Intentions and Motives for Cannabis Use in Pregnancy and Postpartum: Preliminary Daily Diary Findings on Planned and Unplanned Use

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ABSTRACT

Objective: Perinatal cannabis use is a significant public health concern linked to adverse maternal and neonatal outcomes. Despite growing evidence of prenatal cannabis use (PCU) risks, many individuals use it to manage symptoms such as nausea, anxiety, or pain. The Theory of Planned Behavior (TPB) identifies intentions as key predictors of substance use. While intentions and use patterns have been well studied in non-pregnant populations, research on prenatal intentions for cannabis use is limited. This pilot ecological momentary assessment (EMA) study examines: (a) cannabis use and non-use days in terms of intentions and use; (b) associations between daily intentions and use across prenatal and postpartum; and (c) motives linked to planned versus unplanned use. **Method:** Pregnant participants (N = 20; Mage = 30.15) reporting current prenatal CU completed two 14-day EMA bursts (in pregnancy and at 6-weeks postpartum) tracking daily CU, motives, and intentions. Planned use days were coded based on morning endorsement of intention to use, followed by reported use; unplanned use days were coded based on no morning intention, followed by reported use. **Results:** Planned use was most common both in pregnancy and postpartum, followed by planned nonuse, unplanned use, and foregoing plans to use. Intentions strongly predicted daily cannabis use (OR = 5.78, p < .001), with no significant difference between pregnancy and postpartum. Common motives across both planned and unplanned days included relaxation, pain relief, and sleep improvement. Some motives, including appetite increase and anxiety reduction, were more frequent on planned days, while enhancement motives were more common on unplanned days. **Conclusions:** Findings support TPB's relevance to perinatal cannabis use, highlighting distinct motives for planned versus unplanned use. Larger samples are needed to expand these insights.

Key words: = cannabis; pregnancy; postpartum; intentions; motives; planned use

Perinatal (i.e., prenatal and postpartum) cannabis use (PCU) is a growing public health concern. Data from the 2020 National Survey on Drug Use and Health (NSDUH) indicate that 16% of pregnant individuals reported using cannabis in the first trimester, 4.2% in the second trimester, and 4.7% in the third trimester, representing sharp increases from 2002, when rates were 6.3%, 1.9%, and 2.0%, respectively (Hayes et al., 2023). Despite known risks to

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maternal and infant health, such as preterm birth, low birthweight, and developmental concerns linked to fetal THC exposure (Bertrand et al., 2018; Coy et al., 2021; Grant et al., 2018), rates of PCU continue to rise (Barbosa-Leiker et al., 2020; Gesterling & Bradford, 2022). Many individuals report using cannabis for medical reasons (Vanstone et al., 2021; Young-Wolff et al., 2020), yet clinicians and researchers have limited data to guide discussions related to patients' intentions to use cannabis, which offers a key point of leverage in discussing potential alternatives to PCU. According to the Theory of Planned Behavior (TPB), intentions are a primary driver of health behavior and account for substantial variance in substance use outcomes (Ajzen, 1991, 2011; Cooke et al., 2016). Emerging qualitative work suggests some pregnant individuals intend to use cannabis postpartum (Young-Wolff et al., 2024), but little is known about how intentions and subsequent behavior (i.e., planned/unplanned use) are reflected in daily cannabis use in pregnancy. The current study addresses this gap by reporting on the prevalence of planned and unplanned cannabis use in pregnancy and postpartum, examining associations between daily intentions and use, and describing motives linked to planned versus unplanned use.

A growing body of research has consistently identified motives for cannabis use in pregnancy, particularly associations between the desire for relief of physical or mood symptoms for both cannabis use in pregnancy (Besse et al., 2023; Gunn et al., 2024; Vanstone et al., 2021) and postpartum (Vanstone et al., 2021; Bhatia et al., 2024). In a recent study of individuals using cannabis across the perinatal period, anxiety and stress were the most commonly endorsed motivations overall; however, social motives such as "to have fun" and "to relax," or general sensation seeking (Vanstone et al., 2021, 2022), became more prominent during the postpartum phase (Eitel et al., 2024). Pregnant individuals report using cannabis to alleviate pregnancy-related symptoms (e.g., morning sickness, anxiety, and stress, improve sleep, reduce physical discomfort; Barbosa-Leiker et al., 2020; Besse et al., 2023; Gunn et al., 2024; Vanstone et al., 2021). In some cases, motives have been documented to differ meaningfully between pregnancy and postpartum (Eitel et al., 2024; Vanstone et al., 2021), potentially in response to changing psychological, social, and contextual demands across perinatal phases, underscoring the importance of examining both pregnancy and postpartum periods when studying cannabis motives. While some prospective work has examined prevalence rates and motives of PCU (Brown et al., 2023; Eitel et al., 2024; Oh et al., 2017), there is limited work examining daily antecedents of PCU. Capturing daily antecedents is critical for identifying moments of risk of continued use, adverse outcomes, and potential intervention points.

A potential and understudied intervention point for PCU is the role of intentions. In the general population, intentions to use substances are among the most robust predictors of subsequent use (Bosnjak et al., 2020; Cooke et al., 2016), yet they remain understudied in the context of PCU. The TPB, a widely used framework for understanding health behaviors, explains up to 76% of the variance in behavioral intentions and nearly 50% of the variance in actual substance use behavior among non-pregnant persons (Ajzen, 2011; Bosnjak et al., 2020; Cooke et al., 2016). Additionally, the TPB posits that behavior is most proximally predicted by behavioral intentions, which are shaped by attitudes toward the behavior, perceived social norms, and perceived behavioral control. Intentions are therefore considered a key, modifiable target for intervention and a critical step in the pathway from cognition to behavior. TPB has been applied extensively to alcohol, tobacco, and cannabis use in non-perinatal populations. In alcohol and cannabis use research in the general population, intentions have been shown to reliably predict subsequent use (Cooke et al., 2016; Hamilton et al., 2022; Stevens, Boyle, et al., 2022). Further, the distinction between planned and unplanned use (i.e., whether an individual intended to use cannabis at the start of the day) offers a clinically meaningful extension of TPB.

Specifically, emerging data suggest planned alcohol and cannabis use are linked to increased consumption and a higher likelihood of negative consequences in young adult samples (Howe & Finn, 2024; Stevens et al., 2021; Stevens, Gunn, et al., 2022). Further, motives have been shown to differ between planned versus unplanned use (Dvorak et al., 2014; Dyar et al., 2025; Stevens,

Boyle, et al., 2022; Stevens et al., 2021; Stevens, Gunn, et al., 2022), suggesting intentions as a potential mechanism of risky use. Pregnancy and the postpartum period represent unique contexts in which decision-making around substance use may be especially complex, given heightened health concerns, stigma, shifting social norms, and changes in perceived control related to physical symptoms and caregiving demands. Although TPB has been used to understand a range of prenatal health behaviors, including substance use, little is known about how these intention–behavior processes operate for cannabis use specifically during the perinatal period.

Existing research on intentions in PCU has been primarily qualitative in nature. For instance, Young-Wolff and colleagues (2024) reported that most pregnant individuals in their sample intended to return to cannabis use postpartum, warranting further research in this area. Yet, these findings have not been tested with quantitative methods. This represents a critical gap, as individuals in this population may intentionally plan their cannabis use, especially in response to persistent mood or physical symptoms (Crawford-Williams et al., 2015; Daley et al., 1998). Further, providers report uncertainty about how to discuss cannabis use with perinatal patients, often due to a lack of evidence-based guidance (Barbosa-Leiker et al., 2020; Holland et al., 2016; Panday et al., 2022; McManus et al., 2022), while perinatal individuals may interpret the absence of provider discussion as an implicit message that PCU is not harmful (Barbosa-Leiker et al., 2020; Bayrampour et al., 2019; Mark et al., 2021). Leveraging ecologically valid measurement approaches, such as ecological momentary assessment (EMA) or daily diary, would allow for a fine-grained, real-time understanding of the antecedents of cannabis use, including when and why individuals plan to use (Shiffman, 2009). Because intentions may serve as an early, modifiable step in the behavioral cascade leading to use (Malaguti et al., 2020; Sayeed et al., 2005; Steinmetz et al., 2016), capturing intentions at the daily level is essential.

In summary, no studies to date have examined intentions to use cannabis or the prevalence of planned versus unplanned cannabis use in a perinatal sample. To address this gap, the current study presents preliminary findings from a pilot longitudinal study of perinatal cannabis use, involving 20 individuals (full pilot sample) recruited during pregnancy who reported current PCU and were followed through six weeks postpartum (Micalizzi et al., 2025). Current analysis addresses three primary aims: (1) characterize cannabis use and non-use days in terms of intentions and use; (2) examine the association between daily intentions and cannabis use behavior; and (3) describe the motives associated with planned versus unplanned cannabis use in both pregnancy and postpartum. As Aims 1 and 3 are descriptive, no a priori hypotheses were specified. For Aim 2, based on prior literature demonstrating that intentions are a robust predictor of subsequent substance use (Ajzen, 2011; Cooke et al., 2016), it is hypothesized that stronger intentions to use cannabis will predict a greater likelihood of use at the daily level.

METHODS

Recruitment and Sample

Individuals were recruited as part of a larger study on the relationship between depression and perinatal cannabis use (Micalizzi et al., 2025). Participants were recruited through community flyers and social media, as well as via BuildClinical (a platform that identifies research participants using online advertising campaigns). Eligible participants met the following criteria: a) over 18 years of age; b) English-speaking; c) report cannabis use (CU) at least twice weekly over the past 60 days; d) singleton pregnancy, e) not currently in substance use treatment; f) no current (past month) mania, psychosis, or active suicidal ideation; g) no substance use other than cannabis, tobacco, or alcohol; and h) own a personal smartphone to accommodate EMA data collection. Descriptives for demographic and study-relevant variables are displayed in Table 1. Additional details regarding study purpose, recruitment, and the broader pilot design are provided in the published study protocol (Micalizzi et al., 2025).

Interested respondents completed an online screener to assess initial eligibility. Those meeting the criteria were contacted by study staff to confirm eligibility and schedule the baseline visit. Prospective participants could also reach out directly via call or text to schedule a screening.

Individuals were invited to an in-person baseline assessment and instructed to abstain from CU for at least 15 hours prior to the visit to ensure they were not acutely intoxicated and could provide informed consent and complete study procedures. For in-person screening, study staff verified identity and age using a government-issued ID (e.g., a driver's license) and completed informed consent procedures. After consent was obtained, participants provided biochemical verification of pregnancy (i.e., urine test) and past 15-hour cannabis abstinence (i.e., saliva test).

Data Collection Procedures

Upon enrollment, participants completed a baseline laboratory session followed immediately by a 14-day EMA burst ("pregnancy burst"). As participants were eligible to enroll at any stage of pregnancy (first, second, or third trimester), those enrolled in the first or second trimester were recontacted for retention check-ins in the subsequent trimesters. To facilitate postpartum retention, participants were instructed to notify the study team shortly after giving birth. This post-delivery phone call confirmed the delivery date and initiated scheduling of the 6-week postpartum follow-up. A virtual visit was then scheduled approximately six weeks postpartum. During this 30-minute video call, participants completed a brief assessment, were re-familiarized with EMA procedures, and were enrolled in the second 14-day EMA burst ("postpartum burst"), which began the day after the 6-week follow-up visit.

Baseline. During the baseline assessment, participants completed surveys on substance use patterns and psychosocial factors related to maternal health. Additionally, participants engaged in EMA survey training via a PowerPoint presentation to address both the mobile application (Metricwire) and reporting procedures related to daily substance use, intentions, and motives

EMA procedures. Participants completed two EMA bursts: the first began immediately upon enrollment during pregnancy, and the second began after the 6-week postpartum follow-up visit. Each EMA burst lasted 14 consecutive days. During each burst, participants completed multiple brief surveys throughout the day, including morning reports and self-initiated reports when they began using cannabis. All surveys were designed to be completed in two minutes or less. Morning reports assessed participants' intentions to use cannabis for the current day and use from the prior day. Participants were instructed to self-initiate a "begin use" report just before using cannabis, which captured the form of cannabis used and the participant's current reasons for use. After initiating a cannabis use report, participants were prompted to complete an "end use" report. If the participant did not self-initiate an end-use report, follow-up prompts were sent every 30 minutes to assess whether the cannabis use episode had ended. Detailed descriptions of the full EMA protocol, including random and bedtime assessments, are provided in the published study protocol (Micalizzi et al., 2025).

Measures

Demographic and reproductive information. Relevant demographics including participant age, race/ethnicity, and current gestational age, were collected via participant self-report.

Cannabis use. Morning EMA surveys assessed cannabis use on the prior day (yes/no). When cannabis use was endorsed, participants reported the cannabis product type used (flower, edible, or concentrate) and THC concentration. These reports were used to derive a day-level indicator of daily cannabis use for all analyses.

Motives for cannabis use. When participants endorsed CU at self-initiated reports, they were instructed to select all applicable motives from a predefined list. Motives were adapted from prior ecological momentary assessment studies of cannabis and substance use motives (Buckner et al., 2012; Shrier & Scherer, 2014; Votaw & Witkiewitz, 2021) and informed by the Marijuana Motives Measure (Simons et al., 1998). Response options included: "to be social," "to feel less anxious," "to feel less depressed," "to relieve physical pain," "to sleep better," "to relax," "to enjoy the effects," "to increase appetite," and "other."

Intentions to use cannabis. On daily morning surveys, participants were asked, "Do you intend to use cannabis today?" with response options of "yes" or "no." Intention responses were used, along with cannabis use data from random, self-initiated, and bedtime reports, to classify use

episodes as either *planned* or *unplanned*. Specifically, a day was coded as planned use if a participant endorsed an intention to use cannabis that morning and subsequently reported cannabis use on any survey that day (self-initiated "begin use" report or morning report). A day was coded as unplanned use if the participant denied an intention to use cannabis in the morning report but still reported cannabis use later that day.

Data Analysis

All data analyses were conducted in R (R Core Team, 2024).

Aim 1. To describe patterns of cannabis use intentions and behavior, we calculated the daily frequency of four categories: (1) planned use (participants reported an intention to use cannabis in the morning and subsequently used that day), (2) unplanned use (participants denied intention to use cannabis in the morning but later reported use), (3) forewent use (i.e., intent without use; participants intended to use but did not report use that day), and (4) planned non-use (participants did not intend to use and did not report use). These day-level categories were summarized descriptively and stratified by pregnancy and postpartum periods.

Aim 2. To examine whether morning intentions predicted cannabis use later in the day, a generalized linear multilevel model with logistic regression with a random intercept for each participant was estimated. Daily cannabis use (yes/no) was regressed on morning intention (yes/no). An interaction term with burst (pregnancy vs. postpartum) was included to test whether the association between intention and use differed by perinatal stage. As this study was designed as a pilot, formal a priori power analyses were not conducted. To aid interpretation of Aim 2 findings, we estimated the minimum detectable effect size (MDES) following established approaches for multilevel models (Arend and Schafer, 2019). With a moderately high intraclass correlation (ICC = 0.50), a Level-2 sample size of N = 20, and a mean Level-1 sample size of 9 observations per participant, the Aim 2 analyses were powered (≥0.80, α = .05) to detect effects corresponding to an odds ratio of approximately OR = 2.5. These estimates pertain to the primary Level-1 effect of intentions; the power to detect interaction effects by burst was more limited, and thus interaction analyses should be considered exploratory.

Aim 3. Descriptive analyses were used to examine self-reported motives for cannabis use on planned and unplanned use days, calculated as the percentage of use days on which each motive was endorsed.

Missing Data. Missing morning EMA assessments were infrequent (93% compliance in pregnancy, 78% in postpartum). To preserve the temporal structure of the data when creating lagged day-level variables, missing morning assessment observations were inserted into the dataset for data preparation purposes only. These imputed observations (and corresponding dates) were not included in the analytic models. For all primary analyses, days with missing predictor or outcome data were excluded via listwise deletion.

RESULTS

Overall, EMA compliance for morning reports was high, with participants completing an average of 93% of morning surveys during the pregnancy burst and 79% during the postpartum burst. Based on morning reports, participants reported cannabis use on an average of 9.1 days (*SD* = 4.4, range = 1-14) during pregnancy and 6.6 days (*SD* = 5.1, range = 0-13) during the postpartum period.

Participants were also instructed to self-initiate an EMA survey each time they began using cannabis, allowing for multiple reports within a single day. At the person level, there was an average of 14.40 self-initiated cannabis "start" reports (i.e., cannabis events) across the 14-day pregnancy burst (*SD* = 12.31, range = 1-42) and 10.81 across the 14-day postpartum burst (*SD* = 9.61, range = 1-28). At the day level, participants completed an average of 0.94 self-initiated cannabis "start" reports within a single day during the pregnancy burst (*SD* = 1.16, range = 0-5) and 0.63 across the postpartum burst (*SD* = 0.93, range = 0-4).

Aim 1. Characterizing Cannabis Use and Non-Use Days

Of the total morning reports in pregnancy, 60.8% were planned use days, 9.2% were unplanned use days, 8.8% were characterized by forgoing plans, and 21.2% were planned nonuse days. Of the total cannabis events reported in postpartum, 46.7% were planned use days, 9.1% were unplanned use days, 6.7 were days in which participants forwent plans to use, and 37.6% were planned nonuse days. Results are visualized in Figure 1.

Aim 2. The Relationship Between Intentions and Subsequent Use

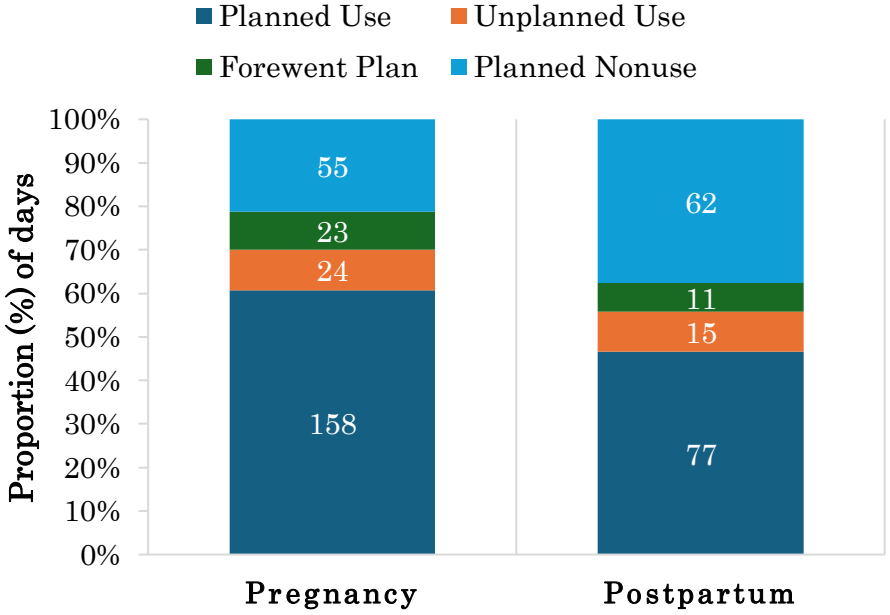
There was a main effect of planning to use cannabis that day, in that morning intentions to use cannabis were significantly positively associated with subsequent use that day (OR = 5.78, $p < .001$), and this did not differ between pregnancy1 and postpartum. There was no interactive effect between burst (pregnancy or postpartum) and intentions on subsequent use (OR = 1.23, $p = 0.60$). Full model results are displayed in Table 2.

Table 1. *Participant Characteristics (N = 20)*

Demographic Variable	% Sample (*n*) or *M* (*SD*), Min-Max
Age	30.15 (5.03), 20-39
Race	
White	60% (12)
African American/Black	10% (2)
American Indian	5% (1)
Other (PR)	5% (1)
Multiple	20% (4)
Ethnicity (Latinx)	30% (6)
Weeks gestation upon recruitment	22.5 (8.11), 8-36
Current living children	
0	30% (6)
1	35% (7)
2	25% (5)
3	10% (2)
Past 60 day cannabis use*	50.74 (15.87). 14-60

Note. PR = Puerto Rican (self-identified); *Cannabis frequency is represented via a 60-day TLFB at baseline.

Figure 1. *Characterization of Cannabis Use and Non-Use Days in Pregnancy and Postpartum*



Note. Data labels represent the count of events. Planned use = intended to use cannabis and used cannabis; Unplanned use = did not intend to use cannabis and used cannabis; Forewent plan = planned to use cannabis and did not use cannabis; Planned nonuse = did not plan to use cannabis and did not use cannabis.

[1]We conducted a sensitivity analysis examining whether gestational age (weeks) at the start of EMA burst 1 were associated with daily cannabis use. Results indicated that gestational age was not significantly associated with daily cannabis use (ß = -0.06, SE = 0.07, OR = 0.94, $p = 0.36$). Gestational age was also included as a covariate in the Aim 2 generalized linear multilevel model. Inclusion of gestational age did not meaningfully alter the primary effect estimates and thus was removed for parsimony.

Table 2. *Aim 2 Model Results*

Predictors	*Odds Ratios*	*95% CI*	*p-value*
Fixed Effects			
(Intercept)	1.63	0.50 – 5.33	.417
Intention [Ref=No]	**5.78**	**2.48 – 13.47**	**<.001**
Burst [Ref=Pregnancy]	0.48	0.20 – 1.16	.103
Intention × Burst	1.23	0.34 – 4.49	.753
Random Effects			
σ^2	3.29		
$\tau_{00\ ID}$	3.69		
ICC	0.53		
N_{ID}	20		
Observations	425		
Marginal R^2 / Conditional R^2	0.122 / 0.586		

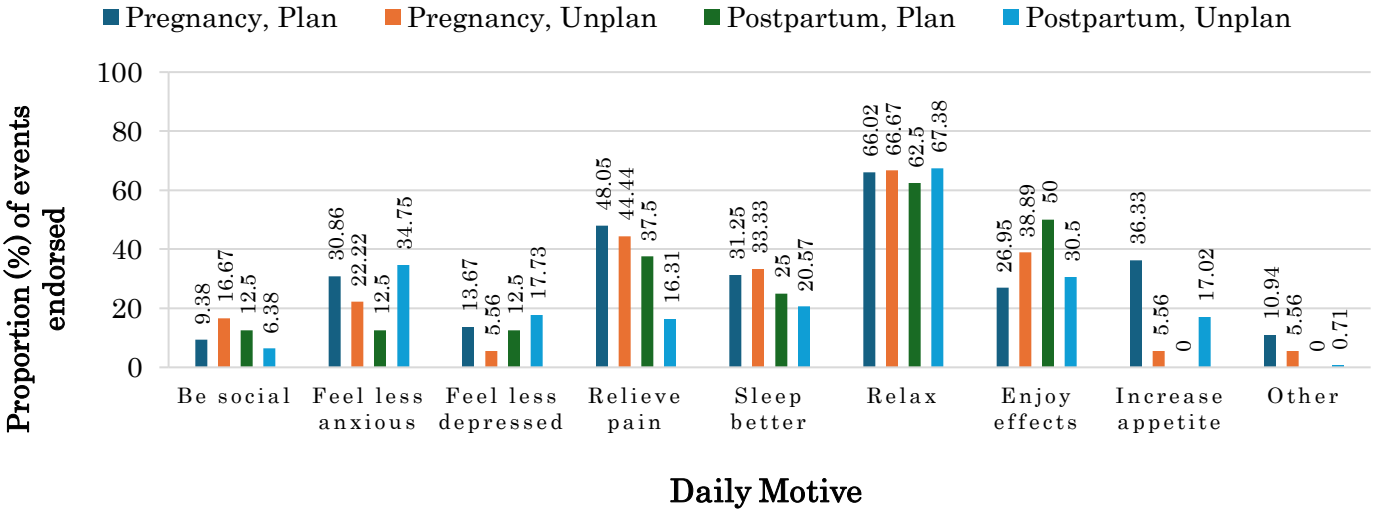
Note. Ref = reference; CI = confidence intervals. Bolded values represent statistically significant values at $p < .05$

Aim 3. Motives for Planned vs. Unplanned Use

Figure 2 displays the motives for planned and unplanned use overall and by pregnancy and postpartum. In pregnancy, the most frequently endorsed planned-use motives were to relax (66.0%), to relieve pain (48.0%), and to increase appetite (36.6%). In pregnancy, frequently endorsed unplanned use motives were to relax (66.7%), to relieve pain (44.4%), and to enjoy the effects (38.9%). In postpartum, frequently endorsed planned-use motives were as follows: to relax (67.4%), to feel less anxious (34.8%), and to enjoy the effects (30.5%). For unplanned use in postpartum, frequently endorsed motives were to relax (62.5%), to enjoy the effects (50%), and to relieve pain (37.5%), and 'to increase appetite' was not reported for any unplanned cannabis use days in pregnancy. Participants reported 31 "other" motives via text entry, 30 of which occurred on planned-use days during pregnancy. Text responses included "nausea/vomiting" (response = 22), "anger/irritation" (n = 5), and "increase milk supply" (n = 1; planned postpartum use). For an unplanned cannabis use day, "other" text entry was "keeping cool while with extended family".

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Figure 2. *Motives of Cannabis Use Events by Perinatal Stage (Pregnancy or Postpartum) and Type (Plan or Unplan)*



Note. Represented data are cannabis use days only (event n = 274). Labeled numbers represent the proportion of cannabis use days in which that motive was endorsed.

DISCUSSION

The current study examined the role of planning and intention in perinatal cannabis use in a sample of individuals reporting cannabis use at baseline (i.e., in pregnancy). Results suggest that cannabis use in both pregnancy and postpartum was often planned, there is a strong association between intentions and subsequent use at the daily level, and there were some common motives (e.g., "to relax") that were consistent across periods and use types. These findings suggest that for many, prenatal and postnatal cannabis use is intentional and may be guided by consistent internal states or needs, which may have implications for intervention.

Characterizing Cannabis Use And Non-Use Days in Pregnancy and Postpartum (Aim 1)

In the current sample, more than half of cannabis use days during pregnancy were planned, compared to just less than ten percent that were unplanned. A similar pattern emerged postpartum, with approximately half of the use days planned and only approximately seven percent unplanned. These findings align with prior research in non-perinatal populations (Dyar et al., 2025; Howe et al., 2025) and with qualitative work in perinatal samples (Young-Wolff et al., 2024), suggesting that planned cannabis use is more common than unplanned use during both pregnancy and postpartum. However, the low rate of unplanned use events (n = 29) in this study may partly reflect the sample's characteristics and eligibility criteria, which focused on individuals who reported frequent prenatal cannabis use. Similarly, relatively high rates of cannabis use may be reflective the population as well (e.g., individuals that use cannabis in pregnancy may often represent those that used cannabis daily preconception as well).

Among people with histories of daily or regular cannabis use, it appears that cannabis may remain a planned and integrated part of daily life, even during pregnancy and postpartum (Ainiti et al., 2023). Supporting this, prior work has found that about 35% of individuals who use cannabis during pregnancy report continuing a pre-pregnancy habit (Ryan et al., 2018). To draw stronger conclusions about unplanned use, future research should examine these questions in more diverse samples, including those with lower-frequency users or individuals who initiate cannabis use during pregnancy or postpartum. Understanding how cannabis planning varies by use history and frequency may clarify who is most at risk for unplanned use and inform the development of targeted interventions.

Relationship Between Intentions and Cannabis Use at the Daily Level (Aim 2)

As hypothesized and consistent with prior research in general adult populations (Ajzen, 1991, 2011; Cooke et al., 2016; Fiegel & Frank, 2023; Hagger et al., 2022), intentions to use cannabis strongly predicted same-day cannabis use. Specifically, when individuals reported intentions to use cannabis in the morning, the odds of reporting cannabis use later that day were over nine times higher. This relationship held across pregnancy and postpartum periods, with no significant interaction between the perinatal phase and the strength of the intention-use association. These findings reinforce the idea that among those reporting cannabis use in pregnancy; cannabis use is typically planned in both pregnancy and postpartum. Given the preliminary nature of this pilot sample, these findings should be interpreted as hypothesis-generating rather than definitive estimates of effect size. Within the context of the larger ongoing longitudinal study, these results support the feasibility and clinical relevance of assessing daily intentions and suggest that intentions may represent a promising intervention target to be examined in adequately powered future analyses.

Importantly, this intentionality suggests that cognitive models of health behavior change, such as TPB, may be highly relevant in this population. Future research should expand to other components of the TPB, including whether targeting intentions, as well as underlying attitudes and perceived norms around cannabis use, could serve as effective intervention points during sensitive periods like pregnancy and postpartum. Attitudes and perceived norms, both key predictors of intentions in the TPB framework, may be especially relevant in perinatal populations, particularly given evidence that risk perceptions of cannabis use are declining among pregnant and postpartum individuals (Boerner et al., 2024; Jarlenski et al., 2017).

Moreover, social norms appear to be shifting rapidly; for example, a recent analysis of media portrayals found that cannabis use during pregnancy and postpartum is increasingly depicted in ways that highlight both risks and potential benefits (Jarlenski et al., 2018), which may influence how individuals perceive and engage in use during this period.

Motives for Planned vs. Unplanned Use (Aim 3)

While all findings related to motives are descriptive, several notable trends emerged. Across both pregnancy and postpartum (both planned and unplanned), the most frequently endorsed motive for cannabis use was "to relax." Results may suggest that relaxation is a central driver of perinatal cannabis use, accounting for approximately two-thirds of daily use episodes. This aligns with prior research identifying stress relief and relaxation as common motives for cannabis use in general populations (Allen et al., 2020; Barbosa-Leiker et al., 2020; Eitel et al., 2024). However, other motives varied meaningfully across perinatal phases and by whether the use was planned. For example, in pregnancy, cannabis use for pain relief and to increase appetite was widespread and more frequently endorsed on planned use days. Taken together, these results are somewhat surprising given that mood, pain, and appetite are often considered transient or momentary states (Eid & Diener, 1999; Liu et al., 2019, 2019; Raaijmakers et al., 2015). However, these "states" may reflect more chronic or anticipatable needs in a pregnant population, potentially reinforcing routine, planned cannabis use. In contrast, using cannabis "to be social" during pregnancy appeared more often on unplanned use days, perhaps reflecting more situational or externally cued episodes as found in other studies (Denson et al., 2023; Liu et al., 2019; Phillips et al., 2018).

In the current sample, postpartum motives largely overlapped with those reported during pregnancy, though some notable differences emerged. Results reflect that motives such as using cannabis "to feel less anxious" and "to enjoy the effects" were more common postpartum. These may reflect a shift toward positive reinforcement motives (i.e., using cannabis to enhance positive feelings as well as to manage negative emotions). This may be in line with prior work on postpartum depression, suggesting that postpartum individuals seek positive reinforcement, especially in the context of postpartum mood difficulties (Ayisire et al., n.d.; Beck, 2006; Espiridion & Lee, 2024; Li, 2022). These results may similarly suggest a need to focus intervention and care discussions on positive affect seeking in the postpartum period, as this shift may have implications for patterns of use or risk of escalation.

Interestingly, many motives were shared across both planned and unplanned use days. This overlap suggests that unplanned use may not be entirely spontaneous or disconnected from internal drivers. Unplanned use may therefore arise in response to similar psychological or physiological needs as planned use, but without the same degree of forethought or control. However, given the relatively low frequency of unplanned-use days in this sample, caution is warranted when interpreting these patterns. While reported results provide a window into why people use cannabis during the perinatal period, future work should examine whether specific motives are associated with more frequent or harmful patterns of use. For instance, it may be important to assess whether certain motives (e.g., using to relax vs. using to enjoy effects) predict greater cannabis quantity, dependence symptoms, or negative outcomes for parent or child. A better understanding of how motives relate to consequences could help inform more tailored, motive-specific interventions aimed at reducing risk in perinatal populations.

Limitations and Future Directions

While these findings offer preliminary insight into the patterns of planned perinatal cannabis use, several limitations should be considered when interpreting these findings. The current study is limited by sample size, which may restrict generalizability and the ability to test subgroup differences or moderators with adequate power. Our sample was also composed of individuals who were already regularly using cannabis during pregnancy or postpartum, which may bias findings toward more intentional and routine use patterns. Additionally, recruitment focused on individuals who were using cannabis at a relatively high frequency (twice weekly) while pregnant, which may have preferentially reached

individuals who were more engaged with or open about cannabis use, further contributing to higher observed rates of use and limiting representativeness to populations with more ambivalence around PCU. Future research should replicate these findings in larger, more diverse samples, including individuals with varying cannabis use histories, intentions around use during pregnancy, and sociodemographic characteristics.

Overall, this study highlights the critical role of planning, intention, and motivation in shaping perinatal cannabis use. From a public health perspective, continued investigation of perinatal cannabis use is increasingly important given rising prevalence, declining risk perceptions, and persistent uncertainty among patients and providers regarding cannabis-related harms during pregnancy and postpartum. Despite ongoing public health messaging discouraging cannabis use during pregnancy and breastfeeding, many individuals in this sample reported cannabis use that was both intentional and driven by specific motives such as relaxation, symptom relief, and emotional regulation suggesting potential gaps between population-level messaging and individual decision-making. While findings need to be replicated in larger samples, these preliminary results underscore the potential for theory-driven, intention-based interventions in this population and point to the need for future work that considers both the psychological drivers of use and the broader contexts in which perinatal cannabis use decisions are made.

REFERENCES

Ainiti, D.-F., Lykeridou, A., Nanou, C., & Deltsidou, A. (2023). Cannabis use during pregnancy and its effect on the fetus, newborn and later childhood: A systematic review. *European Journal of Midwifery*, *7*, 19. https://doi.org/10.18332/ejm/168727

Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes,* *50*(2), 179–211. https://doi.org/10.1016/0749-5978(91)90020-T

Ajzen, I. (2011). The theory of planned behaviour: Reactions and reflections. *Psychology & Health,* *26*(9), 1113–1127. https://doi.org/10.1080/08870446.2011.613995

Allen, A. M., Jung, A. M., Alexander, A. C., Allen, S. S., Ward, K. D., & al'Absi, M. (2020). Cannabis use and stressful life events during the perinatal period: Cross-sectional results from Pregnancy Risk Assessment Monitoring System (PRAMS) data, 2016. *Addiction (Abingdon, England)*, *115*(9), 1707–1716. https://doi.org/10.1111/add.15003

Arend, M. G., & Schäfer, T. (2019). Statistical power in two-level models: A tutorial based on Monte Carlo simulation. *Psychological Methods,* *24*(1), 1–19. https://doi.org/10.1037/met0000195

Ayisire, O. E., Okobi, O. E., Adaralegbe, N. J., Adeosun, A. A., Sood, D., Onyechi, N. P., Agazie, O., Shittu, H. O., Akinsola, Z., Nnaji, C. G., Owolabi, O. J., Umeh, N. J., Imobighe, I. C., Adedoyin, A. M., & Usman, M. (n.d.). The use of cannabis and its effects on postpartum depression. *Cureus*, *14*(8), e27926. https://doi.org/10.7759/cureus.27926

Barbosa-Leiker, C., Burduli, E., Smith, C. L., Brooks, O., Orr, M., & Gartstein, M. (2020a). Daily cannabis use during pregnancy and postpartum in a state with legalized recreational cannabis. *Journal of Addiction Medicine*, *14*(6), 467. https://doi.org/10.1097/ADM.0000000000000625

Barbosa-Leiker, C., Burduli, E., Smith, C. L., Brooks, O., Orr, M., & Gartstein, M. (2020b). Daily cannabis use during pregnancy and postpartum in a state with legalized recreational cannabis. *Journal of Addiction Medicine*, *14*(6), 467–474. https://doi.org/10.1097/ADM.0000000000000625

Bayrampour, H., Zahradnik, M., Lisonkova, S., & Janssen, P. (2019). Women's perspectives about cannabis use during pregnancy and the postpartum period: An integrative review. *Preventive Medicine*, *119*, 17–23. https://doi.org/10.1016/j.ypmed.2018.12.002

Beck, C. T. (2006). Postpartum depression: It isn't just the blues. *The American Journal of Nursing*, *106*(5), 40–50; quiz 50–51. https://doi.org/10.1097/00000446-200605000-00020

Bertrand, K. A., Hanan, N. J., Honerkamp-Smith, G., Best, B. M., & Chambers, C. D. (2018). Marijuana use by breastfeeding mothers and cannabinoid concentrations in breast milk.

Pediatrics, *142*(3), e20181076. https://doi.org/10.1542/peds.2018-1076

Author, A. A., Author, B. B., & Author, C. C. Besse, M., Parikh, K., & Mark, K. (2023). Reported reasons for cannabis use before and after pregnancy recognition. *Journal of Addiction Medicine*, *17*(5), 563. https://doi.org/10.1097/ADM.0000000000001178

Bhatia, D., Rosenberg, S., Rees, R., & Brooks-Russell, A. (2024). Perinatal cannabis use and cannabis use during breastfeeding: The role of health care workers. *American Journal of Perinatology*, *41*(S 01), e2686-e2695. https://doi.org/10.1055/a-2096-8745

Boerner, Z., Natha, C., Baker, T., & Garner, C. D. (2024). Perceptions of cannabis use and its benefits and risks among breastfeeding mothers. *Women's Health Reports*, *5*(1), 412–423. https://doi.org/10.1089/whr.2024.0021

Bosnjak, M., Ajzen, I., & Schmidt, P. (2020). The theory of planned behavior: Selected recent advances and applications. *Europe's Journal of Psychology*, *16*(3), 352–356. https://doi.org/10.5964/ejop.v16i3.3107

Brown, Q. L., Shmulewitz, D., Sarvet, A. L., Young-Wolff, K. C., Howard, T., & Hasin, D. S. (2023). Cannabis use, cannabis use disorder and mental health disorders among pregnant and postpartum women in the US: A nationally representative study. *Drug and Alcohol Dependence*, *248*, 109940. https://doi.org/10.1016/j.drugalcdep.2023.109940

Buckner, J. D., Crosby, R. D., Silgado, J., Wonderlich, S. A., & Schmidt, N. B. (2012). Immediate antecedents of marijuana use: An analysis from ecological momentary assessment. *Journal of behavior therapy and experimental psychiatry*, *43*(1), 647-655. https://doi.org/10.1016/j.jbtep.2011.08.010

Cooke, R., Dahdah, M., Norman, P., & French, D. P. (2016). How well does the theory of planned behaviour predict alcohol consumption? A systematic review and meta-analysis. *Health Psychology Review*, *10*(2), 148–167. https://doi.org/10.1080/17437199.2014.947547

Coy, K. C., Haight, S. C., Anstey, E., Grant, A. M., Ruffo, N., & Ko, J. Y. (2021). Postpartum marijuana use, perceptions of safety, and breastfeeding initiation and duration: An analysis of PRAMS data from seven states, 2017. *Journal of Human Lactation*, *37*(4), 803–812. https://doi.org/10.1177/0890334421993466

Crawford-Williams, F., Fielder, A., Mikocka-Walus, A., & Esterman, A. (2015). A critical review of public health interventions aimed at reducing alcohol consumption and/or increasing knowledge among pregnant women. *Drug and Alcohol Review*, *34*(2), 154–161. https://doi.org/10.1111/dar.12152

Daley, M., Argeriou, M., & McCARTY, D. (1998). Substance abuse treatment for pregnant women: A window of opportunity? *Addictive Behaviors*, *23*(2), 239–249. https://doi.org/10.1016/S0306-4603(97)00029-4

Denson, R. K., Hedeker, D., & Mermelstein, R. J. (2023). Association between affect and cannabis use varies by social context. *Drug and Alcohol Dependence*, *243*, 109750. https://doi.org/10.1016/j.drugalcdep.2022.109750

Dvorak, R. D., Pearson, M. R., & Day, A. M. (2014). Ecological momentary assessment of acute alcohol use disorder symptoms: Associations with mood, motives, and use on planned drinking days. *Experimental and Clinical Psychopharmacology, 22*(4), 285–294. https://doi.org/10.1037/a0037157

Dyar, C., Curtis, J., & Fairlie, A. M. (2025). Planned versus unplanned alcohol and cannabis use: Motivational and contextual correlates among sexual minority women and gender diverse individuals. *Alcohol, Clinical and Experimental Research*, *49*(3), 609–618. https://doi.org/10.1111/acer.70000

Eid, M., & Diener, E. (1999). Intraindividual variability in affect: Reliability, validity, and personality correlates. *Journal of Personality and Social Psychology, 76*(4), 662–676. https://doi.org/10.1037/0022-3514.76.4.662

Eitel, A. E., Witcraft, S. M., McRae-Clark, A. L., Brady, K., King, C., & Guille, C. (2024). Exploration into patterns of cannabis use across pregnancy and postpartum. *Journal of Addiction Medicine*, *18*(3), 327. https://doi.org/10.1097/ADM.0000000000001270

Espiridion, E. D., & Lee, D. (2024). Substance use disorder as a risk factor for postpartum depression: a retrospective chart review in a

community hospital. *Cureus*. https://doi.org/10.7759/cureus.68450

Fiegel, K. A., & Frank, J. L. (2023). The theory of planned behavior and adolescent marijuana use: examining the moderating effects of cigarette and e-cigarette co-use. *Substance Use & Misuse*, *58*(6), 812–821. https://doi.org/10.1080/10826084.2023.2191696

Gesterling, L., & Bradford, H. (2022). Cannabis use in pregnancy: A state of the science review. *Journal of Midwifery & Women's Health*, *67*(3), 305–313. https://doi.org/10.1111/jmwh.13293

Grant, K. S., Petroff, R., Isoherranen, N., Stella, N., & Burbacher, T. M. (2018). Cannabis use during pregnancy: Pharmacokinetics and effects on child development. *Pharmacology & Therapeutics*, *182*, 133–151. https://doi.org/10.1016/j.pharmthera.2017.08.014

Gunn, R. L., Aston, E. R., Artis, L., Nesi, J., Pedersen, E. R., & Micalizzi, L. (2024). Use of cannabis to manage symptoms of mental and physical health conditions during pregnancy: Analysis of a pro-cannabis pregnancy forum. *Frontiers in Psychiatry*, *15*. https://doi.org/10.3389/fpsyt.2024.1478505

Hagger, M. S., Cheung, M. W.-L., Ajzen, I., & Hamilton, K. (2022). Perceived behavioral control moderating effects in the theory of planned behavior: A meta-analysis. *Health Psychology*, *41*(2), 155–167. https://doi.org/10.1037/hea0001153

Hamilton, H. R., Armeli, S., & Tennen, H. (2022). To drink or not to drink: When drinking intentions predict alcohol consumption and consequences. *British Journal of Health Psychology*, *27*(2), 516–533. https://doi.org/10.1111/bjhp.12560

Hayes, S., Delker, E., & Bandoli, G. (2023). The prevalence of cannabis use reported among pregnant individuals in the United States is increasing, 2002–2020. *Journal of Perinatology*, *43*(3), 387-389. https://doi.org/10.1038/s41372-022-01550-8

Holland, C. L., Nkumsah, M. A., Morrison, P., Tarr, J. A., Rubio, D., Rodriguez, K. L., Kraemer, K. L., Day, N., Arnold, R. M., & Chang, J. C. (2016). "Anything above marijuana takes priority": Obstetric providers' attitudes and counseling strategies regarding perinatal marijuana use. *Patient Education and Counseling*, *99*(9), 1446–1451. https://doi.org/10.1016/j.pec.2016.06.003

Howe, L. K., & Finn, P. R. (2024). A daily diary exploration of contexts and experiences associated with planned drinking decisions in young adults. *Psychology of Addictive Behaviors*, *38*(3), 296–304. https://doi.org/10.1037/adb0000944

Howe, L. K., Boyle, H. K., Metrik, J., Trull, T. J., Lipperman-Kreda, S., Habib, M., ... & Gunn, R. L. (2025). Intentions matter: How planned and unplanned alcohol and cannabis use influences outcomes. *Psychology of Addictive Behaviors*. https://doi.org/10.1037/adb0000994

Jarlenski, M., Koma, J. W., Zank, J., Bodnar, L. M., Bogen, D. L., & Chang, J. C. (2017). Trends in perception of risk of regular marijuana use among US pregnant and nonpregnant reproductive-aged women. *American Journal of Obstetrics and Gynecology*, *217*(6), 705–707. https://doi.org/10.1016/j.ajog.2017.08.015

Jarlenski, M., Koma, J. W., Zank, J., Bodnar, L. M., Tarr, J. A., & Chang, J. C. (2018). Media portrayal of prenatal and postpartum marijuana use in an era of scientific uncertainty. *Drug and Alcohol Dependence*, *187*, 116–122. https://doi.org/10.1016/j.drugalcdep.2018.02.021

Li, H. (2022). Affective instability, depression, and anxiety symptoms in a community sample of pregnant and postpartum women: A cross-sectional study. *International Journal of Environmental Research and Public Health*, *19*(6), Article 6. https://doi.org/10.3390/ijerph19063171

Liu, H., Xie, Q. W., & Lou, V. W. (2019). Everyday social interactions and intra-individual variability in affect: A systematic review and meta-analysis of ecological momentary assessment studies. *Motivation and Emotion, 43*(2), 339–353. https://doi.org/10.1007/s11031-018-9739-7

Malaguti, A., Ciocanel, O., Sani, F., Dillon, J. F., Eriksen, A., & Power, K. (2020). Effectiveness of the use of implementation intentions on reduction of substance use: A meta-analysis. *Drug and Alcohol Dependence*, *214*, 108120. https://doi.org/10.1016/j.drugalcdep.2020.108120

Mark, K., Otieno, L., Moore, E., Zehra, A., & Mitchell, M. (2021). Association between continued cannabis use during pregnancy and symptoms of anxiety and depression. *International Review of Psychiatry*, *33*(6), 528–533. https://doi.org/10.1080/09540261.2021.1898348

McManus, J., Halwes, M., Abrantes, A., & Battle, C. (2022). Cannabis conversations: Suggestions for providers serving perinatal patients. *HPHR*, 50. https://doi.org/10.54111/0001/WW8

Micalizzi, L., Howe, L. K., Battle, C. L., Metrik, J., & Gunn, R. L. (2025). Perinatal Cannabis Use, Depression, and the Mother-Child Dyad: Protocol for a Prospective Multimethod Study. *JMIR Research Protocols*, 14:e71302. https://doi.org/10.2196/71302.

Oh, S., Salas-Wright, C. P., Vaughn, M. G., & DiNitto, D. M. (2017). Marijuana use during pregnancy: A comparison of trends and correlates among married and unmarried pregnant women. *Drug and Alcohol Dependence*, *181*, 229–233. https://doi.org/10.1016/j.drugalcdep.2017.09.036

Panday, J., Taneja, S., Popoola, A., Pack, R., Greyson, D., McDonald, S. D., Black, M., Murray-Davis, B., Darling, E., & Vanstone, M. (2022). Clinician responses to cannabis use during pregnancy and lactation: A systematic review and integrative mixed-methods research synthesis. *Family Practice*, *39*(3), 504–514. https://doi.org/10.1093/fampra/cmab146

Phillips, K. T., Phillips, M. M., Lalonde, T. L., & Prince, M. A. (2018). Does social context matter? An ecological momentary assessment study of marijuana use among college students. *Addictive Behaviors, 83*, 154–159. https://doi.org/10.1016/j.addbeh.2018.03.020

Raaijmakers, L. C., Pouwels, S., Berghuis, K. A., & Nienhuijs, S. W. (2015). Technology-based interventions in the treatment of overweight and obesity: A systematic review. *Appetite, 95*, 138–151. https://doi.org/10.1016/j.appet.2015.07.008

Ryan, S. A., Ammerman, S. D., O'Connor, M. E., Committee on Substance Use and Prevention, Section on Breastfeeding, Gonzalez, L., Patrick, S. W., Quigley, J., Walker, L. R., Meek, J. Y., Johnston, M., Stellwagen, L., Thomas, J., & Ware, J. (2018). Marijuana use during pregnancy and breastfeeding: Implications for neonatal and childhood outcomes. *Pediatrics, 142*(3), e20181889. https://doi.org/10.1542/peds.2018-1889

Sayeed, S., Fishbein, M., Hornik, R., Cappella, J., & Ahern, R. K. (2005). Adolescent marijuana use intentions: Using theory to plan an intervention. *Drugs: Education, Prevention and Policy*. https://doi.org/10.1080/09687630410001712681

Simons, J., Correia, C. J., Carey, K. B., & Borsari, B. E. (1998). Validating a five-factor marijuana motives measure: Relations with use, problems, and alcohol motives. *Journal of Counseling Psychology*, *45*(3), 265. https://doi.org/10.1037/0022-0167.45.3.265

Shrier, L. A., & Scherer, E. B. (2014). It depends on when you ask: Motives for using marijuana assessed before versus after a marijuana use event. *Addictive behaviors*, *39*(12), 1759-1765. https://doi.org/10.1016/j.addbeh.2014.06.024

Shiffman, S. (2009). Ecological momentary assessment (EMA) in studies of substance use. *Psychological Assessment, 21*(4), 486–497. https://doi.org/10.1037/a0017074

Steinmetz, H., Knappstein, M., Ajzen, I., Schmidt, P., & Kabst, R. (2016). How effective are behavior change interventions based on the theory of planned behavior? *Zeitschrift Für Psychologie*, *224*(3), 216–233. https://doi.org/10.1027/2151-2604/a000255

Stevens, A. K., Boyle, H. K., Miller, M. B., Carey, K. B., Jackson, K. M., Barnett, N. P., & Merrill, J. E. (2022). A qualitative examination of intentions and willingness for heavy drinking among young adult high-intensity drinkers. *Psychology of Addictive Behaviors, 36*(3), 236–245. https://doi.org/10.1037/adb0000753

Stevens, A. K., Boyle, H. K., White, H. R., & Jackson, K. M. (2021). Understanding the motives, contexts, and consequences of unplanned versus planned drinking in daily life. In *Psychology of Addictive Behaviors*. https://doi.org/10.1037/adb0000741

Stevens, A. K., Gunn, R. L., Boyle, H. K., White, H. R., & Jackson, K. M. (2022). Unplanned versus planned simultaneous alcohol and cannabis use in the daily lives of a

predominantly white college student sample: What are the motives, contexts, and outcomes? *Psychology of Addictive Behaviors*, *36*(7), 762–774. https://doi.org/10.1037/adb0000825

Vanstone, M., Panday, J., Popoola, A., Taneja, S., Greyson, D., McDonald, S. D., Pack, R., Black, M., Murray-Davis, B., & Darling, E. (2022). Pregnant people's perspectives on cannabis use during pregnancy: A systematic review and integrative mixed-methods research synthesis. *Journal of Midwifery & Women's Health*, *67*(3), 354–372. https://doi.org/10.1111/jmwh.13363

Vanstone, M., Taneja, S., Popoola, A., Panday, J., Greyson, D., Lennox, R., & McDonald, S. D. (2021). Reasons for cannabis use during pregnancy and lactation: A qualitative study. *CMAJ*, *193*(50), E1906–E1914. https://doi.org/10.1503/cmaj.211236

Votaw, V. R., & Witkiewitz, K. (2021). Motives for substance use in daily life: A systematic review of studies using ecological momentary assessment. *Clinical psychological science*, *9*(4), 535-562. https://doi.org/10.1177/2167702620969832

Young-Wolff, K. C., Gali, K., Sarovar, V., Rutledge, G. W., & Prochaska, J. J. (2020). women's questions about perinatal cannabis use and health care providers' responses. *Journal of Women's Health*, *29*(7), 919–926. https://doi.org/10.1089/jwh.2019.8112

Young-Wolff, K. C., Green, A., Iturralde, E., Altschuler, A., Does, M. B., Jackson-Morris, M., Adams, S. R., Ansley, D., Conway, A., Goler, N., Skelton, K., & Foti, T. R. (2024). intentions to use cannabis postpartum: A qualitative study of pregnant individuals who used cannabis during early pregnancy. *Journal of Women's Health*, *33*(4), 435–445. https://doi.org/10.1089/jwh.2023.0066

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