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Predictors of Problematic Non-Medical Prescription Pain and Stimulant Use

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BACKGROUND

Recent results from a nationally representative sample indicated that young adults exhibited the greatest illicit drug use (SAMHSA, 2013b). The non-medical use of prescription drugs (NMUPD) is the second most commonly reported form of illicit substance use by young adults, preceded only by marijuana (SAMHSA, 2013b). This is a growing public health concern with an estimated 2.4 million Americans engaging in NMUPD for the first time within the past year in 2010, an average of 6,600 initiates per day (SAMHSA, 2013b). Prescription opioid abuse alone was estimated to cost the U.S. \$55.7 billion in 2007 (Birnbaum et al., 2011). NMUPD has been linked with abuse and dependence, and a variety of other negative outcomes, including mental illness (e.g., Bavarian et al., 2013), poor school performance (Arria et al., 2011), emergency room visits (SAMHSA, 2013a, 2013b), more frequent sexual risk behaviors (Benotsch et al., 2011), and death (CDC, 2012; Paulozzi et al., 2012). Additionally, young adults who engage in NMUPD are significantly more likely than their peers to use other illicit drugs and to combine prescription drugs with alcohol and other substances. These practices increase the risk of potentially dangerous drug interactions, and their negative outcomes (Garnier et al., 2009; McCabe et al., 2006; SAMHSA, 2006). Therefore, prevention is key to reducing this great public health concern and its grave costs to society. One way to prevent substance use and abuse is to investigate why specific groups of people use and to target interventions specifically to modifiable predictors. The current study focuses on such potential predictors.

AIMS OF CURRENT STUDY

- To determine the predictors of problematic non-medical use of prescription stimulants and opioids in an undergraduate sample of young adults.

METHODS

Participants

- 193 undergraduate students attending a large public university
- 70.4% female; 55% White
- Endorsed NMUPD of either pain or stimulant medications in the past year

Design

- First, regressions were conducted to test whether sleep problems, emotion regulation difficulties, depressive symptoms, and post-traumatic stress disorder (PTSD) symptoms predicted problematic non-medical use of either prescription stimulants or opioids.
- Then, the significant predictors from the previous regression models were entered into two separate multiple regression models, one for problematic stimulant misuse and another for problematic opioid misuse to determine which predictor was the most influential.

METHODS

Measures

- Participants completed an online questionnaire and received research credit for an Introduction to Psychology class as compensation. For the current study these included:
- Reduce Annoyed Guilty Start test (RAGS; Sobell et al., 1999):** The 32-item RAGS self-report scale was modified to examine four aspects of problem NMUPD usage: need to stop or reduce behavior, annoyance from others criticizing the behavior, guilt about the behavior, and needing the behavior to start the day. This version asked these questions in terms of prescription opioids and stimulants. Higher scores indicated greater problem usage.
 - Pittsburgh Sleep Quality Index (PSQI; Buysse et al., 1989):** The 19-item self-report scale measures seven components of sleep over the past month: sleep quality, sleep latency, duration of sleep, sleep efficiency, disturbances of sleep, use of sleep medication, and daytime dysfunction. Higher global PSQI scores indicated worse sleep problems or worsened quality of sleep.
 - Difficulties in Emotion Regulation Scale (DERS; Gratz & Roemer, 2004):** The 36-item self-report scale assessed emotion regulation in four domains: awareness and understanding of one's emotions, acceptance of emotions, ability to engage in goal directed behavior and abstain from impulsive behavior when faced with negative emotions, and whether one's access to emotion regulation strategies seemed effective. Higher scores indicated greater difficulties in emotion regulation.
 - Center for Epidemiological Studies Depression Scale (CES-D; Radloff, 1991):** The 20-item self-report scale has participants rate the frequency of which each of the statements was true for them in the past week. Higher scores indicated greater frequency and severity of depressive symptoms.
 - The Impact of Event Scale (IES; Horowitz et al., 1979):** The 15-item self-report measure assesses participants after experiencing a traumatic event. The scale asks participants to rate to what extent each of the items are true for them in the previous seven days. Higher scores indicate greater problems and more PTSD symptoms.

DISCUSSION

- These results suggest that all of these predictors are important to consider when investigating NMUPD in young adults.

Limitations

- All data collected was through self-report measures which are subject to participants responding in a socially desirable context.
- The characteristics of this population (undergraduate students at one university) need to be considered with regards to the generalizability of these results.
- Since results from treatment research investigating abuse of other substances have found that integrated approaches that combine mental health and substance use are more effective than interventions that address substance use and mental health problems separately (e.g., Drake et al., 2008), future prevention and intervention efforts should consider all of the variables investigated.
- If resources are limited targeting PTSD symptoms may be the most effective.

RESULTS

- Using regression models run separately for users of pain and stimulant medications, emotion regulation difficulties and PTSD symptoms were found to predict non-medical problematic use of both pain and stimulant medication.
- Sleep problems and depressive symptoms were found to only predict problematic use of stimulants.
- When all the significant predictors were entered into a multiple regression for each prescription category, no one predictor was significant above and beyond other predictors (see Table 1).
- However, PTSD symptoms explained the most variance in both models.

Table 1

Multiple Regression Analysis Examining Associations Among Significant Correlates and Problematic Non-medical Use of Pain and Stimulant Medications (N = 193)

Prescription Drug Category	Predictor	B	SE B	B	p
Pain	DERS	0.01	0.01	.19	.19
	IES	0.02	0.01	.21	.09
	R ²	.09			
Stimulant	DERS	.00	.01	.05	.79
	IES	.01	.01	.19	.22
	PSQI	.05	.06	.14	.37
	CES-D	.02	.02	.14	.50
	R ²	.17			

Note. DERS = Difficulties in Emotion Regulation Scale, IES = Impact of Events Scale, PSQI = Pittsburgh Sleep Quality Index, CES-D = Center for Epidemiological Studies – Depression Scale.

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