Negative Affect Regulation and Marijuana Use in College Students: Evaluating the Mediating Roles of Coping and Sleep Motives

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Marijuana coping and sleep motives mediate pathways from depressive and anxiety symptoms to marijuana outcomes
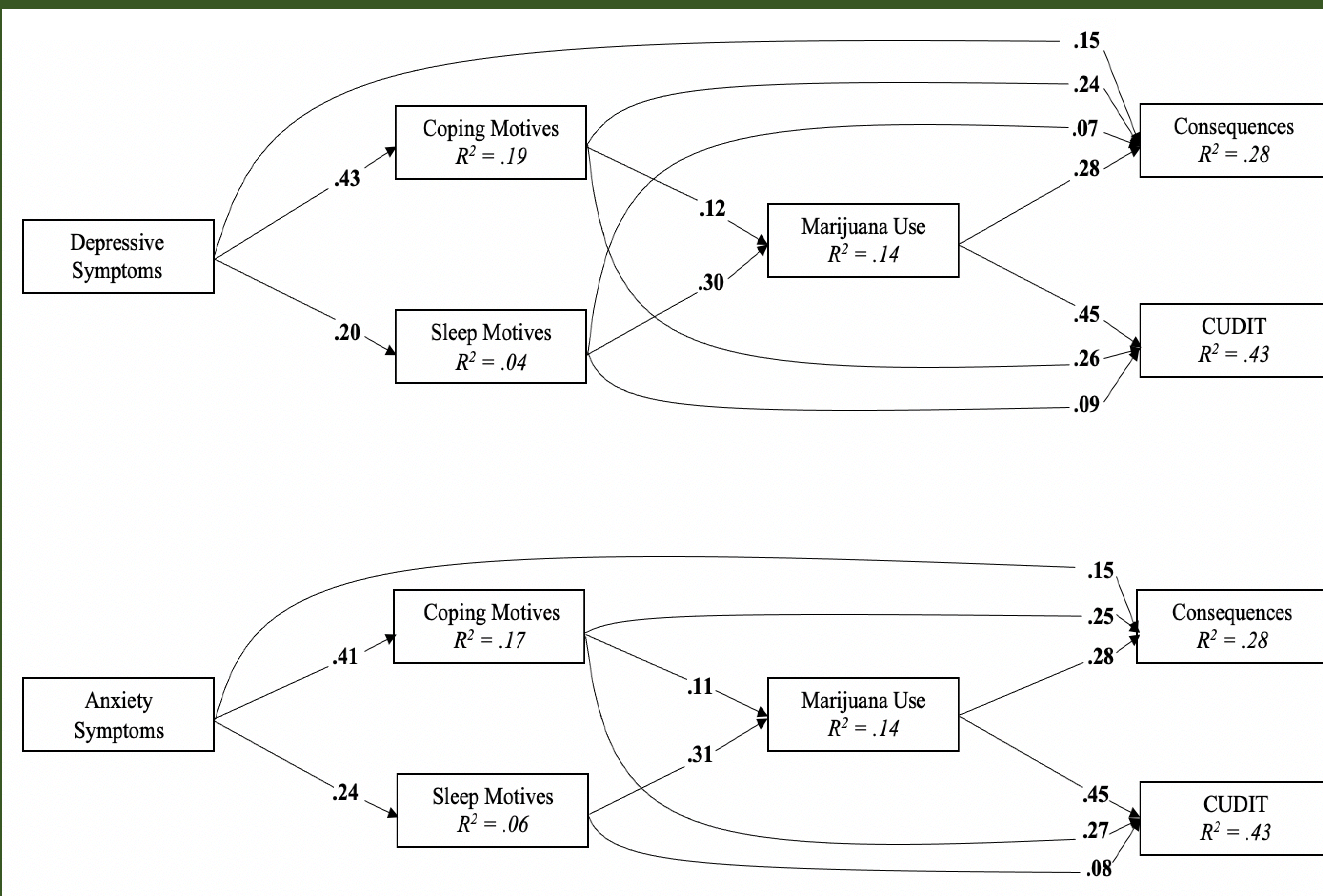
INTRODUCTION

- Negative affect regulation models suggest that marijuana may be used to reduce negative affect[1]
- Extant research has provided support for these models among college students, indicating that specific motives for marijuana use, particularly coping motives (i.e., using to alleviate negative affect), mediate relations between affective vulnerabilities and marijuana outcomes[2]
- Sleep motives (i.e., using to promote sleep) have been neglected from such models, despite theoretical relevance
- For example, college students report elevated rates of sleep disturbance, and sleep difficulties are common among depressive and anxiety disorders[3,4]
- Sleep motives may present an additional pathway by which college students are motivated to use marijuana to avoid negative affect resulting from and precipitating sleep disturbances
- The **current study** tested two multiple mediation models to evaluate the indirect effects of coping and sleep motives in paths from depressive and anxiety symptoms to marijuana use frequency, marijuana consequences[5], and cannabis use disorder (CUD) symptoms[6] among college student marijuana users

METHOD

- Past-month college student marijuana users (N = 1453; M_{age} = 19.61, female at birth = 70.2%) completed measures regarding mental health, marijuana use, marijuana use motives, and marijuana consequences
- Two multiple mediation models were estimated with depressive and anxiety symptoms as independent predictors (i.e., one for each model) of coping and sleep marijuana use motives, marijuana use frequency, and negative marijuana outcomes (i.e., consequences and CUD risk), such that double mediated effects were examined

RESULTS

- Both coping and sleep motives significantly mediated the effects of depressive/anxiety symptoms on each marijuana variable, except for anxiety → sleep motives → negative consequences
- Significant double mediated effects were found, such that higher affective symptoms were associated with greater motives; which were associated with more marijuana use; which was related to more negative consequences and CUD symptoms
- Affective symptoms were directly associated with marijuana consequences when accounting for all other predictors

Marijuana Outcome Variables:	Consequences		CUD Symptoms	
Predictor Variable: *DSM-5* Depression	β	99% CI	β	99% CI
Total	**0.29**	**0.23, 0.35**	**0.23**	**0.16, 0.29**
Total indirect[a]	**0.14**	**0.10, 0.18**	**0.17**	**0.12, 0.22**
Coping Motives	**0.10**	**0.07, 0.14**	**0.11**	**0.08, 0.15**
Sleep Motives	**0.01**	**0.001, 0.03**	**0.02**	**0.01, 0.03**
Marijuana Frequency	-0.01	-0.03, 0.02	-0.01	-0.05, 0.02
Coping Motives – Marijuana Frequency	**0.01**	**0.004, 0.03**	**0.02**	**0.01, 0.04**
Sleep Motives – Marijuana Frequency	**0.02**	**0.01 03**	**0.03**	**0.02, 0.04**
Direct	**0.15**	**0.09, 0.22**	0.06	-0.002, 0.12
Predictor Variables: *DSM-5* Anxiety	β	99% CI	β	99% CI
Total	**0.29**	**0.23, 0.35**	**0.22**	**0.16, 0.29**
Total indirect[a]	**0.14**	**0.10, 0.18**	**0.17**	**0.12, 0.22**
Coping Motives	**0.10**	**0.07, 0.14**	**0.11**	**0.08, 0.14**
Sleep Motives	0.01	-0.002, 0.03	**0.02**	**0.01, 0.04**
Marijuana Frequency	-0.01	-0.03, 0.01	-0.01	-0.05, 0.02
Coping Motives – Marijuana Frequency	**0.01**	**0.004, 0.03**	**0.02**	**0.01, 0.04**
Sleep Motives – Marijuana Frequency	**0.02**	**0.01, 0.03**	**0.03**	**0.02, 0.05**
Direct	**0.15**	**0.08, 0.21**	0.06	-0.003, 0.12

DISCUSSION

- Findings support extant research indicating coping motives as a robust mediator between affective vulnerabilities and marijuana outcomes[7]
- Results suggest that sleep motives are germane to negative affect regulation models of marijuana use among college students

Clinical implications:

- (1) Enhanced screening of marijuana motives and interventions targeting motives may be beneficial
- (2) Psychoeducation regarding effects of marijuana on sleep and evidence-based insomnia treatments may reduce problematic marijuana use

Future directions:

- (1) Explore other mediators of affective disorder symptoms and marijuana outcomes (e.g., rumination)
- (2) Longitudinal research examining whether marijuana use for sleep promotion contributes to problematic use
- (3) Evaluate differential effects of marijuana motives on marijuana outcomes

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