	1
39. Silva K	Online	Time	1	7	Adolescents: 87%	1

40. Thomassin K	Time2Fee app	Signal & Event	Signal: 4 Event: 4 based on deviations in EDA	10	Parents: 90.6% Adolescents: 52.23%. Parents: 72.80%	1
41. Timmons A	Paper or Online	Time	1	14	Adolescents: 87.3% Mothers: 86.3% Fathers: 83.02%	1
42. Verhees MWF	m-Path app	Signal	Diary: 1 EMA weekdays: 4 EMA weekends: 9	Diary: 14 EMA: 10	Diary: 94% EMA: Adolescents: 72% Mothers: 75% Fathers: 73% Triadic compliance was 84% (diary) and 49% (EMA)	1
43. Villarreal D	Qualtrics	Time	1	7	Adolescents: 74%, Mothers: 80%	1
44. Zhang W	Online	Time	Adolescent: 2 Parent: 1	5	NA	1

[1]Some of the publications from MATCH (Do et al., 2020; Yang et al., 2020) say it is 7-day long

[2]Some publications (Chanig, 2023b) do not report adolescent afternoon survey

[3]Adolescents completed in the evening whereas parents completed in the morning

Online=link sent to participants' device

Table 2. *Datasets population characteristics*

Dataset	Age	Gender	Race/Ethnicity	Family structure	SES indicators
1. FLOW	**Adolescents**: M = 14.60[2], SD = 0.83 **Parents**: M = 43.4, SD = 6.9	**Adolescents**: 62% female 38% male **Parents**: 95% female 5% male	**Adolescents**: White (83.4%), African American/Black (4.6%), Native American/American Indian (0.7%), Asian (4.6%), Hispanic/Latino (0.7%), multiracial (5.3%), and missing information (0.7%) **Parents**: White (90.1%), African American/Black (2.6%), Asian (3.3%), Native American/American Indian (0.7%), Hispanic/Latino (0.7%), multiracial (2.0%), and missing information (0.7%)	two-caregiver family. married (n = 134), living with a other (n = 9), while some indicated being single (n = 6) or separated (n = 1), but were living with another caregiving adult.	Parents' education s graduate or professi training (23.2%), co degree (27.8%), ass degree or > 1 year c (30.5%), and high s degree or similar (1 less than a high sch (2.7%), or missing information (0.7%) median income = $ $79,999)
2. MATCH	**Adolescents**: M = 9.6[1], SD = 0.9 **Parents**: M = 41.0, SD = 6.2	**Adolescents**: 52% female **Parents**: 100% female	**Adolescents:** Race: 45.5% White, 14.1% Asian, 17.8% Black or African American, 38.2% other, 2.6% Native Hawaiian or Pacific Islander, 4.2% American Indian or Alaskan Native Ethnicity: 53.4% Hispanic **Parents:** 42.7% White, 15% Black 12.2% Asian,48.1% Hispanic	78.5% two parents, 21.5% single parent	Mothers' education were not college gra 27% had annual inc Less than $34,999, earned $35,000-$74 earned $75,000-$10 23% earned Greate $105,000
3. Mexican heritage	**Adolescents**: M = 15.03, SD = 0.83 **Parents**:	**Adolescents:** 49.8% male, 50.2% female	**Adolescents:** Mexican American, 87.3% born in the US **Parents:** Mexican American, most	85.5% dual parent household, 57.9% of	Most of the parents some high school ed (66.7% less than a h degree, 7.6% high s degree only, 5.5% t

		M = 41.93, SD = 6.7	**Parents:** 82.9% female 13.1% male	(82.2%) born outside the US	parents were married	vocational school, a at least some colleg median annual hous income was $32,00
4.	RE-PAIR	**Adolescents:** HC: 15.9 (1.33), DEP: 15.7 (1.53) **Parents:** HC: 49.2 (5.73), DEP: 50.1 (5.30)	**Adolescents:** HC: 63.3% female, DEP: 76.5% female **Parents:** HC: 52.3% female, DEP :58.6% female	**Adolescents:** HC: 96.3% born in the Netherlands, DEP: 91.2% born in the Netherlands **Parents:** HC: 94.6% born in the Netherlands, DEP: 82.2% born in the Netherlands	NA	HC: 0.7% no diplor lower vocational, 2: intermediate vocati 67.1% higher vocat scientific (universit DEP: 1.7% no diplo 17.2% lower vocati 24.1% intermediate vocational, 56.9% h vocational or scient (university)
5.	WFHS	**Adolescents:** M = 13.18, SD = 2.28 **Parents:** Mage = 41.34	**Adolescents:** 52% female, 48% male **Parents:** 74% mothers	**Adolescents:** IT sample-74% White, 16% Asian, 2% African American, 2% Pacific Islander, 4% more than one race, and 3% marked other. 9% Hispanic heritage. NH sample: 60% White, 14% African American, 3% Asian, 1% American Indian, 7% more than one race, and 15% marked other. Of these, 15% indicated they were of Hispanic heritage. **Parents:** 65% White, 8% African American, 12% Hispanic	NA for the full sample	IT sample -Among 78% were college g and the average ann income was $116,9 $26,396). NH sample-Among 64% were college g and the average ann income was $56,66 $31,759)
6.	Chiang SC	**Adolescents:** Mage = 12.79, SD = 0.73 **Parents:** Mage = 45.46 years, SD = 4.91	**Adolescents:** 55% female **Parents:** 78% female	**Adolescents:**100% Taiwanese **Parents:**95% Taiwanese	100% two-parent families	Parents reported tha education level rang below high school d (3.7%), high school (20.2%), college de (60.7%), and gradu (15.3%). Parents re their family income from low-income (3 middle-to-low (2.5%

						(58.3%), upper-to-m (35%), and rich (1.2
7.	Irritability	**Adolescents:** M= 12.03 SD= 0.92 **Parents:** M= 39.84 SD= 7.25	**Adolescents:** 46.9% female **Parents:** 92.3% female	**Adolescents:** 42% White, 40.7% Black, 3.7% Hispanic/Latino, 0.6% American Indian/Alaskan Native, 16.7% multiracial **Parents:** 53.6% White, 39.5% Black, 1.9% Hispanic/Latino, 0.6% Asian, 2.5%American Indian/Alaskan Native, 6.2% multiracial	49% of the parents reported living with their romantic partner	51.2% of the caregi employed of those, 30.9% <$20,000, 19 $20,000-39,000, 17 $40,000-$59,000, 8 $60,000-$79,000, 1 >$80,000
8.	Respiratory illness risk	**Adolescents:** M: 11.28, SD: 1.50 **Mothers:** M: 43.29, SD: 6.31 **Fathers:** M: 43.67, SD: 8.1	**Adolescents:** 59.6% Female; 40.4% male **Parents:**54.6% female; 45.3% male	**Adolescents:** NA **Parents:** 45% non-Hispanic white, 22% Latino/Hispanic, 17.5% African-American, 12.5% Asian, 1.5% Native American and 1.5% "Other"	100% two-parent families	with 57% of mother fathers) having atta year college degree About 45% of moth worked full time (8 fathers), 21% worke time (13% of father remainder reported homemakers, unem disabled, or "other" reported a median p income within a $3 $82,400 bracket,
9.	Wang M	**Adolescents:** M=15.0 **Parents:** M = 43.5	**Adolescents:** 42% male **Parents:** 15% male	**Adolescents:** 36% Black, 38% White, 13% Latinx, 12% Asian American, 1% Native American **Parents:** 37% Black, 36% White, 14% Latinx, 12% Asian American, 1% Native American	NA	61% of parents have year college or mor advanced degree. 6 qualified for free lu
10.	Arbel R	**Adolescents:** M=15.74, SD=1.38 **Mothers:** M= 47.82, SD = 4.90;	**Adolescents:** 51% female **Parents:** 50% female and 50% male	**Adolescents:** NA **Parents:** NA	100% two-parent families	Seventy-one percen mothers and 77% o had a bachelor's or academic degree. A of families had inco

	Fathers: M = 50.39, SD = 5.80				than the eighth nati decile.
11. Lee TH	**Adolescents:** M=14.80 **Parents:** M=43.06 years	**Adolescents:** 48.39% female **Parents:** 12.90% male	**Adolescents:** NA **Parents:** NA	NA	NA
12. PATH	**Adolescents:** M = 14.08, SD= 2.32 **Parents:** M= 45.53 SD= 5.39	**Adolescents:** 71.6% female **Parents:** 94.5% female	**Adolescents:** White: 85.3%, Two or more ethnicities: 3.2%, Latin American: 3.2%, Other: 4.1%, Do not want to answer: 4.2% **Parents:** 81.6% White, 10.5% bi- or multi racial, 1.3% Arab, 1.3% Filipino, 1.3% indigenous, 1.3% Latin American, 1.3% south Asian, 1.3% other	NA	Household income: $10,000-$29,999: 5 $30,000-$59,999: 1 $60,000-$89,999: 1 More than $90,000: Do not want to answ
13. RADAR	**Adolescents:** M=13.02, SD=0.44 **Parents:** M= 44.40, SD= 4.21	**Adolescents:** 44.5% female **Parents:** 100% female	**Adolescents:** 94.8% native Dutch **Parents:** NA	100% two-parent families	Most families were as medium or high socioeconomic statu Mothers' level of ed most had finished a secondary school (p less: 3.9%; seconda 55.9%; higher educ 40.2%).
14. Xu J	**Adolescents:** M = 14.60, SD = 1.76 **Parents:** M = 43.53, SD =6.16	**Adolescents:** 53.54% female **Parents:** 69.70% female, 25.25% male, 1 other, 4.04% missing	**Adolescents:** 51.52% were White, 23.23% Asian, 8.08% multiracial, 4.04% Latino or Hispanic, 2.02% Black or African, 6.06% other, 5.05% missing **Parents:** 58.59% White, 28.28% Asian, 5.05% Latino or Hispanic, 3.03% Black or African, 3.03% multiracial,	NA	1.01% had a degree school or below, 18 school or equivalen bachelor degree or 23.23% master degr above, and 4.04% n Regarding parental before taxes, 17.17% had a personal annu below $35,000, 9.0% between $35,000 an $45,000, 12.12% be $45,000 and $55,00 between $55,000 an

			2.02% other, 2.02% missing.		$65,000, and 38.38 income of above $6
15. 100 days of my life	**Adolescents:** M: 13.3, SD = 1.2 **Parents:** M: 45.3, SD = 4.5	**Adolescents:** 61.6% female, 36.5% male, 1.9% other **Parents:** 79.9% female	**Adolescents:** 88.9% born in the Netherlands **Parents:** 86.8% born in the Netherlands	NA	Most parents had ei college or universit (62.7%), whereas 2 the parents had a vocational/technica and 10.1% was low school diploma).
16. ALOFT	**Adolescents:** girls: M = 12.96, SD = 1.81 boys: M = 13.00, SD = 1.73 **Parents:** M = 42.42, SD = 7.85	**Adolescents:** 46.3% female, 53.7% male **Parents:** 98.1% female, 1.9% male	**Adolescents:** NA **Parents:** 57.4% African American or Black, 37% White, 4% Hispanic, 2% Asian	48.1% married or living in a marriage-like relationship, 29.6% never married, 11.1% divorced, 7% separated, and 3.7% widowed	Annual household i ranged from the $7, bracket to the $97,9 $174,850 tax brack median range of $7 $31,850.
17. Babinsky D.	**Adolescents:** ADHD group: M = 14.13, SD = 1.73; ADHD + depression group: M = 12.80, SD = 0.84. **Parents:** NA	**Adolescents:** 100% female **Parents:** 100% female	**Adolescents:** ADHD: 87.50% White, 12.50% Hispanic/Latino; ADHD + depression: 80% White, 20% Hispanic/Latino **Parents:** NA	NA	NA
18. Breaux R	**Adolescents:** M = 13.17, SD = 0.40 **Parents:** NA	**Adolescents:** 45% female **Parents:** NA	**Adolescents:** 81.8% White; 5.3% Black, 4.6% Asian, 8.1% multiracial or another race. **Parents:** NA	NA	The mean family in $93,073 (SD = $34,
19. Chiang SC b	**Adolescents:** M = 12.93, SD = 0.75 **Parents:** M = 46.11, SD = 0.12	**Adolescents:** 53% female **Parents:** 55% female	**Adolescents:** 100% Taiwanese **Parents:** 95% Taiwanese	NA	Parent education ra below high school (high school (20.2% degree (60.7%), and degree (15.3%)
20. CP-IC	**Adolescents:** M = 14.5, SD = 1.90	**Adolescents:** 85.6% female, 14.3% male	**Adolescents:** 66.1% White, 3.6% Black or African American,	71.4% married	Parent education: H or less: 5.4%, Some college/Vocational s

	Parents: NA	**Parents:** 92.9% female, 7.1% male	1.8% Asian, 3.6% Multiracial, 1.8% did not answer, 23.1% missing **Parents:** 12.5% Hispanic, 85.7% Non-Hispanic, 1.8% missing		10.7, College degre Graduate/Professior 39.3%. 51.8% work
21. ElDahr Y	**Adolescents:** 9-13 years **Parents:** NA	**Adolescents:** 32% girl 65% boy, 2% nonbinary, 3% gender expansive **Parents:** 97% women, 2% men, 2% genderqueer, 2% gender fluid, 2% did not answer	**Adolescents:** NA **Parents:** NA	NA	82% had a total ann income of CAD $9($66,628) or more.
22. Erreygers S	**Adolescents:** M= 13.51 SD= 0.63 **Parents:** M = 44.15, SD = 4.66	**Adolescents:** 49% male, 51% female **Parents:** 56% female, 44% male	**Adolescents:** NA **Parents:** NA	66.2% married, 18.4% cohabiting, 12.0% divorced/ separated, 0.9% widowed, and 2.6% single parents	Most parents compl higher education (71.8%). 68.4% of t worked full-time, 31.6% pa
23. Fiedler J	**Adolescents:** female: M=11.2, SD=2.8 Male: M=11.9, SD=3.9 **Parents:** female: M=44.8, SD=5.4	**Adolescents:** 57.5% female, 42.5% male **Parents:** 50% female	**Adolescents:** NA **Parents:** NA	NA	NA

	Male: M=46.6, SD=5.1				
24. Griffith J	**Adolescents:** M = 12.71, SD = 0.86 **Parents:** M = 44.11, SD = 5.08	**Adolescents:** 52.1% female **Parents:** 78.7% female	White/European American (71.2%), multiracial (13.7%), Asian (7.5%), Black/African American (2.7%), another racial background (4.8%). 5.5% Latinx.	NA	Of participating par 83.9% had complet bachelor's degree o and median family range was $90,000-
25. Huang J	**Adolescents:** M = 13.01, SD = 0.35 **Parents:** M = 39.32, SD = 3.56	**Adolescents:** 37.3% male, 61.3% female **Parents:** 100% female	**Adolescents:** NA **Parents:** NA	90% married	NA
26. Human L	**Adolescents:** M = 14.57, SD = 1.08 **Parents:** M = 46.45, SD = 5.00	**Adolescents:** NA **Parents:** 81% female	**Adolescents:** 50.86% European, 34.48% Asian **Parents:** NA	NA	indexed by highest educational degree by the mother or fat ranging from 1 (son school) to 5 (gradua education; M [SD] [0.84]
27. Keenan L	**Adolescents:** Tourette syndrome: M = 10.33, SD = 0.99 Control: M = 9.68, SD = 1.13 **Parents:** NA	**Adolescents:** Tourette syndrome: 70% male, control: 59.1% male **Parents:** Tourette syndrome: 25% male, control: 4.5% male	**Adolescents:** NA **Parents:** NA	NA	Parent education: TS group-66.7 %co degree, 16.7 % som 8.3 % secondary, 8. answer. Control group - 77. college degree, 13.6 college, 9.1% secon Parent employment TS group - 83.3% e 16.7% at-home pare control group - 77.3 employed, 9.1% at- parent, 13.6% stude
28. Lougheed J	**Adolescents:** M = 14.37, SD = 1.27 **Parents:** M = 45.83, SD = 4.71	**Adolescents:** 44% Boy/Man, 49% Girl/Woman **Parents:** 93% women	**Adolescents:** 39% White, 33% multiple ethnicity options **Parents:** 53% White, 15% multiple ethnicity options	70% married	45% of bachelor's d 34% Graduate Degr Household income $150,000 per year (between $100,000 a $150,000 per year (

29. Lüscher J	**Adolescents:** M = 12.13 years, SD = 0.99 **Parents:** M = 43.83 years, SD = 4.45	**Adolescents:** 42.9% boys and 57.1% girls **Parents:** 100% female	**Adolescents:** NA **Parents:** NA	NA	NA
30. Meigs J	**Adolescents:** M = 12.58, SD = 2.56 **Parents: NA**	**Adolescents:** 36% female **Parents:** NA	9.6% Black, 68.8% White, 3.2% Asian or Asian American, 2.4% American Indian or Alaskan Native, 12.0% Multiple races, 4.0% Not reported Ethnicity: 11.2% Latino or Hispanic, 5.6% Not reported, 83.2% Not Hispanic or Latino	NA	NA
31. Merrilees C	**Adolescents:** M = 12.17, SD = 2.04 **Parents:** Fathers: M = 39.25, SD = 7.29, Mothers: M = 37.59, SD = 6.90	**Adolescents:** NA **Parents:** 50% female, 50% male	27% Black, 33% White, 26% Hispanic, and 14% another race or family members differed in race.	100% two-parent families	modal income brac $35,000-$39,999, w of couples' incomes below 100% of fede poverty level (FPL) and 41% between 1 200% of FPL
32. Moschko T	**Adolescents:** M =10.9, SD = 5.7 **Parents:** NA	**Adolescents:** 56% female **Parents:** Not reported directly; 93% biological mothers	**Adolescents:** NA **Parents:** NA	NA	41% of parents obta university entrance qualification
33. PAIRS	**Adolescents:** M = 14.13, SD = 1.74	**Adolescents:** 54.5% female, 43.8% male, 1.8% other	**Adolescents:** 64.3% White, 92% non-Hispanic	75.9% married	Annual household i was high relative to median (2.8% repor USD; 8.3% reporte

	Parents: M = 43.99, SD = 6.03	**Parents:** 88.9% female, 11.1% male	**Parents:** 75% White, 91.7% non-Hispanic		USD; 27.8% report k; 39.8% reported 1 USD; 21.3% report USD).
34. Peltz J	**Adolescents:** M = 15.7, SD =0.94 **Parents:** M= 47.6, SD = 5.4	**Adolescents:** 54.4% female **Parents:** 80% female	**Adolescents:** 71% White, 14% African American, 8% multiracial, 3% Latino/a, 2% Asian American, 2% "other" **Parents:** 79% White, 14% African American, 2% multiracial, 2% Latino/a, 2% Asian American, 1% "other"		Parents had relative levels of education, approximately 42% a graduate degree, 3 BA/BS, 19% with s college or an associ and 4% with a high diploma or GED or Mean income was $ (SD = $27,800) wit families reporting a incomes below $45
35. Qu Y	**Adolescents:** M: 13.7, SD:1.38 **Parents:** NA	**Adolescents:** 50.5% girls, 59.5% boys **Parents:** 73.7% female**,** 26.3% fathers	**Adolescents:** 100% Chinese-American **Parents:** 100% Chinese-American	NA	82% of the families to have a total gross household income g than $90,000
36. Queen TL	**Adolescents:** M = 12.97, SD = 1.51 **Parents:** Mothers M = 41 Fathers M = 43	**Adolescents:** 50% female **Parents:** 50% female, 50% male	93% White	89% two-parent families	56% of mothers and fathers achieved 2 c college years. more reporting annual household in $50,000 or more.
37. Raudsepp L	**Adolescents:** M=11.4, SD= 0.7 **Parents:** M=36.6, SD= 3.4	**Adolescents:** 100% female **Parents:** 100% female	**Adolescents:** NA **Parents:** NA	NA	was assessed but no descriptive statistics
38. Silva E	**Adolescents:** M = 14.48, SD = 1.58 **Parents:** Fathers: M = 47.44, SD = 5.37; Mothers: M = 45.03, SD = 4.48	**Adolescents:** 63.6% female **Parents:** 50% female, 50% male	96% Portuguese, 3% Brazilian, 1% Spanish	100% Two-parent families	51.5% having comp college. Most of the (90.9%) and mother worked full time.

39. Silva K	**Adolescents:** 14.36, SD = 0.88 **Parents:** 44.55, SD = 6.36	**Adolescents:** 61% female **Parents:** 97% female	**Adolescents:** 66% Black/African American, 21% White, 8% **Parents:** NA	36% single-parent families	Most parents (73% associate degree or education. Approxi 32% of families had income lower than $ 25% of families had income between $6 $100,000, and 32% families had an ann higher than $100,000.
40. Thomassin K	**Adolescents:** M = 10.41, SD = 1.9 **Parents:** M = 42.59, SD = 6.08	**Adolescents:** 54% male **Parents:** 50% female, 50% male	**Adolescents:** NA **Parents:** 55% White, 18% Latin American, 9% South Asian, 9% mixed ethnicities, 9% did not respond	Two parent-families, 83% married	91% of parents had degree, 9% high sch median household i reported was over $ year, with the follow income distribution $40,000 (8%) over (92%)
41. Timmons A	**Adolescents:** M = 15.4, SD = 0.7 **Parents:** Mothers: M = 45.4, SD = 6.4 Fathers: M = 48, SD = 6.8	**Adolescents:** 51% female **Parents:** 51% female, 49% male	**Adolescents:** 31.1% Hispanic or Latino Race: 50.9% White, 21.7% African American, 8.5% Asian American, 0.9% Native American, 17.9% multiple ethnicities **Parents:** 25% Hispanic or Latino. Race: 56.1% White, 23.6% African American, 8.5% Asian American, 0.5% Native American, 11.3% multiple ethnicities.	100% two-parent families at baseline	Parents' years of ed ranged from 7 to 20 14.9, SD = 2.6) for and 10 to 20 (M = 1 2.5) for fathers. Far income varied cons 21.9% , $50,000, 3 $51,000 and , $100 $101,000 and , $15 20.8% , $151,000 ($93,500).

42. Verhees MWF	**Adolescents:** M=12.20, SD = 0.62 **Parents:** Mothers: 43.35, SD = 4.08, Fathers: M=45.10, SD = 5.11.	**Adolescents:** 66% female **Parents:** 50% female, 50% male	**Adolescents:** 100% Belgian nationality **Parents:** 95% Belgian nationality	100% two-parent families	100% of mothers ar fathers) received higher education (bachelor/master/Ph
43. Villarreal D	**Adolescents:** M = 15.59, SD = 1.20 **Parents:** M = 45.44	**Adolescents:** 49% female **Parents:** 100% female	**Adolescents:** 38% White, 25% Asian American, 17% Hispanic, 7% African American, 13% multiple or other race/ethnicities **Parents:** NA	81% were married	Most mothers atter least some college (33% of mothers had bachelor's degree. 7 employed. 27% of f were low income, 6 middle income, and high income familie
44. Zhang W	**Adolescents:** first-grade junior high school **Parents:** NA	**Adolescents:** NA **Parents:** NA	**Adolescents:** NA **Parents:** NA	100% two-parent families	NA

pop=population

[1]In multi-wave studies, demographics are taken from baseline

[2]In datasets that generated several publications, data was taken from larges possible sample

Figure 1. *PRISMA flow diagram of paper selection*

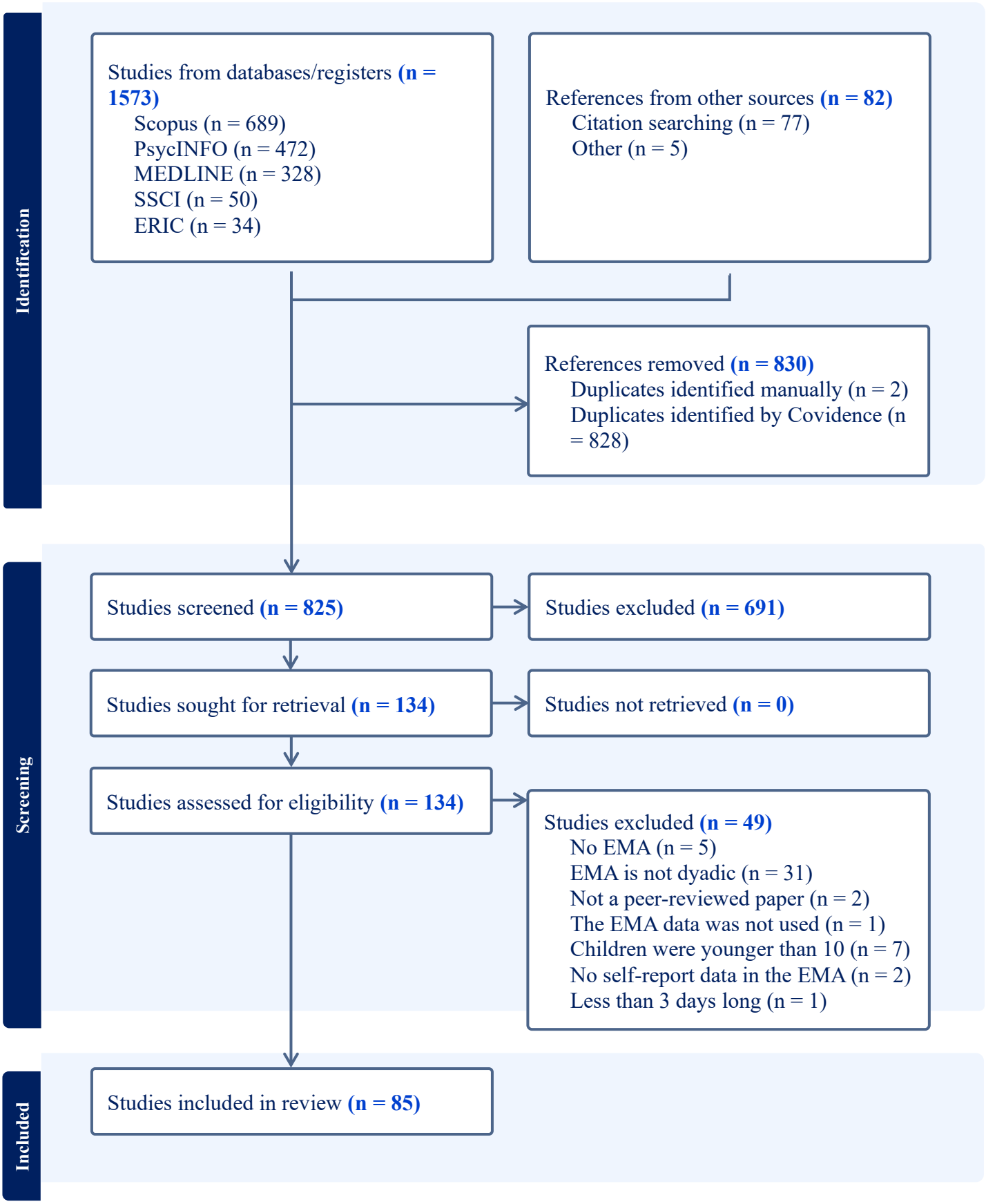

Figure 2. *Number of publications (general/with open science per year)*

