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Parental cannabis use, negative parenting, and behavior problems of young children

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Abstract

Introduction: Cannabis use in the United States is increasingly accepted and legal. Rise in use among childbearing aged adults is potentially concerning, as the impacts of parental cannabis use on children are largely unknown, especially for young children. This study examined whether cannabis use is associated with increased risk for negative parenting and child emotional and behavioral problems among the parents of young children.

Methods: We conducted a cross-sectional survey of parents and child behavior, recruited through five primary care practices in three states. Parents of children aged 1.5–5 years reported on family demographics, last 6-months cannabis use, negative parenting, parent mental health, parents' adverse childhood experiences (ACEs), and child emotional/behavioral problems. We conducted hierarchical regressions to determine if parental cannabis use predicts negative parenting and/or child emotional/behavioral problems when controlling for other risk factors.

Results: Of 266 responding parents, 34 (13%) reported cannabis use in the last 6 months. Parents who endorsed cannabis use reported significantly more negative parenting, ACEs, anxiety, depression, and child emotional/behavioral problems. Adjusting for the effects of other risk factors, cannabis use significantly predicted more negative parenting, but was not uniquely and significantly associated with child emotional/behavioral problems.

Conclusion: Parental cannabis predicted negative parenting, which in turn predicted early childhood emotional/behavioral problems; however, parental cannabis use did not predict child emotional/behavioral problems when other risk factors were considered. Further research is needed to elucidate the nature and direction of relationships between parent cannabis use, negative parenting, child psychological outcomes, and other risk factors.

Keywords

Cannabis; Early childhood; Parenting; Child development

In the United States, legal cannabis use is increasing. Eighteen states and the District of Columbia have legalized recreational use; 37 states have legalized medical use; and 27 states have decriminalized possession and use of small amounts of cannabis (National Conference

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of State Legislatures, 2022). A recent systematic review concluded it is likely cannabis legalization increases parental cannabis use (PCU), but existing evidence is insufficient to determine resulting impacts on parenting and child adjustment (Wilson & Rhee, 2022). Of 41 studies reviewed, only 12 reported on parental and parenting outcomes and none assessed outcomes related child adjustment. The dearth of knowledge about how increased PCU affects parenting of young children is an especially significant knowledge gap, because early childhood is a critical developmental period during which parent-child interactions have lifelong impacts (Shonkoff & Garner, 2012).

Some research indicates PCU is associated with child maltreatment and other negative parenting, but results are inconsistent. Among mothers referred for drug abuse treatment, self-report of illicit cannabis use is associated with increased child maltreatment potential (Donohue et al., 2019). In a community sample of parents of children aged ≤ 12 years, Freisthler et al. (2015) found PCU was positively related to child physical abuse, but negatively related to physical neglect. In the same sample, Freisthler and Kepple (2019) reported that previous-year PCU was associated with increased use of both corporal punishment and nonviolent forms of child discipline. Additionally, in one small qualitative study, some parents reported cannabis use facilitates a calm, non-coercive style of parenting (Thurstone et al., 2013). These studies suggest a possible connection between PCU and problematic parenting; however, none focused on early childhood or assessed child behavioral functioning as either a predictor or outcome of parenting. This is an important limitation given bidirectional relationships between child temperament and maladaptive parenting (Kiff et al., 2011).

Given a robust literature linking negative parenting with later child psychological and substance use problems (Otten et al., 2019; Pinquart, 2017) and the apparent rise of PCU, it is imperative to determine whether associations with early childhood negative parenting exist. To further understanding of the relationships between PCU, negative parenting, and the emotional/behavioral functioning of young children, we conducted a cross-sectional survey study. Based on existing literature, we hypothesized PCU would be associated with parental mental health problems, negative parenting, and child emotional/behavioral problems. We also hypothesized that PCU would predict both negative parenting and child emotional/behavioral problems when controlling for other risk factors.

Method

Participants and Recruitment

Parents (N = 266) of children aged 1.5–5 years were recruited through five primary care clinics in Oregon, Ohio, and Kansas. At the time the study was conducted, recreational and medical use of cannabis were legal in Oregon, medical use was legal and possession of small amounts was decriminalized in Ohio, and all use was illegal in Kansas. Any legal caregiver who could read English or Spanish was eligible to participate. Parents were recruited during clinic visits and with electronic messages delivered via patient portal or text message. Families were only eligible to participate once, and parents with more than one child in the target age range were asked to report on the oldest eligible child. Parents completed questionnaires online via REDCap (Harris et al., 2009) between July 2020 and

January 2021. Participants received a $20 gift card for completion of the survey, which took about 30 min. Of 390 eligible parents who received a description of the study, 309 (79%) consented to participate and were provided a link to the survey. Of those, 266 (86%) completed the study measures. The Institutional Review Boards at participating institutions approved study methods.

Measures

Demographics. Parents reported on basic child and parent demographics (e.g., age, sex, race/ethnicity, household income).

Cannabis use. Parents reported whether or not they used cannabis in the previous six months.

Parent adverse childhood experiences (ACEs) were measured with the ACEs Questionnaire (Murphy et al., 2016), which consists of 10 yes/no items. Cronbach's alpha in this sample was .80.

The 18-item **Negative Parenting** scale from the Multidimensional Assessment of Parenting Scale (MAPS; Parent & Forehand, 2017) combines Hostility, Physical Control, and Lax Control subscales. Cronbach's alpha was .87.

Parent mental health was assessed using the Depression and Anxiety subscales of the Patient-Reported Outcomes Measurement Information System-29 (PROMIS-29; Hays et al., 2018). The Depression and Anxiety subscales consist of four items each. Cronbach's alpha was .92 and .92 for the Depression and Anxiety subscales, respectively.

Child emotional/behavioral problems were measured with the Preschool Pediatric Symptom Checklist (PPSC; Sheldrick et al., 2012), an 18-item socioemotional checklist that assesses parents' report of externalizing behaviors, internalizing behaviors, and attentional problems in children 1.5–5 years of age. Cronbach's alpha was .90.

Statistical Analyses

Analyses were conducted with IBM SPSS Statistics Version 27. To test for differences between parents who did and did not report cannabis use, we conducted a series of chi-square tests, *t*-tests and Mann-U Whitney tests for categorical, continuous, and ordinal variables, respectively. Two hierarchical regression models were conducted. The first tested whether PCU predicted negative parenting beyond other risk factors, including demographics, parent ACES and mental health, and child emotional/behavioral problems. The second tested whether PCU predicted child emotional problems beyond other risk factors, including demographics, parent ACES and mental health, and negative parenting.

Results

Table 1 displays the participants' characteristics. Of the 266 parents, 34 (13%) reported past 6-months cannabis use. Table 1 also displays parents' reported levels of negative parenting,

ACEs, anxiety, depression, and child behavior problems, all of which were significantly higher for participants endorsing PCU.

Table 2 displays results of the hierarchical regression predicting negative parenting. The model was significant, $R^2 = .30$, $F(10,227) = 12.22$, $p = .01$, and PCU contributed significantly to the model, b = .15 $t(256) = 2.62$, $p = .01$. Parent race and child behavior/emotional symptoms also contributed significantly to the model, such that racial minority status and higher behavior problems predicted greater negative parenting.

The hierarchical regression model predicting child emotional/behavioral problems was significant, $R^2 = .37$, $F(10,227) = 13.60$, $p \leq .001$, but PCU was not a significant predictor. Non-Hispanic ethnicity, lower income, higher parental depression, and higher negative parenting were predictive of higher child emotional/behavioral problems (see Table 3).

Discussion

This study adds to knowledge about the relationships between PCU, negative parenting, and psychological adjustment in preschool aged children. It is noteworthy that PCU predicted negative parenting, even after considering other common risk factors. This finding builds upon previous studies linking PCU and maladaptive parenting practices (Donohue et al., 2019; Freisthler et al., 2015; Freisthler & Kepple, 2019), particularly as we included child emotional/behavioral problems as a predictor. This finding indicates PCU may confer some unique risk for negative parenting, a well-established risk factor for negative outcomes including abuse, neglect, school failure, deviant peer relationships, psychological problems and substance abuse (Dishion & Patterson, 2016). If parents who use cannabis are at-risk for negative parenting, they represent an important group for preventative intervention. Matson and colleagues (2021) recently detailed multiple ways in which pediatric providers might assess family substance use histories and intervene to promote optimal child development, including the provision of parent-management training interventions that reduce negative parenting (e.g., Dishion et al., 2014; Gross et al., 2009; Sanders et al., 2014).

Parents who reported cannabis use reported significantly higher child emotional/behavior problems, but PCU did not predict child emotional/behavioral problems when considering other risk factors, even before the inclusion of negative parenting in the model. It may be that the observed relationship between PCU and child emotional/behavioral problems is driven by other variables, such as psychosocial stressors and parent mental health. It is also possible that any effect of PCU on child outcomes is delayed, consistent with a "developmental cascade" model whereby early childhood stressors impact child functioning in adolescence (Otten et al., 2019). Further, PCU may only affect child functioning at high levels of use, consistent with previous findings that PCU only impairs parenting in the context of Cannabis Use Disorder (Hill et al., 2018). Given rising PCU, longitudinal impacts on parenting and child development warrant further investigation.

This study possessed several strengths, including novel subject matter, a diverse sample, and inclusion of Spanish speakers. Limitations include the relatively small number of parents reporting cannabis use. We did not specifically target PCU for inclusion in this study,

and a larger sample would allow for more nuanced analysis. Relatedly, our measure of cannabis use was a single dichotomous item, so we were not able to evaluate different intensities or patterns of cannabis use. We did not collect information on the use of other substances, a significant limitation given evidence problematic alcohol use may account for relationships between PCU and parental distress (Neppl et al., 2020). Future investigations should assess polysubstance use to determine whether PCU confers unique risk. Parents in this study reported on a 6-month period during the COVID-19 pandemic, and it is unclear how this stressful time period may have impacted results. Large-scale, longitudinal research using more sensitive measures is needed to further explicate the relationship between PCU, parenting, and child outcomes.

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Data availability:

Data are available from the corresponding author upon request.

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Table 1.

Sample characteristics and outcome variables

		Cannabis Use			
Participant Characteristics	**Total (N=266)**	**Yes (n=34)**	**No (n=232)**	***p***	***d***
Site				.33	-
Oregon	180	25	155	-	-
Ohio	64	5	59	-	-
Kansas	22	4	18	-	-
Parent age, years, *M* (SD)	33.96 (6.91)	32.88 (5.77)	34.12 (7.06)	.33	−.18
Parent female sex, %	90	91	89	.73	-
Parent Hispanic/Latino ethnicity, %	11	15	11	.50	-
Parent race, %				.38	-
White, non-Hispanic/Latino	59	59	60	-	-
Asian	15	21	14	-	-
Black or African American	14	6	15	-	-
Other	12	14	11	-	-
Annual Household Income, %				.62	-
$25,000 or less	19	15	20	-	-
$25,001–$49,999	19	27	18	-	-
$50,000–$79,999	17	21	16	-	-
$80,000–$119,999	11	15	11	-	-
$120,000–$149,999	10	3	11	-	-
$150,000 or more	24	21	24	-	-
Child					
Child age, years, *M* (SD)	3.48 (1.22)	3.53 (1.32)	3.47 (1.21)	.81	.05
Child female sex, %	50	53	49	.68	-
Study Outcome Variables					
Negative parenting, *M* (SD)	1.73 (.45)	2.03 (.504)	1.68 (.423)	<.001	.81
Parent ACEs, *M* (SD)	2.2 (2.4)	4.03 (2.65)	1.94 (2.24)	<.001	.91
Parent anxiety, *M* (SD)	8.40 (3.90)	11.38 (3.67)	7.96 (3.75)	<.001	.50
Parent depression, *M* (SD)	6.83 (3.48)	9.74 (4.15)	6.41 (3.16)	<.001	.55
Child behavior problems, *M* (SD)	9.65 (7.12)	13.26 (7.34)	9.12 (6.95)	.001	.59

Note: Parents were asked to report on their oldest child in the target age range; *p*-values reflect chi-square tests for categorical variables, indent samples t-tests for continuous variables, and a Mann-U Whitney test for the only ordinal variable (annual household income).

Table 2.

Results of hierarchical regression predicting negative parenting.

	Model 1			Model 2			Model 3			Model 4		
Variables	**B**	**SE B**	**β**	**B**	**SE B**	**β**	**B**	**SE B**	**β**	**B**	**SE B**	**β**
Parent ethnicity[a]	.02	.10	.02	−.01	.10	−.01	.07	.09	.05	.06	.09	.04
Parent race[b]	−.08	.06	−.09	−.10	.06	−.11	−.07	.06	−.07	−.06	.06	−.07
Child age	.05	.02	.15*	.07	.02	.18**	.04	.02	.12	.04	.02	.11
Child sex[c]	.05	.06	.06	.06	.06	.07	.04	.05	.04	.04	.05	.05
Income	.00	.02	.01	.02	.02	.10	.03	.02	.14*	.03	.01	.13*
Parent anxiety				.01	.01	.11	.00	.01	.04	.00	.01	.02
Parent depression				.03	.01	.24**	.02	.01	.14	.01	.01	.11
Parent ACEs				.01	.01	.04	.00	.01	.00	−.01	.01	−.04
Child em/beh problems							.03	.00	.43***	.03	.00	.42***
Cannabis[c]										.18	.08	.13*
r^2	.04			.15			.25			.27		
Δr^2	.04			.11			.14			.02		
F	1.67			4.95***			9.96***			9.60***		

Note:

[a]Hispanic = 1, non-Hispanic = 0

[b]White/Caucasian = 1, racial minority = 0

[c]1 = male, 0= female

[d]1 = use in the last 6 months, 0 = no use in the last 6 months

*$p \leq .05$

**$p \leq .01$

***$p \leq .001$

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Table 3.

Results of hierarchical regression predicting child emotional/behavioral problems.

	Model 1			Model 2			Model 3			Model 4		
Variables	**B**	**SE B**	**β**	**B**	**SE B**	**β**	**B**	**SE B**	**β**	**B**	**SE B**	**β**
Ethnicity[a]	−2.48	1.65	−.11	−3.23	1.50	−.14*	−3.26	1.50	−.14*	−3.11	1.38	−.13*
Race[b]	−.86	1.02	−.06	−1.24	.93	−.08	−1.22	.93	−.08	−.66	.86	−.05
Child age	.62	.38	.11	.89	.34	.15**	.88	.35	.15*	.49	.32	.08
Child sex[c]	.67	.92	.05	.89	.84	.06	.90	.84	.06	.51	.77	.04
Income	−.85	.26	−.22***	−.35	.25	−.09	−.36	.25	−.09	−.49	.23	−.13*
Parent anxiety				.34	.16	.18*	.33	.16	.18*	.26	.15	.14
Parent depression				.54	.18	.25**	.52	.19	.25**	.36	.17	.17*
Parent ACEs				.30	.18	.10	.28	.19	.09	.28	.17	.09
Cannabis[d]							.64	1.36	.03	−.55	1.26	−.03
Negative parenting										6.05	.93	.39*
r^2	.07			.26			.26			.37		
Δr^2	.07			.19			.00			.12		
F	3.57**			9.86***			8.76***			13.60***		

Note:

[a]Hispanic = 1, non-Hispanic = 0

[b]White/Caucasian = 1, racial minority = 0

[c]1 = male, 0= female

[d]1 = use in the last 6 months, 0 = no use in the last 6 months

*$p \leq .05$

**$p \leq .01$

***$p \leq .001$