

## Article 93

### **Gender Differences Among College Students Who Misuse Prescription Opioids**

Courtney S. Borsuk and Gerald A. Juhnke

Borsuk, Courtney S., is a graduate student at The University of Texas at San Antonio with counseling and research experience in substance use disorders.

Juhnke, Gerald A., is a professor and the former founding Doctoral Program Director in the Department of Counseling at The University of Texas at San Antonio. He is a former Fellow for the North Carolina Governor's Institute on Alcohol and Substance abuse and has been providing substance abuse counseling and supervision since 1986.

#### **Abstract**

Prescription opioid misuse is a significant problem on college campuses (McCabe, Teter, Boyd, Knight, & Wechsler, 2005). According to the Monitoring the Future (MTF) study, 6.2% of surveyed college students reported misusing prescription opioids in the preceding 12-month period (Dennhardt & Murphy, 2013). College is a vulnerable time for students given they are away from home and family support often for the first times in their lives. Additionally, mental health disorders including substance use often surface during the late adolescent to early adulthood life transition period. Multiple studies suggest gender differences in prescription opioid misuse (Back, Payne, Simpson, & Brady, 2010; McCabe, Cranford, Boyd, & Teter, 2007). Additionally, gender differences were reported among participants who misused prescription opioids but not among participants who used substances or alcohol among the same sample (Stolberg, 2009). The current manuscript will examine previous research on gender differences in the college student population who misuse prescription opioids and explore preventative measures and interventions.

*Keywords:* prescription opioid misuse, college students, gender differences

Prescription opioid misuse is a national problem. Study results indicate the misuse of prescription opioids is a problem among undergraduate college students (McCabe, Teter, Boyd, Knight, et al., 2005). General substance and alcohol use garners attention among the college student population; however, 12.4% of college students in the Monitoring the Future (MTF) study reported lifetime prescription opioid misuse (Dennhardt & Murphy, 2013). Additionally, 6.2% of college students reported prescription opioid misuse in the past year (Dennhardt & Murphy, 2013).

College is a vulnerable time for students. It often is the first time students are away from significant family and friend support. Concomitantly, the onset of mental health symptoms typically occurs in late adolescence to early adulthood. Therefore, college students are a vulnerable population for prescription opioid misuse. Furthermore, men and women have unique college experiences that may affect their reasons for prescription opioid misuse. For example, first year college male's "academic self-efficacy" (D'Lima, Winsler, & Kitsantas, 2014, p. 342) increased throughout the first semester and was higher when compared to female college students (D'Lima et al., 2014).

The research on college student prescription opioid misuse and gender differences among college students is in its infancy stages. However, there is sufficient evidence specific to prescription opioid misuse gender differences that warrants review (Back, Lawson, Singleton, & Brady, 2011; Stolberg, 2009). The current manuscript examines previous research on gender differences and prescription opioid misuse among college students, preventative measures, and treatment interventions.

### **Key Terms**

The constructs of college students, prescription, non-prescribed opioids, prescription opioids, and misuse will be defined below. The definition of *college student* will include people enrolled in 2-year or 4-year learning institutions. Previous studies have included community college students (Stolberg, 2009). Other studies consisted of undergraduate students at 4-year institutions (McCabe, Teter, Boyd, Knight, et al., 2005; McCabe, Morales, Cranford, Delva, McPherson, & Boyd, 2007). The definition of *prescription* includes physician prescribed or recommended medications (e.g., opioids) specific to a patient's presenting concerns.

The definition of *non-prescribed opioids* includes medication that was not prescribed to the person by a physician, but may have been prescribed to a friend or family member. The definition of *prescription opioids* includes a multitude of drugs. For example, these drugs include but are not limited to OxyContin, Vicodin, or codeine (Zullig & Divin, 2012); codeine, Demerol, Percodan, Percocet, Vicodin, Darvon, Darvocet (McCabe, Teter, Boyd, Knight, et al., 2005).

The definition of *misuse* includes: "Prescription drug misuse and abuse is the intentional or unintentional use of medication without a prescription, in a way other than prescribed, or for the experience or feeling it causes" (Substance Abuse and Mental Health Services Administration, 2014, para. 2).

### **Substance and Alcohol Use Among College Students**

Substance use, including alcohol, often occurs among college students. According to The National Center on Addiction and Substance Abuse (CASA) at Columbia University (2007), students reported an increase in heroin, cocaine, and marijuana use from 1993–2005. Furthermore, results from the Southern Illinois University Carbondale (SIUC) Core Institute Drug and Alcohol Survey indicated that 81.4% of students drank alcohol in the past year, and 43.9% of students reported binge drinking in the past 2 weeks (Core Institute, 2014). Data from both studies indicate that illegal drug use,

especially marijuana use, and binge drinking alcohol occurs on college campuses across the nation.

### **Risk Factors**

Exploring risk factors of substance use may help college counselors prevent college student substance use. For example, researchers reported a positive correlation between first-year college student substance use and childhood sexual trauma (Calmes et al., 2013). Therefore, the likelihood of college substance use may increase with the number of childhood traumatic experiences (Calmes et al., 2013). Even though this study did not focus solely on prescription opioids, childhood trauma is a risk factor for substance use, which includes prescription opioids, and college counselors need to be aware of the comorbidity of traumatic events and substance use. Moreover, students may seek treatment for one concern (e.g., traumatic event) and also need counseling for additional concerns (e.g., substance use). Lastly, students may seek college counseling services for mental health symptoms. Participants in Zullig and Divin's (2012) study reported substance use disorders, mental health symptoms (e.g., feelings of hopelessness and sadness), and suicidal thoughts and attempts. These results may indicate a relationship between substance use disorders and mental health symptoms.

Another group of researchers reported a relationship between mental health symptoms and substance use. Cabriaes, Cooper, and Taylor (2013) reported anxiety and a positive attitude on prescription drug misuse as risk factors of prescription drug misuse. Once again, college counselors may consider assessing for mental health disorders and substance use disorders even when students do not report symptoms of both disorders.

### **Prescription Opioid Misuse**

Prescription opioid misuse is a national problem (National Institute on Drug Abuse, 2014c). According to the National Institute on Drug Abuse (NIDA) prescription opioids are the most commonly misused prescription drug in the United States (NIDA, 2014b). About 2 million people are diagnosed with opioid use disorder (NIDA, 2014b). Misuse can progress to large consumptions of opioids and lead to overdose, respiratory depression, and death (NIDA, 2014b). Opioids are commonly prescribed in a pill form and can be taken comfortably orally while still experiencing the drug's effects. Additionally, the route of use (e.g., oral, nasal, intravenous) may ease people's fears of prescription opioids because they are taken orally.

### **Prescription Opioid Source**

The source of college students' prescription opioids is an indicator of risks or signs of misusing prescription opioids. The most common sources of prescription opioid misuse include friends and parents (McCabe et al., 2007). In a study by Lord, Brevard, and Budman (2011), 85% of participants who misused prescription opioids received them from friends, and 18% reported parents as their prescription opioid drug source. Therefore, college students' prescription opioid sources may commonly consist of friends and family.

### **Route of Ingestion**

Additionally, the route the person takes the prescription opioid may indicate misuse. For example, McCabe et al. (2007) surveyed participants' prescription opioid route of ingestion (e.g., orally, intranasal/snorted, intravenous). The researchers suggested that participants were at a higher risk for substance use related problems when prescription opioids were snorted instead of taken as prescribed (orally; McCabe et al., 2007). Therefore, college counselors may ask students their route of prescription opioid use to discover if the students may be misusing their prescription. Furthermore, the route of misuse may also lead to future illicit drug use (NIDA, 2014a).

Researchers have investigated different types of misused prescription opioids including codeine, hydrocodone, and oxycodone (Back et al., 2010) and codeine, Demerol, Percodan, Percocet, Vicodin, Darvon, Darvocet (McCabe, Teter, Boyd, Knight, et al., 2005). Prescription opioids are unique from other illicit substances (e.g., cocaine, amphetamines) because a doctor prescribes the medication. Prescription opioids are prescribed to be taken orally in a pill form. Prescription opioids may be misused when they are taken orally; however, misuse may also occur when patients take them other ways (e.g., nasally or intravenously). People may be unaware of the risks of prescription opioids and view them to be less dangerous than street drugs, such as heroin, because they are doctor prescribed.

Prescription opioids are a popular prescription drug to misuse because initially, prescription opioids provide positive effects that outweigh their negative effects. Participants in Lord et al.'s (2011) study reported prescription opioids provided a faster high and that they enjoyed the effects compared to other substances (e.g., alcohol) with negative effects. Thus, misusing prescription opioids may be perceived as an acceptable alternative to illicit substance and alcohol use.

Prescription opioids are most commonly prescribed to relieve mild to severe pain, coughs, and diarrhea (NIDA, 2014b). They can produce effects of decreased pain sensitivity, drowsiness, nausea, constipation, and euphoria (NIDA, 2014c). Therefore, people receive prescriptions for opioids to reduce pain, but they may misuse the opioids to experience additional effects of the drug (e.g., euphoria or feeling high; NIDA, 2014c). This is also true among the college student population. College students reported prescription opioid misuse for a multitude of reasons including wanting to feel euphoria/high, coping with pain, and experimenting (McCabe et al., 2007). These results were similar to Rozenbroek and Rothstein's (2011) study where participants reported their most common reasons for prescription opioid misuse were curiosity and "makes me feel good" (p. 361). In another study, participants reported prescription opioid misuse to treat symptoms of anxiety and depression (Lord et al., 2011). Participants' different motives for misuse may suggest that college students are not receiving proper medical support to treat their pain or mental health symptoms.

### **Prescription Opioid Misuse Among College Students**

College students' prescription opioid misuse trends are similar to the general population. However, this population is unique for a multitude of reasons. This time period of leaving the nest brings about new responsibilities and the possibility of physically leaving the family home. College students are meeting new people, taking on

new responsibilities, and experiencing new situations that they may have been protected from while living at their family home. Lastly, university officials may feel powerless against reducing substance use among their students because student substance use may be a part of the college culture (CASA, 2007). Therefore, college students' freedom, combined with the college culture, may contribute to a vulnerable time for students to use or misuse substances.

### **College Students' Misconceptions of Prescription Opioid Misuse**

College students may also think substance use, including prescription opioid misuse, occurs on their college campuses. According to McCabe (2008), undergraduate students overestimated the amount of students who misused prescription opioids, stimulants, and marijuana. These results indicate college students' inaccurate views of social norms and drug use. These misconceptions may lead to illicit drug use. Additionally, educating students with accurate drug use percentages may help students feel less pressure to use prescription drugs to fit in with their peers. McCabe (2008) recommended future researchers correct inaccuracies and measure the impact of the correction on college students' misuse of prescription drugs.

Data support that college students use drugs and misuse prescription opioids. For example, 7% of college students enrolled at 119 colleges in the United States reported prescription opioid misuse in the past year, and 12% reported lifetime prescription opioid misuse (McCabe, Teter, Boyd, Knight, et al., 2005). More recently, 32.6% of college students reported prescription opioid misuse in their lifetime (Benotsch, Koester, Luckman, Martin, & Cejka, 2011). The data indicates prescription opioid misuse occurs among college students across the nation.

Therefore, it is important to address the demographics of college students who misuse prescription opioids. According to McCabe, Teter, Boyd, Knight, et al. (2005), college students who engage in higher occurrences of risky behavior and alcohol and substance use; attend a more competitive college; identify their race as White; live off-campus, including a fraternity or sorority house; and earned a lower grade point average were more likely to misuse prescription opioids. McCabe, Teter, Boyd, Knight, et al.'s student demographic information may be utilized to screen potential student prescription opioid misuse. However, the study is 10 years old and may not be relevant to today's students. Furthermore, it is imperative for college counselors and university staff (e.g., campus police, resident hall advisors, etc.) to understand that prescription opioid misuse is as potentially dangerous and damaging to students as illicit drugs.

### **Prescription Opioid Misuse and Gender Differences**

Researching gender differences among people who misuse prescription opioids may provide insight into gender-specific prescription opioid misuse predictors and gender tailored counseling. However, researchers in the prescription opioid misuse field are split on whether gender differences occur with prescription opioids. There are researchers that support gender differences in prescription opioid misuse (Back et al., 2011; Back et al., 2010). In one such study, men were 1.3 times more likely than women to report prescription opioid misuse in the past year (Back et al., 2010). Gender differences reported in these studies suggest gender differences may occur. More specifically, men

were more likely than women to misuse prescription opioids. However, other researchers do not report gender prescription opioid misuse differences. For example, in another study, there were no differences based on which gender reported prescription opioid misuse among a national sample of college students (McCabe, Teter, Boyd, Knight, et al., 2005).

However, according to Dr. Janine Austin Clayton (2014), the National Institute of Health (NIH) Office of Research on Women's Health (ORWH) Director, the study of women and men separately is a necessary research practice. Furthermore, gender differences are part of the individualized treatment plans that are promoted in today's medical and mental health treatment (including substance use disorders). Therefore, research is needed to explore gender-specific treatment outcomes and risk factors among men and women.

### **Risk Factors**

Risk factors for gender differences in prescription opioid misuse were found in the general population and studies on college students suggest similar results. Male participants reported higher rates of lifetime and past year prescription opioid misuse in a non-college student sample (Back et al., 2010). According to Pedrelli et al. (2013), male college participants who endorsed depressive symptoms, including irritability, increased their chances of participating in risky activities, including prescription drug, illicit drug, and alcohol use (Pedrelli et al., 2013). Zullig and Divin (2012) narrowed in on prescription opioid misuse among college students. Men and women reported risk factors of prescription opioid misuse when they also experienced depressive symptoms (e.g., depression, sadness, and feelings of hopelessness). Consequently, female students reported suicide attempts while male students reported suicidal thoughts (Zullig & Divin, 2012). These study results indicated depressive symptoms, included but not limited to irritability, are a risk factor for prescription opioid misuse among men and women with additional consequences of suicide and suicide attempts. Female participants in Back et al.'s (2010) study also reported psychological symptoms as motives to misuse prescription opioids and smoking cigarettes as predictors of prescription opioid misuse (Back et al., 2010). Male participants reported cocaine, heroin, hallucinogen use, and alcohol and substance abuse and dependence (Back et al., 2010). Both studies suggested mental health symptoms may predict women's prescription opioid misuse while substance and alcohol use may predict prescription opioid misuse among men.

### **Route and Reasons for Prescription Opioid Misuse**

Gender differences were also reported on the route of ingestion in a 2011 study (Back et al., 2011). Men were more likely to snort, crush, or inject the opioids intravenously than women (Back et al., 2011). Women reported using prescription opioids in the morning and reported motivation to use opioids as energy (100%) to manage with interpersonal stress (72.7%), pain (66.7%), and pleasure/euphoria (66.7%) and negative affect (55%; Back et al., 2011). While women participants reported morning use, men reported use after work and before night activities (Back et al., 2011). These gender differences may be applied when assessing for prescription opioid misuse and may also be applied for prescription opioid misuse counseling.

## **Gender Differences in Prescription Opioid Misuse Among College Students**

In addition to gender differences in the general population that misuses prescription opioids, some researchers suggest gender differences occur in the college student population. Among participants from McCabe, Teter, Boyd, Knight, et al.'s (2005) 2001 national study, 12% reported prescription opioid misuse in their lifetime and 7% in the past year. A Web survey administered at a 4-year Midwestern university found these rates increased to 14.3% for lifetime misuse and 7.5% for the past year (McCabe et al., 2007). Lastly, women were more vulnerable to lifetime and past year prescription opioid misuse when "exposure" to prescription opioids occurred earlier in their lifetime (McCabe, Teter, & Boyd, 2005, p. 44). Thus, gender groups possess different sources, reasons, and risks of prescription opioid misuse.

### **Source of Prescription Opioids**

Gender differences can be found in college students' prescription opioid source. Female participants from McCabe et al.'s (2007) study reported their most common prescription opioid source as their parents. Friend not from the same college and friend at the same college were also sources for women (McCabe et al., 2007). Male participants reported their first source to get prescription opioids as friend from a different college, then friend from the same college, and lastly, parents (McCabe et al., 2007). These results suggest women prefer to acquire prescription opioids from their parents and men prefer to get them from their friends. Participant responses from McCabe et al.'s (2007) study support the occurrence of gender differences among college students who misuse prescription opioids.

### **Implications for Counselors**

Counselors see a diverse population of clients and may counsel clients who misuse prescription opioids. Therefore, it is beneficial for counselors to be aware of risk factors of prescription opioid misuse and effective preventative and treatment options specific to gender and to the college student population. Additionally, awareness of risky behaviors during college students' misuse of prescription opioids may help counselors provide more effective counseling interventions. Lastly, counselors may need to help clients build a support system if their clients' families would not support them because of their prescription opioid misuse. Thus, if counselors are aware of risk factors of prescription opioid misuse, behaviors and mental health disorders that are comorbid with the misuse, then they may be able to prevent or counsel potentially life threatening problem.

### **College Student Substance Use Treatment**

Substance use treatments specific for college students aim at "prevention and brief interventions" (Neighbors, Pedersen, & Larimer, 2009, p. 363). Universal preventative measures are aimed at all college students and may include public service announcements via television or posters, and posting university drug and alcohol policies around campus and in the dorms (Neighbors et al., 2009). Brief treatment may include individual or group counseling sessions that apply cognitive-behavioral therapy or Brief

Alcohol Screening and Intervention for College Students (BASICS; Dimeff, Baer, Kivlahan, & Marlatt, 1999). However, students may not be ready to stop using substances and alcohol and, therefore, may not attend counseling sessions.

Students may also not attend counseling because of the stigma attached to substance use counseling. According to CASA (2007), 37% of students reported not seeking treatment due to substance use stigma. Only 6% of students who met criteria for alcohol and drug abuse or dependence reached out for counseling (CASA, 2007). Lastly, 38% of college administrators reported proper preventative measures are not in place because people view experimenting with alcohol and substances as a part of the college experience (CASA, 2007). Thus, many students may not be receiving the counseling services they need.

Furthermore, gender differences were found on the National Household Survey on Drug Use and Health (NSDUH) among the traditional college age sample (Back et al., 2010). Men and women reported low levels of seeking treatment; 11% of male participants compared to 6% of female participants reported lifetime treatment (Back et al., 2010). Counselors need to be aware of the underutilization of treatment found among this population. This may be due in part to the fact that prescription medications are viewed as less harmful than other drugs and that addiction is stigmatized in society. Treatment for adult women may also include comorbidity with other mental health disorders and stressors in the social, family, and employment domains (McHugh et al., 2013). All of these reasons may be helpful for counselors to be aware of when counseling clients or providing community outreach. College counselors may provide a safe place for students to ask for help and to help students feel less ostracized for misusing prescription opioids.

**Prevention for prescription opioid misuse among college students.** However, before focusing on treatment, preventative measures may be put into place to help reduce the number of students who may misuse prescription opioids. First, family members need to be educated on the dangers of sharing prescription opioids with their children (Back et al., 2010). Second, parents need to be encouraged to properly monitor, store, and discard of their prescription medication so that college-aged children cannot access prescription opioids. Third, colleges may provide alcohol and substance use prevention programs. However, only half of the students polled reported their campus had such services and 45.5% of students did not know if their campus provided this resource (Core Institute, 2014). Therefore, campuses need to advertise and promote their alcohol and substance use programs on campus.

A part of the prevention program may include random school drug testing (RSCDT; DuPont, Merlo, Arria, & Shea, 2012). Random drug testing may be found in high schools (DuPont et al., 2012) but may be applicable to college students. McCabe et al. (2007) recommended prevention to begin before college, specifically in high school since there was a high rate of students who reported misusing prescription opioids before college (McCabe et al., 2007). In addition, McCabe, Teter, Boyd, Knight, et al. (2005) found that for older college students, prescription opioid misuse did not decline as previous studies reported. Therefore, more research needs to examine this population (McCabe, Teter, Boyd, Knight, et al., 2005) and counselors may need to be aware of this occurrence when assessing or counseling older college students. Counselors need to be aware of age differences (i.e., incoming freshmen, graduating seniors) and McCabe et al.

(2007) also recommended counselors be aware of gender differences among college students who misuse prescription opioids. Age and gender differences among college students who misuse prescription opioids may be factors for college counselors to consider when assessing for prescription opioid misuse.

Lastly, college students, may misuse prescription opioids because of untreated pain. However, once they visit a doctor and receive pain management treatment, they may stop misusing prescription opioids because they receive the appropriate pain treatment. Researchers from a 2013 study (McHugh et al., 2013) recommended that for adult women patients, pain management doctors and primary care providers should collaborate because study results suggest women were more likely to misuse prescription opioids after their doctor prescribed opioids for pain management (McHugh, et al., 2013). Screening for depressive symptoms may help prevent or treat opioid misuse in addition to other substance disorders since participants in Pedrelli et al.'s (2013) study reported comorbidity of mental health symptoms and substance use. Additionally, Green, Serrano, Licari, Budman, and Butler (2009) recommended gender-specific prevention and treatment options.

**Prescription opioid misuse treatment.** Treatments for prescription opioid misuse may include medication therapy (e.g., buprenorphine, methadone, naltrexone) and behavioral counseling (NIDA, 2014c). Counselors may apply the behavioral approaches of cognitive-behavior therapy, motivational interviewing, contingency management/motivational incentives, and include family in treatment with multidimensional family therapy (NIDA, 2009). These behavioral options may help clients' treatment retention and can be implemented in an array of counseling environments (e.g., outpatient, residential treatment) and in group or individual sessions (NIDA, 2009).

Furthermore, counselors may address gender differences in treatment. This may include the different reasons why people misuse prescription opioids (e.g., more often women are motivated to misuse because of depressive symptoms while men reported misuse in occurrence with other substance and alcohol use). Therefore, counselors may apply interventions. However, both men and women reported depressive symptoms, suicidal thoughts (men) and suicidal attempts (women; Zullig & Divin, 2012). Therefore, counselors will follow the same guidelines with clients who misuse prescription opioids and those clients who do not (e.g., assess for self-harm). Lastly, researchers have included men and women when researching gender differences among college students who misuse prescription opioids. Future counselors and researchers need to address the risks and other differences (i.e., source, route, motivation) of prescription opioid misuse among clients who identify as transgender.

### **Implications for Future Research**

In addition to researching evidence-based treatment options, future researchers may continue to examine the relationship between prescription opioid misuse in different age groups, including adolescents, college students, and throughout adulthood. McCabe, Teter, Boyd, Knight, et al. (2005) found among older college students, prescription opioid misuse did not decline as previous studies reported. According to McCabe, Teter, Boyd, Knight, et al. (2005), research needs to examine this population. Additionally, counselors need to provide multiculturally sensitive interventions for all clients.

Counselors need to be aware of cultural gender differences and provide individualized and culturally appropriate counseling to students.

It may be beneficial for clients to receive gender-specific counseling because multiple sources reported that gender differences occur in prescription opioid misuse among college students (Back et al., 2010; McCabe et al., 2007). However, other researchers did not find gender differences among their sample (McCabe, Teter, Boyd, Knight, et al., 2005). Future research may continue to study gender and prescription opioid misuse in college students to learn if there are gender differences and if not, why study results are suggesting opposing views. Particularly, examine the diversity of the study samples, applicability to the college student population, and include more information on participants' attributes (e.g., resilience) and demographic information (e.g., socioeconomic status). Additionally, Zullig and Divin (2012) recommended that future studies examine if depressive symptoms and suicide cause misuse of prescriptions, including but not limited to opioids, or if misuse of prescriptions cause depressive symptoms and suicide. In addition, Zullig and Divin recommended researching why college students take prescription drugs for mental health symptoms when university counseling services are typically available. Results from these studies may help increase college students accessing on-campus counseling services.

### **Prescription Opioid Misuse Research in the Counseling Field**

Prescription opioid misuse is a reason people may seek counseling services. However, very little research has been conducted on this topic in the counseling field. Therefore, counselors need to be aware of risk factors, risky behaviors, comorbidity with other mental health disorders, and effective counseling interventions. Weigel, Donovan, Krug, and Dixon's (2007) article provides useful information for counselors to assess prescription opioid misuse. However, Weigel et al. (2007) reviewed an article for their manuscript and recommended that counseling researchers conduct prescription opioid misuse studies and apply the results to counsel this specific substance use disorder. There is a more recent article on college student substance abuse by Calmes et al. (2013); however, this study did not specifically examine prescription opioids. Therefore, there is a gap in the counseling field research on prescription opioid use in college students and gender differences. There is a limited amount of research on prescription opioid misuse among college students and, moreover, recent research has focused on prescription stimulant misuse among college students. Researching this topic may provide more insight in risk factors of misuse and effective prevention and treatments for prescription opioid misuse, specifically for college students.

### **Conclusion**

Prescription opioid misuse occurs in the college student population. Prescription opioids were the most commonly reported misused prescription drugs among a sample of college students (McCabe, Teter, & Boyd, 2006). However, the research sample is limited, and few studies have examined gender differences among college students who misuse prescription opioids. The implications for counselors include the need for awareness, assessment, and screening for students who exhibit warning signs of misuse of prescription opioids. Implications for research include gaps in the research on

prescription opioid misuse in college students and the differences in gender, effective prevention and treatment options, and stigma attached to university counseling centers. Researchers need to continue exploring gender differences in prescription opioid misuse among college students. Research may help increase awareness, effective prevention, and counseling interventions to promote a successful academic career and health across the lifespan.

## References

- Back, S. E., Lawson, K. M., Singleton, L. M., & Brady, K. T. (2011). Characteristics and correlates of men and women with prescription opioid dependence. *Addictive Behaviors, 36*(8), 829–834. doi:10.1016/j.addbeh.2011.03.013
- Back, S. E., Payne, R. L., Simpson, A. N., & Brady, K. T. (2010). Gender and prescription opioids: Findings from the national survey on drug use and health. *Addictive Behaviors, 35*(11), 1001–1007. doi:10.1016/j.addbeh.2010.06.018
- Benotsch, E. G., Koester, S., Luckman, D., Martin, A. M., & Cejka, A. (2011). Non-medical use of prescription drugs and sexual risk behavior in young adults. *Addictive Behaviors, 36*, 152–155. doi:10.1016/j.addbeh.2010.08.027
- Cabriales, J. A., Cooper, T. V., & Taylor, T. (2013). Prescription drug misuse, illicit drug use, and their potential risk and protective correlates in a Hispanic college student sample. *Experimental and Clinical Psychopharmacology, 21*(3), 235–244. doi:10.1037/a0031973
- Calmes, S. M., Laux, J. M., Scott, H. L., Reynolds, J. L., Roseman, C. P., & Piazza, N. J. (2013). Childhood psychological trauma and first-year college students' substance dependence. *Journal of Addiction & Offender Counseling, 34*(2), 70–80. doi:10.1002/j.2161-1874.2013.00016.x
- Clayton, J. A. (2014, February 14). *Director's page: Sex is in the news...and it matters*. National Institute of Health Office of Research on Women's Health. Retrieved from [http://orwh.od.nih.gov/about/director/director\\_sexisinthenewsanditmatters.asp](http://orwh.od.nih.gov/about/director/director_sexisinthenewsanditmatters.asp)
- Core Institute. (2014). *2011–2013 National Data Core Alcohol and Drug Survey Long Form-Form 194 Executive Summary*. Retrieved from [http://core.siu.edu/\\_common/documents/2011%20-%202013.pdf](http://core.siu.edu/_common/documents/2011%20-%202013.pdf)
- D'Lima, G. M., Winsler, A., & Kitsantas, A. (2014). Ethnic and gender differences in first-year college students' goal orientation, self-efficacy, and extrinsic and intrinsic motivation. *The Journal of Educational Research, 107*(5), 341–356. doi:10.1080/00220671.2013.823366
- Dennhardt, A. A., & Murphy, J. G. (2013). Prevention and treatment of college student drug use: A review of the literature. *Addictive Behaviors, 38*(10), 2607–2618. doi:10.1016/j.addbeh.2013.06.006
- Dimeff, L. A., Baer, J. S., Kivlahan, D. R., & Marlatt, G. A. (1999). *Brief Alcohol Screening and Intervention for College Students (BASICS): A harm reduction approach*. New York, NY: Guildford Press.
- DuPont, R. L., Merlo, L. J., Arria, A. M., & Shea, C. L. (2012). Random student drug testing as a school-based drug prevention strategy. *Addiction, 108*, 839–845.

- Green, T. C., Serrano, J. M. G., Licari, A., Budman, S. H., & Butler, S. F. (2009). Addiction severity index-multimedia version connect prescription opioid database. *Drug and Alcohol Dependence*, 103(1–2), 65–73. doi:10.1016/j.drugalcdep.2009.03.014
- Lord, S., Brevard, J., & Budman, S. (2011). Connecting to young adults: An online social network survey of beliefs and attitudes associated with prescription opioid misuse among college students. *Substance Use and Misuse*, 46(1), 66–76. doi:10.3109/10826084.2011.521371
- McCabe, S. E. (2008). Misperceptions of non-medical prescription drug use: A web survey of college students. *Addictive Behaviors*, 33(5), 713–724. doi:10.1016/j.addbeh.2007.12.008
- McCabe, S. E., Cranford, J. A., Boyd, C. H., & Teter, C. J. (2007). Motives, diversion, and routes of administration associated with nonmedical use of prescription opioids. *Addictive Behaviors*, 32, 562–575. doi:10.1016/j.addbeh.2006.05.022
- McCabe, S. E., Morales, M., Cranford, J. A., Delva, J., McPherson, M. D., & Boyd, C. J. (2007). Race/ethnicity and gender differences in drug use and abuse among college students. *Journal of Ethnicity in Substance Abuse*, 6(2), 75–95. doi:10.1300/J233v06n02\_06
- McCabe, S. E., Teter, C. J., & Boyd, C. J. (2005). Illicit use of prescription pain medication among college students. *Drug and Alcohol Dependence*, 77, 37–47.
- McCabe, S. E., Teter, C. J., & Boyd, C. J. (2006). Medical use, illicit use, and diversion of abusable prescription drugs. *Journal of American College Health*, 54(5), 269–278. doi:10.3200/JACH.54.5.269-278
- McCabe, S. E., Teter, C. J., Boyd, C. J., Knight, J. R., & Wechsler, H. (2005). Nonmedical use of prescription opioids among U.S. college students: Prevalence and correlates from a national survey. *Addictive Behaviors*, 30(4), 789–805. doi:10.1177/002204260803800406
- McHugh, R. K., DeVito, E. E., Dodd, D., Carroll, K. M., Potter, J. S., Greenfield, S. F., ... Weiss, R. D. (2013). Gender differences in a clinical trial for prescription opioid dependence. *Journal of Substance Abuse Treatment*, 45(1), 38–43. doi:10.1016/j.jsat.2012.12.007
- The National Center on Addiction and Substance Abuse at Columbia University (CASA). (2007). *Wasting the best and brightest: Substance abuse at America's colleges and universities*. Retrieved from <http://www.casacolumbia.org/addiction-research/reports/wasting-best-brightest-substance-abuse-americas-colleges-universitys>
- National Institute on Drug Abuse. (2009). *Drug facts: treatment approaches for drug addiction*. Retrieved from <http://www.drugabuse.gov/publications/drugfacts/treatment-approaches-drug-addiction>
- National Institute on Drug Abuse. (2014a). *Abuse of pain medications risks heroin use*. Retrieved from <http://www.drugabuse.gov/related-topics/trends-statistics/infographics/abuse-prescription-pain-medications-risks-heroin-use>
- National Institute on Drug Abuse. (2014b). *Drug facts: Prescription and over-the-counter medications*. Retrieved from <http://www.drugabuse.gov/publications/drugfacts/prescription-over-counter-medications>

- National Institute on Drug Abuse. (2014c). *Prescription drug abuse*. Retrieved from <http://www.drugabuse.gov/publications/research-reports/prescription-drugs/opioids/what-are-opioids>
- Neighbors, C., Pedersen, E. R., & Larimer, M. E. (2009). College student application. In P. Miller (Ed.), *Evidence based addiction treatment* (pp. 361–378). Amsterdam, Netherlands: Elsevier.
- Pedrelli, P., Nyer, M., Holt, D., Bakow, B. R., Fava, M., Baer, L., ... Farabaugh, A. (2013). Correlates of irritability in college students with depressive symptoms. *Journal of Nervous and Mental Disease*, 201(11), 953–958. doi:10.1097/NMD.0000000000000038
- Rozenbroek, K., & Rothstein, W. G. (2011). Medical and nonmedical users of prescription drugs among college students. *Journal of American College Health*, 59(5), 358–363. doi:10.1080/07448481.2010.512044
- Substance Abuse and Mental Health Services Administration. (2014). *Prescription misuse and abuse*. Retrieved from <http://www.samhsa.gov/prescription-drug-misuse-abuse>
- Stolberg, V. B. (2009). Lack of gender differences in lifetime substance use reported among African-American urban community college students. *Journal of Ethnicity in Substance Abuse*, 8, 70–98. doi:10.1080/15332640802683466
- Weigel, D. J., Donocan, K. A., Krug, K. S., & Doxin, W. A. (2007). Prescription opioid abuse and dependence: Assessment strategies for counselors. *Journal of Counseling & Development*, 85, 211–215.
- Zullig, K. J., & Divin, A. L. (2012). The association between non-medical prescription drug use, depressive symptoms, and suicidality among college students. *Addictive Behaviors*, 37(8), 890–899. doi:10.1016/j.addbeh.2012.02.008

*Note: This paper is part of the annual VISTAS project sponsored by the American Counseling Association. Find more information on the project at: <http://www.counseling.org/knowledge-center/vistas>*