Published in final edited form as:

Curr Opin Psychiatry. 2020 November ; 33(6): 528–533. doi:10.1097/YCO.0000000000000639.

Ecological Momentary Assessment in Eating Disorders Research: Recent Findings and Promising New Directions

Lauren M. Schaefer, Ph.D.^a, Scott G. Engel, Ph.D.^{a,b}, Stephen A. Wonderlich, Ph.D.^{a,b}

^aSanford Research, Center for Bio-behavioral Research, Fargo, North Dakota, USA

^bUniversity of North Dakota School of Medicine and Health Sciences, Department of Psychiatry and Behavioral Science, Fargo, North Dakota, USA

Abstract

Purpose of review: Ecological momentary assessment (EMA) is an important tool for clarifying common precipitants and consequences of eating disorder (ED) symptoms that might be meaningfully targeted in treatments for these pernicious disorders. This article reviews recent advances in EMA work conducted within clinical ED samples.

Recent findings: Published studies from the past 2.5 years can broadly be categorized as 1) involving functional analysis of ED behaviors, 2) examining hypothesized predictors of ED symptoms, or 3) applying novel approaches to EMA data. Examples of the latter category include the use of latent profile analysis with EMA data, integration of neurocognitive (e.g., ambulatory inhibitory control task) or biological indicators (e.g., fMRI, plasma leptin), and examining changes in associations between momentary variables over time through multi-wave EMA data-collection.

Summary: EMA studies in the EDs have advanced significantly in recent years, with findings demonstrating strong support for the emotion regulation function of ED behaviors and momentary predictors of distinct ED symptoms. The use of novel statistical and data-collection approaches represent exciting areas of growth, with likely implications for intervention approaches, including those that utilize ambulatory technology to deliver treatment.

Keywords

ecological momentary assessment; naturalistic assessment; ambulatory assessment; experience sampling; eating disorders

Introduction

Ecological momentary assessment (EMA; 1) represents a key methodological approach to understanding factors that may promote and ultimately maintain eating disorders (EDs) including anorexia nervosa (AN), bulimia nervosa (BN), and binge-eating disorder (BED). Traditional research methods rely heavily upon the use of global, summary, or retrospective reports of participant experiences. While these approaches undoubtedly provide valuable

Correspondence concerning this article should be addressed to Lauren M. Schaefer, PhD, Sanford Research, Center for Bio-behavioral Research, Fargo, North Dakota, USA. Telephone: (701) 365-4928; lauren.m.schaefer@gmail.com. .

Conflicts of interest: None.

information about the person-level characteristics associated with eating pathology, traditional self-report methods are highly susceptible to recall bias (i.e., difficulty accurately reporting on events from the past) and may result in the loss of potentially important information regarding how and why participant experiences or behaviors vary across time and context. EMA attempts to overcome these limitations by repeatedly assessing participants in their natural environment over relatively short time intervals (e.g., five times per day over two weeks) using electronic devices. This methodological approach reduces recall bias by asking participants to report on their very recent experiences, increases ecological validity by collecting information from participants as they go about their daily lives, and facilitates an examination of the temporal patterning between participant experiences and behaviors through the use of intensive longitudinal data-collection. As such, this approach is ideally suited to clarifying both the proximal precipitants and consequences of ED symptoms, which might then be targeted in treatment.

During the past two decades, the ED field has witnessed a sharp increase in the number of studies utilizing EMA (2). In the current review, we seek to summarize the recent work in this area. Specifically, we review studies published within peer-reviewed journals over the past 2.5 years, which utilized EMA within a clinical sample of individuals with a diagnosed ED. Three broad themes emerged from this work: (a) functional analysis of ED symptoms, (b) predictors of ED symptoms, and (c) novel applications of EMA to EDs.

Functional Analysis of Eating Disorder Symptoms

EMA is an excellent strategy for testing the functional relationship between variables. In ED research, this has often involved empirical tests of the theoretical relationship (3) between emotion or stress and ED behaviors (e.g., binge eating, purging, exercise). Broadly, these studies test the hypothesis that ED behaviors may serve to regulate emotional states (e.g., reduce increasing levels of negative affect or promote positive affect). For example, Schaefer et al. (4) examined the functional relationship between affective states and binge eating in a sample of individuals with BED. Consistent with emotion regulation models of EDs (3), this study found that negative affect (particularly, guilt) increased in the moments preceding a binge-eating episode, and significantly decreased after the episode, supporting the idea that binge eating may function to regulate emotional states.

Two studies found some evidence to support the idea that physical activity plays an emotion regulation role in AN. Results from Kolar et al. (5) suggested that periods of greater physical activity assessed using accelerometer were associated with increases in positive affect, and that this relationship may be stronger among individuals with AN compared to healthy controls. Similarly, Ma and Kelly (6) used EMA to measure shame and guilt in the hours preceding and following self-reported exercise events among women with AN. After exercising, respondents demonstrated increased pride and decreased shame, both of which dissipated as the day proceeded.

Pak et al (7) studied the functional relationship between negative affect and body checking behavior in a sample of women with AN. They also examined whether levels of trait negative urgency (i.e., impulsivity under conditions of negative affect) moderated that relationship. The authors found that the relationship between negative affect and body

checking differed between individuals depending on the person's trait level of "lack of perseverance", such that more impulsive individuals (i.e., those with lower perseverance) may engage in body checking behaviors in response to lower levels of negative affect than other individuals.

Finally, while most functional analysis studies in EDs have focused on emotional valence (i.e., positive or negative), Becker et al. (8) organized emotion constructs using a three-dimensional model of motivation capturing valence, arousal, and approach/withdrawal, and examined changes in these emotional experiences before and after bulimic behaviors in a sample of women with BN. Emotional states that were negatively valenced, high in arousal, and promote avoidance appeared to be most strongly related to bulimic behaviors.

Predictors of Eating Disorder Symptoms

While the papers reviewed above focused squarely on changes in affective states occurring before and after ED behaviors in order to clarify the potential emotion regulation function of those behaviors, a considerable proportion of recent EMA studies examined a broader array of trait and momentary predictors of ED symptoms, with the intention of identifying common precipitants of these behaviors.

Consistent with cognitive behavioral theories of eating pathology, five papers examined the proposition that specific cognitions may elicit or promote problematic eating behaviors. Legenbauer et al. (9) found that for women with BED or BN, momentary cognitions related to food/loss of control predicted an increased likelihood of binge eating, while thoughts about dietary restraint predicted a decreased likelihood of binge eating. Levinson et al. (10) found evidence for reciprocal positive momentary associations between thoughts experienced during meals (e.g., concerns about weight gain and perfectionistic thoughts about the meal) and ED behaviors (e.g., restriction, compensatory behaviors) among individuals recently discharged from an intensive ED treatment program (primarily AN). Further, greater weight-related or perfectionistic mealtime cognitions predicted increased ED symptomatology at one-month follow-up. These findings suggest that pernicious cycles of ED thoughts and behaviors may ultimately maintain the disorder. Two studies focused on rumination, or repetitive negative thinking, as predictors of ED symptoms and associated psychopathology. Sala et al. (11) found that greater rumination during mealtimes predicted greater subsequent engagement in weighing and body checking, but not binge eating, restriction, or excessive exercise among a transdiagnostic (primarily AN) sample. Further, higher levels of rumination during the EMA protocol predicted increases in ED symptoms at one-month follow-up. Smith et al. (12) examined individual facets of trait-level general and ED-specific rumination (i.e., negative thinking about one's general distress versus one's ED symptoms) as predictors of momentary body satisfaction and loss of control eating among women with recurrent binge eating (primarily BED). Higher ED-specific ruminative brooding (e.g., thinking "why can't I handle my eating better") was related to lower body satisfaction and higher loss of control eating, while higher general reflection (i.e., intentionally and deliberately trying to understand the reasons for one's general distress) was related to lower loss of control eating. Finally, Mason et al. (13) found that poor psychological quality of life assessed at the trait level (e.g., feeling odd or embarrassed

about one's eating disorder) predicted greater levels of dietary restriction in a subsequent EMA protocol among women with AN. Lower work/school-related quality of life (e.g., believing that one is a failure in class) predicted increased binge eating in the EMA protocol. Overall, these studies indicate that specific cognitive content may differentially increase or decrease the likelihood of continued ED symptomatology, suggesting the importance of intervening on proven problematic cognitions within treatment.

Two publications examined relationships between momentary body image and ED behaviors, adding to a large body of research relating poor body image to eating pathology, and clarifying the possible affective mechanisms underlying those associations. Srivastava et al. (14) found that momentary increases in body dissatisfaction were associated with an increased likelihood of subsequent binge eating among women with BN or BED. Mason et al. (15) found that the positive association between momentary appearance-related stress and subsequent ED behaviors (e.g., binge eating, vomiting) was mediated by increased momentary anxiety among women with AN.

Two studies examined the momentary relationships between coping responses and subsequent ED behaviors. Vanzhula et al. (16) found that use of avoidance coping (i.e., distraction or emotional avoidance) during meals predicted increased excessive exercise at the following recording and reduced anxiety at the next meal among a transdiagnostic (primarily AN) sample. However, avoidance coping was not related to binge eating, weighing, body checking, or engaging in compensatory behaviors at the next recording. Greater use of avoidance coping during the EMA period predicted increases in bulimic symptoms at one-month follow-up, suggesting that this coping style may maintain or exacerbate eating pathology over time. Svaldi et al. (17) examined momentary relationships between negative affect, use of emotion regulation strategies, and binge eating among individuals with BED. Successful application of adaptive emotion regulation strategies (e.g., observe, accept, tolerate, or modify negative emotions) predicted a reduced likelihood of subsequent binge eating. Use of maladaptive emotion regulation strategies (i.e., rumination) predicted an increased likelihood of binge eating. However, use adaptive emotion regulation strategies did not predict reductions in negative affect, and the momentary relationship between negative affect and subsequent binge eating was not moderated by use of adaptive or maladaptive emotion regulation strategies. These findings underscore the clinical value of improving patient's implementation of adaptive coping skills in their day-to-day lives, although the exact mechanism by which successful coping strategies produce reductions in ED behaviors remains in question.

Novel Applications of EMA to Eating Disorders

More novel applications of EMA to the study of EDs in recent years include the use of EMA in classification research, the collection of multiple waves of EMA, and the integration of biological or neurocognitive data with EMA.

Two studies incorporated EMA and latent profile analysis (LPA) to identify subtypes of individuals with EDs. Leraas et al. (18) classified women with BN based in part on EMA-measured mean levels of and variability in negative and positive affect. They found four groups characterized by: 1) relatively normative levels of affect and affective variability, 2)

low variability and high negative affective intensity, 3) high emotional variability and low negative affective intensity, and 4) high affective variability and negative affect intensity. In follow up group comparisons, those with stable negative affect evidenced the highest levels of ED pathology, borderline personality traits, and childhood trauma history, while the normative group evidenced the lowest levels of psychopathology. Similarly, Haynos et al. (19) used LPA to classify patterns of trait adaptive and maladaptive perfectionism among women with AN. They found four groups characterized by: 1) low levels of perfectionism, 2) high levels of adaptive and maladaptive perfectionism, 3) moderate levels of maladaptive perfectionism, and 4) high maladaptive perfectionism. Overall, the low perfectionism group exhibited the lowest disturbances in eating and affect. Compared to the moderate and high maladaptive perfectionism groups, individuals with high adaptive and maladaptive perfectionism exhibited less affective disturbances, but greater ED disturbances (especially restrictive pathology). These studies highlight the potential utility of using naturalistically-assessed variables in conjunction with statistical classification techniques to identify meaningful subgroups of ED patients.

Given evidence that negative affect commonly precedes binge episodes (4,8), Smith et al. (20) used multiple waves of EMA data-collection to examine the extent to which two treatments for BED “de-coupled” or reduced this momentary relationship. Findings indicated that regardless of treatment approach, negative affect and binge eating were de-coupled at follow-up, but not end of treatment. This study highlights the utility of collecting multiple waves of EMA within a traditional treatment trial to examine changes in momentary relationships between variables over time.

Five studies integrated neurocognitive or biological data with EMA. Furtjes et al. (21) also deployed multiple waves of EMA and measured plasma leptin levels as a marker of undernutrition to examine changes in the momentary associations between rumination and affect in a sample of women with AN undergoing weight restoration. Food rumination (but not body rumination) decreased with weight gain and demonstrated weaker relations with affect, suggesting that food rumination may reflect a physiological symptom of undernutrition. Using a combination of fMRI and EMA in a sample of women with AN, Seidel et al. (22) found that individuals who demonstrated more successful down-regulation of positive emotions after viewing positive images in the scanner (indexed by reduced hemodynamic activity in the ventral striatum) also exhibited greater levels of body-related rumination and negative emotional state in an EMA protocol and poorer treatment response, potentially implicating maladaptive reward processes and emotion regulation in AN. Wonderlich et al. (23) found that, following a stressor, neural responses to food cues in brain regions associated with emotion regulation (i.e., ACC, amygdala, vmPFC) moderated the EMA-derived trajectories of negative and positive affect surrounding binge eating among women with BN symptoms. These studies highlight the potential value of integrating biological data with naturalistic assessment.

While, neurocognitive abnormalities are implicated in the EDs, prior research has relied on trait-level measures of these processes. However, in a study of females who reported recurrent binge eating (BED, BN, AN-binge/purge subtype), Smith et al. (24) examined momentary attention bias toward food assessed via an ambulatory dot-probe task, negative

affect, and eating expectancies in predicting incidents of binge eating. Binge eating was associated with moments of increased bias toward palatable foods. Further, attention bias interacted with eating expectancies and affect to predict subsequent binge eating. Smith et al. (25) further examined the extent to which inhibitory control assessed via an ambulatory go/no-go task and negative affect predicted binge eating. For individuals with BN or AN-BP, the association between negative affect and binge eating was strongest on days in which they experienced lower levels of inhibitory control. These studies indicate that neurocognitive process may vary across time and meaningfully relate to momentary risk for ED symptoms.

Discussion

In the last 2.5 years, researchers have continued to meaningfully apply EMA approaches to the study of EDs. Studies examining the functional relationship between ED behaviors and affect broadly support affect regulation models, indicating that ED behaviors are most likely to occur under conditions of elevated negative affect and may *temporarily* improve affect (4,6,8). Findings suggest that treatments targeting these maladaptive emotion regulation processes may prove beneficial. For example, ecological momentary interventions (EMIs) harness EMA to identify moments at which users are at high risk (e.g., reporting elevated levels of negative affect), and trigger the delivery of brief interventions to users in their natural environments (26). As considerable work identifies particular types of cognitive content as common precipitants of ED symptoms (9–11), interventions aimed at altering or restructuring these cognitions are also likely to be beneficial. It is interesting to note that some emotion regulation strategies (e.g., emotional acceptance, 17) appear to reduce ED symptom engagement, though not necessarily through the hypothesized affective mechanisms. Therefore, continued work to identify the process by which effective strategies promote symptom reduction is encouraged. In particular, the use of multiple waves of EMA delivered during treatment or across stages of illness (e.g., 21,22) may help to clarify the process by which problematic functional relationships change over time.

Although studies of this nature are in their infancy, the integration of neurocognitive or biological assessments into EMA studies represents an important advancement in the field. Empirical evidence reviewed above suggests that biological (e.g., amygdala activity, 23) and neurocognitive factors (e.g., inhibitory control, 25) may influence the momentary association between affect and ED symptoms. Continued multimodal investigations interrogating the biopsychosocial processes underlying ED pathology may help to clarify the role of neurobiology in the real-world expression of ED behavior.

Conclusion

In sum, EMA continues to demonstrate great utility in the study of EDs. The integration of objective (e.g., fMRI, neurocognitive task performance) or passive (e.g., actigraphy) data-collection represents an exciting advancement in EMA approaches, which is likely to result in novel treatment techniques.

Acknowledgments

Financial support and sponsorship: None.

References

1. Stone AA, Shiffman S. Ecological momentary assessment (EMA) in behavioral medicine. *Ann Behav Med.* 1994.
2. Engel SG, Crosby RD, Thomas G, Bond D, Lavender JM, Mason T, et al. Ecological momentary assessment in eating disorder and obesity research: a review of the recent literature. *Curr Psychiatry Rep.* 2016;18(4):37. [PubMed: 26893235]
3. Heatherton TF, Baumeister RF. Binge eating as escape from self-awareness. *Psychol Bull.* 1991;110:86–108. [PubMed: 1891520]
4. Schaefer LM, Smith KE, Anderson LM, Cao L, Crosby RD, Engel SG, et al. The role of affect in the maintenance of binge-eating disorder: evidence from an ecological momentary assessment study. *J Abnorm Psychol.* 2020;129(4):387–96. *This study uses EMA data to examine the trajectories of positive and negative affect (including its constituent facets of guilty, hostility, anxiety, and sadness) in the four hours preceding and following binge-eating episodes among individuals with binge-eating disorder. Findings provide support for affect regulation models of binge eating and highlight the primary significance of guilt in driving binge-eating behavior. The authors discuss the drawbacks associated with other analytic techniques for examining functional affect-behavior relationships (e.g., single points comparison) and provide SPSS syntax for completing trajectory analysis.
5. Kolar DR, Neumayr C, Roth M, Voderholzer U, Perthes K, Schlegl S. Testing an emotion regulation model of physical activity in adolescents with anorexia nervosa: a pilot ecological momentary assessment. *Eur Eat Disord Rev.* 2020;28(2):170–83. [PubMed: 31802577]
6. Ma R, Kelly AC. The fragility of perceived social rank following exercise in anorexia nervosa: an ecological momentary assessment study of shame and pride. *Eat Weight Disord.* 2019.
7. Pak KN, Wonderlich J, le Grange D, Engel SG, Crow S, Peterson C, et al. The moderating effect of impulsivity on negative affect and body checking. *Compr Psychiatry.* 2018;86:137–42. [PubMed: 30145404]
8. Becker KR, Fischer S, Crosby RD, Engel SG, Wonderlich SA. Dimensional analysis of emotion trajectories before and after disordered eating behaviors in a sample of women with bulimia nervosa. *Psychiatry Res.* 2018;268:490–500. [PubMed: 30145506]
9. Legenbauer T, Radix AK, Augustat N, Schütt-Strömel S. Power of cognition: how dysfunctional cognitions and schemas influence eating behavior in daily life among individuals with eating disorders. *Front Psychol.* 2018;9:2138. [PubMed: 30483175]
10. Levinson CA, Sala M, Fewell L, Brosf LC, Fournier L, Lenze EJ. Meal and snack-time eating disorder cognitions predict eating disorder behaviors and vice versa in a treatment seeking sample: a mobile technology based ecological momentary assessment study. *Behav Res Ther.* 2018;105:36–42. [PubMed: 29614379] *This article utilized EMA and traditional longitudinal methods to demonstrate cyclical momentary relationships between cognitions and eating disorder behaviors, as well as the importance eating disorder cognitions assessed via EMA in promoting disorder persistence over one-month follow-up
11. Sala M, Brosf LC, Levinson CA. Repetitive negative thinking predicts eating disorder behaviors: a pilot ecological momentary assessment study in a treatment seeking eating disorder sample. *Behav Res Ther.* 2019;112:12–7. [PubMed: 30466030]
12. Smith KE, Schaumberg K, Reilly EE, Anderson LM, Schaefer LM, Dvorak R, et al. The ecological validity of trait-level rumination measures among women with binge eating symptoms. *Eat Weight Disord.* 2020:1–10.
13. Mason TB, Wonderlich SA, Crosby RD, Engel SG, Mitchell JE, Crow SJ, et al. Associations among eating disorder behaviors and eating disorder quality of life in adult women with anorexia nervosa. *Psychiat Res.* 2018;267:108–11.
14. Srivastava P, Michael ML, Manasse SM, Juarascio AS. Do momentary changes in body dissatisfaction predict binge eating episodes? An ecological momentary assessment study. *Eat Weight Disord.* 2020:1–6.
15. Mason TB, Lavender JM, Wonderlich SA, Crosby RD, Engel SG, Mitchell JE, et al. Examining a momentary mediation model of appearance-related stress, anxiety, and eating disorder behaviors in adult anorexia nervosa. *Eat Weight Disord.* 2018;23(5):637–44. [PubMed: 28589469] *This study

sought to interrogate possible mechanisms (i.e., emotional states) underlying the momentary relationships between body dissatisfaction and eating disorder behavior. This study's application of mediation analysis to intensive longitudinal data allows for improved understanding of the momentary processes that precipitate and maintain eating disorder symptoms.

16. Vanzhula IA, Sala M, Christian C, Hunt RA, Keshishian AC, Wong VZ, et al. Avoidance coping during mealtimes predicts higher eating disorder symptoms. *Int J Eat Disord.* 2020;53(4):625–30. [PubMed: 32112594]
17. Svaldi J, Werle D, Naumann E, Eichler E, Berking M. Prospective associations of negative mood and emotion regulation in the occurrence of binge eating in binge eating disorder. *J Psychiatr Res.* 2019;115:61–8. [PubMed: 31121393]
18. Leraas BC, Smith KE, Utzinger LM, Cao L, Engel SG, Crosby RD, et al. Affect-based profiles of bulimia nervosa: The utility and validity of indicators assessed in the natural environment. *Psychiat Res.* 2018;259:210–215.
19. Haynos AF, Utzinger LM, Lavender JM, Crosby RD, Cao L, Peterson CB, et al. Subtypes of adaptive and maladaptive perfectionism in anorexia nervosa: associations with eating disorder and affective symptoms. *J Psychopathol Behav.* 2018;40(4):691–700.
20. Smith KE, Mason TB, Schaefer LM, Anderson LM, Hazzard VM, Crosby RD, et al. Examining de-coupling of momentary affect-behavior associations in binge eating disorder treatment with time-varying effect models. *Psychol Med.* In press. *This study collected three waves of EMA data (baseline, end of treatment, six-month follow-up) from participants enrolled in a randomized treatment trial for binge-eating disorder. Data were then analyzed to examine changes in the momentary relationships between affect and binge eating over the course of treatment and follow-up. This approach highlights the utility of multi-wave EMA in examining changes in dynamic momentary processes across time.
21. Fürtjes S, Seidel M, King JA, Biemann R, Roessner V, Ehrlich S. (2018). Rumination in anorexia nervosa: cognitive-affective and neuroendocrinological aspects. *Behav Res Ther.* 2018;111:92–98. [PubMed: 30396110]
22. Seidel M, King JA, Ritschel F, Boehm I, Geisler D, Bernardoni F, et al. The real-life costs of emotion regulation in anorexia nervosa: a combined ecological momentary assessment and fMRI study. *Transl Psychiatry.* 2018;8:28 [PubMed: 29362440]
23. Wonderlich JA, Breithaupt L, Thompson JC, Crosby RD, Engel SG, Fischer S. The impact of neural responses to food cues following stress on trajectories of negative and positive affect and binge eating in daily life. *J Psychiatr Res.* 2018;102:14–22. [PubMed: 29558632] *This study integrated EMA with fMRI to examine whether activation in areas of the brain associated with emotion regulation moderated the functional relationship between affect and binge eating. Findings suggested that biological responses to food cues may modulate affect-behavior relationships in women with bulimia nervosa.
24. Smith KE, Mason TB, Juarascio A, Weinbach N, Dvorak R, Crosby RD, et al. The momentary interplay of affect, attention bias, and expectancies as predictors of binge eating in the natural environment. *Int J Eat Disord.* 2020;53:586–594. [PubMed: 32083337]
25. Smith KE, Mason TB, Schaefer LM, Juarascio A, Dvorak R, Crosby RD, et al. Examining intra-individual variability in inhibitory control and negative affect as predictors of binge eating using ecological momentary assessment. *J Psychiatr Res.* 2020;120:137–143. [PubMed: 31677551] *This study builds upon prior research demonstrating trait-level inhibitory control deficits associated with binge-eating pathology, by examining daily fluctuations in inhibitory control assessed via an ambulatory go/no-go task in relation to momentary affect and binge episodes. Findings supported an interaction between inhibitory control and negative affect in predicting the likelihood of binge-eating episodes, and highlight the utility of incorporating ambulatory neurocognitive assessments into EMA protocols.
26. Juarascio AS, Parker MN, Lagacey MA, Godfrey KM. Just-in-time adaptive interventions: a novel approach for enhancing skill utilization and acquisition in cognitive behavioral therapy for eating disorders. *Int J Eat Disord.* 2018;51(8):826–830. [PubMed: 30051495]

Key Points

- EMA provides a powerful tool for identifying momentary predictors and consequences of eating disorder symptoms.
- Recent EMA research examining the functional relationship between eating disorder behaviors and affect provides robust support for emotion regulation models, suggesting that these behaviors temporarily reduce increasing levels of negative affect or promote positive affect.
- Several distinct predictors of symptom engagement on micro-longitudinal (e.g., use of eating disorder behaviors at the next EMA signal) and macro-longitudinal (e.g., exacerbation of eating disorder symptoms at 1 month follow up) scales were identified in recent EMA studies.
- More novel approaches to EMA data in the eating disorders include the use of latent profile analysis with momentary data, the integration of neurocognitive or biological indicators, and the collection of multiple waves of EMA over time to examine changes in associations between momentary variables.
- Enhanced understanding of the momentary processes that promote eating disorder symptom maintenance continues to inform treatment approaches, including ecological momentary interventions.