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Characteristics of Students Participating in Collegiate Recovery Programs: A National Survey ☆

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ABSTRACT

Relapse rates are high among individuals with substance use disorders (SUD), and for young people pursuing a college education, the high rates of substance use on campus can jeopardize recovery. Collegiate Recovery Programs (CRPs) are an innovative campus-based model of recovery support that is gaining popularity but remains under-investigated. This study reports on the first nationwide survey of CRP-enrolled students ($N = 486$ from 29 different CRPs). Using an online survey, we collected information on background, SUD and recovery history, and current functioning. Most students (43% females, mean age = 26) had used multiple substances, had high levels of SUD severity, high rates of treatment and 12-step participation. Fully 40% smoke. Many reported criminal justice involvement and periods of homelessness. Notably, many reported being in recovery from, and currently engaging in multiple behavioral addictions—e.g., eating disorders, and sex and love addiction. Findings highlight the high rates of co-occurring addictions in this under-examined population and underline the need for treatment, recovery support programs and college health services to provide integrated support for mental health and behavioral addictions to SUD-affected young people.

1. Introduction

1.1. In recovery and in college: double jeopardy

Rates of substance use disorders (SUD) triple from 7% in adolescence to 20% in early adulthood (Substance Abuse and Mental Health Services Administration, 2011), making this developmental stage critical to young people's future. In spite of effective interventions (Becker & Curry, 2008; Chung et al., 2003; Dennis et al., 2004; Tanner-Smith, Wilson, & Lipsey, 2013; Winters, Stinchfield, Lee, & Latimer, 2008), relapse rates are typically high (Substance Abuse and Mental Health Services Administration, 2008). Post-treatment continuing support is effective at sustaining recovery (Dennis & Scott, 2007; Godley et al., 2010; McKay et al., 2009; Substance Abuse and Mental Health Services Administration Office of Communications, 2009).

The need for recovery support is especially high for SUD-affected college students: Attending college and transitioning into adulthood can both be demanding, offering new freedoms but also less structure and supervision. For youths in SUD recovery, these challenging transitions are compounded by the need to remain sober in an 'abstinence-hostile environment' (Cleveland, Harris, & Wiebe, 2010): The high rates of substance use on campuses (Hingson, Zha, & Weitzman, 2009; Wechsler & Nelson, 2008) make college attendance a severe threat to sobriety that must often be faced without one's established support network (Bell et al., 2009; Woodford, 2001). Combined, these factors can lead to isolation when 'fitting in' is critical, and/or to yielding to peer pressure to use alcohol or drugs, both enhancing relapse risks (Harris, Baker, Kimball, & Shumway, 2008; Woodford, 2001).

Experts' calls for campus-based services for recovering students (Dickard, Downs, & Cavanaugh, 2011; Doyle, 1999) have thus far been largely unheeded (Bell et al., 2009; Botzet, Winters, & Fahnhorst, 2007; Cleveland, Harris, Baker, Herbert, & Dean, 2007). The U.S. Department of Education noted that 'the education system's role as part of the nation's recovery and relapse prevention support system is still emerging' (p. 10 (Dickard et al., 2011). Preventing students relapse is especially critical as SUDs are associated with college attrition (Hunt, Eisenberg, & Kilbourne, 2010). Thus, youths' developmental stage, and the unique challenges of college, both underline the need for a recovery support infrastructure on campus (Botzet et al., 2007; Misch, 2009). This includes the need for a recovery supportive social environment that fosters social connectedness, given the influence of peers on youths' substance use (Cimini et al., 2009; Substance Abuse & Mental Health Services Administration Office of Communications, 2009; White,

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2008). Federal agencies recently called for the expansion of community based recovery support models to extend the continuum of care, *including in schools and colleges* (Office of National Drug Control Policy, 2010; U.S. Dept. of Education, 2010).

1.2. Collegiate Recovery Programs

Collegiate Recovery Programs (CRPs) started at a few universities in the 1980s to meet recovering students' support needs, as part of a broader effort to address substance use on campus. CRPs generally offered onsite sober housing, self-help meetings (e.g. 12-step), and counseling provided by a small staff (Botzet et al., 2007; Cleveland et al., 2010; Smock, Baker, Harris, & D'sauza, 2011; White & Finch, 2006). CRPs' strive to create a campus-based 'recovery friendly' space and a supportive social community to enhance educational opportunities while supporting students' recovery and emotional growth (Harris et al., 2008). The model fits into the continuing care paradigm of a 'recovery management' system (Godley, Godley, Dennis, Funk, & Passetti, 2002). Site-level records from a handful of CRPs suggest encouraging outcomes (Cleveland et al., 2007), as do data from the site survey arm of this study (Laudet, Harris, Winters, Moberg, & Kimball, 2013): across the 29 CRPs nationwide, annual relapse rates range from 0 to 25% (mean = 8%), and academic achievement (GPA and graduation) surpasses the host institution's overall outcomes.

Several factors lead to increased interest in CRPs about a decade ago. This includes academic institutions and federal agencies' growing recognition of youth substance use and in particular, campus-based use, as a major public health concern, and federal agencies' shift to a recovery-oriented 'chronic care' approach to SUD services (Clark, 2008). These factors fueled a rapid growth of CRPs, from 4 in 2000 to 29 in 2012 (Laudet et al., 2013) with 5 to 7 starting annually (Kimball, 2014). While CPRs vary in orientation, budget, and in the breadth of services (Laudet, Harris, Kimball, Winters, & Moberg, 2014; Laudet et al., 2013), most are peer-driven, are 12-step based, and provide onsite support groups, sober events, and seminars on SUD and recovery. The need for CRPs is bolstered by many sites reporting that demand surpasses capacity (Laudet et al., 2013).

1.3. Need for research on collegiate students in recovery and study objectives

In spite of CRPs' rapid growth, they remain largely unexamined. Noting the lack of recovery resources in academic settings, *the U.S. Department of Education has called for research about CRPs and theirs students to inform the higher education system's response to college students in recovery* (Dickard et al., 2011). Information about CRP students can also inform key stakeholder groups beyond the education system, starting with CRPs themselves. Unlike treatment programs that collect patient history upon admission to guide services, CRPs do not. Many operate with limited staff and budget (Laudet et al., 2013) and lack the resources to collect student information. While five CRPs have operated for 10 years or longer and some serve up to eighty students, two thirds emerged in the past 5 years, and over half serve fewer than ten students. Students at a given CRP are unlikely to represent the breadth of experiences and issues that a large data collection effort can document. That information can guide the development of support groups and related services, and prepare CRPs to address behavioral patterns they may face as the membership grows. Details about the broader CRP membership can also inform referral sources (e.g., high school counselors, therapists, treatment, university health staff) to determine the suitability of a CRP referral to a given student's needs.

Documenting the characteristics of CRP students will also yield knowledge about young people in recovery, an unexplored population. Clinicians and researchers understandably focus on individuals who are actively using substances or in early remission. Little is known about overall recovery paths (i.e., the totality of recovery supports used to achieve and sustain recovery), about how young people in stable recovery function, or the issues they face. Moreover, because clinical practice and research tend to be specialized, researchers and clinicians may not explore co-morbid behavioral addiction patterns although they are likely relevant to SUD recovery-and vice versa. Thus, documenting the characteristics and experiences of college students in SUD recovery can also contribute to the knowledge base about persons in recovery to inform research and improve clinical practice.

Data for our study were collected in the context of a broader project designed to answer the U.S. Department of Education's call for research on CRPs. The first phase of the project was a nationwide survey of CRPs' structures and services, described elsewhere (Laudet, Harris, Kimball, Winters, & Moberg, 2014; Laudet et al., 2013). This study sought to characterize CRP students nationwide in terms of their background and current functioning.

2. Methods

2.1. Procedures and participants recruitment

New CRPs start organically; there is no centralized office or updated list of programs, though this may change with the formation of the emerging Association of Recovery in Higher Education. We had worked collaboratively with current and emerging CRPs since the planning of the study. We identified 29 CRPs nationwide when the program survey launched in the fall of 2012, and recontacted these sites to enroll their assistance in recruiting students to take the survey. The 29 CRPs represented 19 U.S. states: 44% in the South, 22% in the Midwest, 19% in the Northeast, and 15% on the West coast. Most CRPs (85%) are hosted in public (vs. private) academic institutions; 76% operate in universities, 16% in a 4-year college, and 8% in a 2-year college.

Information sheets about the study procedures and a Weblink to the confidential student survey were emailed to each CRP director; programs were instructed to email participating students, to make announcements about the survey, post the link on their internal Website, and to post the study information sheet on bulletin boards at their site. The study was reviewed and approved by the ethics board (IRB) of the first author's institution, and we obtained a Certificate of Confidentiality from our funding agency. At the end of the survey, students had the option of providing their academic email address to receive a $40 egift certificate at Amazon. A total of 486 unduplicated surveys were completed. Based on an estimated pool of 600 participants enrolled in CRPs over the data collection period, this represents an 81% participation rate.

2.2. Data collection and Instrument

Data collection ran from February 2013 through the spring, summer and fall semesters. The confidential survey, administered online using Survey Monkey®, started with the informed consent that described the study purpose and procedures and other required consent elements. The instrument consisted of measures and inventories summarized below, all of which we have used in previous federally funded studies of persons in SUD remission (Kaskutas et al., 2014; Laudet, 2007; Laudet, Stanick, & Sands, 2007; Laudet et al., 2004; Magura et al., 2003), with the exception of the behavioral addiction inventory that was developed as described below. In addition to sociodemographics, background, and physical health, we collected data on the following domains:

2.2.1. Mental health

Participants answered the following questions: (a) ever treated for an emotional/mental health problem (yes/no); IF YES; (b) age at first treatment; (c) ever hospitalized for an emotional/mental health problem (yes/no); (d) ever diagnosed with a mental health disorder; IF YES: diagnoses (up to three were coded); (e) received treatment for an ('ongoing') mental health problem in the past year (yes/no)

(f) currently taking medications prescribed for a mental health/emotional problem (yes/no); and (g) mental health self rating on a scale ranging from 1 (poor) to 4 (excellent).

2.2.2. Substance use involvement

2.2.2.1. Drug and alcohol use history. This was collected using a list of substance categories shown in Table 3. For each substance 'ever' used once or more, participants reported any 'regular' use—i.e., once a week or more for at least a 1-year period. For each substance used regularly, students were asked age at first regular use, duration of regular use (in years) and date last used. Students were also asked which of the 'regular use' substances had caused them the most serious problem—i.e., primary problem—and which other substance(s) 'caused you serious problems?' (i.e., secondary problems). We computed the duration of abstinence from each regular substance, and summary variables representing the shortest duration of abstinence from any *drug*, from *alcohol*, and from *any substance* (i.e., *drug and/or alcohol*). Information was also collected on cigarette smoking.

2.2.2.2. Drug and alcohol dependence severity. As in our previous studies (Kaskutas et al., 2014; Laudet, 2007; Laudet et al., 2007), our questionnaire combines the Lifetime versions of the Alcohol and Non-alcohol Psychoactive Substance Use Disorders subscales of the Mini International Neuropsychiatric Interview (M.I.N.I.), a short structured diagnostic interview developed in the U.S., and Europe for *DSM-IV* and *ICD-10* psychiatric disorders (Sheehan et al., 1998). The MINI has been validated against the much longer Structured Clinical Interview for *DSM* diagnoses (SCID-P) and against the Composite International Diagnostic Interview for *ICD-10* (CIDI). The 14 dichotomous items yield a single severity score that can range from 0 to 14. Cronbach alpha = .81 in this sample.

2.2.3. Behavioral addictions

Although the study focused primarily on substance use, we were also interested in learning about students' behavioral addictions. Based on a review of the extant literature and on the team's expertise in young adults' health, we collected information about the following: eating disorders (i.e., anorexia, bulimia, binging), sex/love addiction, self harm/injury, gaming/gambling, compulsive shopping, Internet addiction (other than for sex, gambling or shopping), and compulsive exercise. Students first indicated every behavior from which they were in recovery (substance use and behavioral addictions). Next they indicated which problem they regarded as *primary*, and all the behaviors they regarded as *secondary* problems. Finally they reported past 90 days behaviors in the above mentioned behavioral categories: 'Independently of any alcohol or drug use, please mark any of the other addictive behaviors you may have engaged in *at a problematic or harmful level* during the past 90 days'.

2.2.4. Perceived harm of substance use and benefit of recovery

We use three summary items from the *Primary Appraisal Measure* (Morgenstern, Labouvie, McCrady, Kahler, & Frey, 1997) to assess (a) perceived harm from past substance use; (b) likely negative impact if substance use were to resume/continue; and (c) likely benefit/improvement from being/remaining in recovery from drug/alcohol use. Answers are provided using a 5-point Likert-type scale ranging from no (harm/benefit) to extreme (harm/benefit).

2.2.5. Utilization of services and recovery resources

2.2.5.1. Substance abuse treatment. This section consisted of the following items: (a) ever received addiction treatment services (yes/no); if yes, (b) age received first treatment; (c) history of participation in various treatment modalities (e.g., detoxification, methadone maintenance, therapeutic community, 21/28-day inpatient rehab, outpatient treatment).

2.2.5.2. Twelve-step fellowships. Participants reported (a) whether they had ever attended a 12-step meeting (e.g., Alcohol Anonymous) to deal with a substance use problem; if yes, (b) age first attended; (c) number of meetings attended past year and past month. The section also included a nine items inventory of 12-step suggested behaviors that constitute 12-step involvement (e.g., having a sponsor, doing service, working the 12-step program) in the past year.

2.2.5.3. Non 12-step addiction recovery support groups. This section consisted of the following items: (a) ever attended a substance use recovery support group that is not 12-step based (e.g., Moderation Management, SMART Recovery); if yes, (b) age first attended; (c) number of meetings attended past year and past month.

2.2.5.4. Other recovery resources. Participants answered the following questions: (a) ever visited an emergency department because of drugs or alcohol problems; (b) ever prescribed any anticraving or other medications to deal with a drug or alcohol problem (e.g., naltrexone, acamprosate, buprenorphine); (c) ever enrolled in a wilderness program to deal with drugs or alcohol problem (e.g., outward bound); and (d) ever attended a recovery high school—a school designed for students in SUD recovery (Moberg & Finch, 2008).

3. Results

3.1. Sociodemographics and history

Slightly more students were males, and almost all were Caucasian (Table 1). While the mean age was 26, the range was broad (17 to 58) with 50% being over 23, including a quarter who was 28 or older (75th percentile). Most were enrolled in coursework full-time and lived off campus. Half lived with one or more roommate(s); of those, nearly half lived with someone in SUD recovery and nearly a quarter, with someone actively using drugs and/or alcohol (whether in moderation or to excess). One third had experienced a period of homelessness. A history of criminal justice involvement history was relatively prevalent, with over half reporting being arrested and charged, and over a third having been incarcerated. However, most students had no current involvement with the criminal justice system.

3.2. Physical and mental health

Although one quarter of students had been to the emergency department for a medical problem or injury in the past year, and 40% smoke, they generally reported good physical health (Table 2). Three quarter had a history of mental health treatment and had been diagnosed with a mental health disorder. The top three diagnoses were unipolar depression (74%), anxiety disorders (48% including 8% post traumatic stress disorder), and bipolar disorder (23%—not shown in Table 2)[1]. These reports nonwithstanding, most students rated their mental health as 'good' or 'very good'.

3.3. Substance use and behavioral addictions

Over half reported *drug* addiction—be it an illegal substance or abuse of prescribed medication—as their primary lifetime problem (52.6%), with alcohol a distant second (38.9%, top of Table 3). Most also reported a secondary problem behavior, the majority citing a substance-related issue but approximately 10% also citing a behavioral addiction—e.g., sex and love addiction, and disordered eating.

[1] Up to three diagnoses were coded.

Table 1
CRP students' demographics and background ($N = 486$).

		% or mean/SD
Gender	Female	42.8
Age		26.2 (8.19)
Ethnicity	Latino (yes)	5
Race	African American	1.9
	Caucasian	91.3
	Native American/Alaskan native	1.0
	Asian	1.0
	Native Hawaiian or Other Pacific Islander	0.4
	Other	4.3
Employment status		
	Part-time	45.9
	Full-time	14.0
	Not employed	40.1
Employment type (among employed; check all that apply)		
	Student project, research/teaching assistant	19.2
	Some other on campus job (e.g., clerical, maintenance)	22.0
	Off-campus job	67.0
Marital status		
	Married (including "common law")	5.7
	Widowed	0.4
	Separated	0.6
	Divorced	5.9
	Single (never married)	87.4
Has children (yes)		14.0
Ever served in the military (active or reserve)		11.6
Academic rank		
	Freshman	16.9
	Sophomore	18.4
	Junior	22.9
	Senior	28.9
	Graduate	12.8
Grade point average (GPA)		3.22 (0.621)
Course load		84.7
	Full-time	13.8
	Part-time	1.4
	Other	
Residence on-campus		25.2
Off-campus		74.8
Lives in sober dorm or housing (yes)		32.4
Who lives with		
	Living alone in room or apartment/house	25.3
	Living with one or more roommate(s)	50.0
	Living with spouse or partner	10.6
	Living with family member(s) other than spouse or partner	7.9
	Temporarily "double up" with family or friends or couch surfing	0.2
	Other (please specify)	6.0
Any roommate in recovery from substance use problem (yes)		43.2
Any roommate using drugs/alcohol even in moderation (yes)		22.8
Criminal justice involvement		
Current		
	No involvement with legal system	85.9
	On probation	8.8
	On parole	0.8
	On bail awaiting trial	0.8
	Released on own recognizance, case pending	1.5
	Other (please specify)	2.1
Ever arrested and charged as a juvenile or as an adult		
	No, neither	41.9
	Yes, as a juvenile	10.3
	Yes, as an adult	34.3
	Both as juvenile and adult	13.5
Ever in juvenile detention		6.4
Ever in jail or prison (as adult)		37.7

3.3.1. Drug and alcohol use history

Most had used multiple substances, with regular marijuana and alcohol use as the most frequently cited, starting in mid-adolescence and lasting for up to 7 years (alcohol). Alcohol was the single most frequently cited *primary* individual problem substance (41.2%) and was among 'other problem substance(s)' for another half (see Substances section of Table 3). Reports for any single primary *drugs* were significantly lower than for alcohol, with heroin, crack or cocaine, and pain medications as the top three mentions. However several *drugs* were cited a secondary problem substance by a quarter of students or more including marijuana, pain medications, and cocaine or crack.

The average lifetime addiction severity score was high (mean = 11.4 on a 0–14 range; standard deviation = 2.6). Correspondingly, students reported high levels of perceived past harm from their substance use—not shown in Table 3 (40.8% 'considerable harm' and 32.4% 'extreme harm'), a high degree of potential harm where they to continue or

Table 2
CRP students' physical and mental health ($N = 486$).

	% or mean/SD
Physical health and related behaviors	
Health self-rating	
Poor	1.0
Fair	12.8
Good	57.7
Very good	28.5
Treated for chronic medical condition past year (yes)	18.8
Emergency department visit for medical problem or physical injury past year	24.1
Hospitalized for medical problem or physical injury past year (yes)	7.8
Smokes cigarette (yes)	40.0
Tested for hepatitis C	67.8
Hepatitis C status: positive (among tested)	3.4
Tested for HIV	74.1
HIV serostatus: positive (among tested)	0.8
Mental health	
Ever treated for chronic mental health condition	76.1
Ever hospitalized for chronic mental health condition (among ever treated)	37.8
Ever diagnosed with a mental health disorder (among ever treated)	79.6
Treated for mental health disorder past year (among ever treated)	65.7
Currently taking medications for mental health disorder (among treated past year)	76.5
Mental health self-rating	
Poor	1.3
Fair	13.9
Good	51.5
Very good	33.3
Stress past month (1–10)	6.49 (2.08)

resume regular substance use (15.2% 'considerable harm' and 76.8% 'extreme harm'), and almost all viewed 'extreme' or 'considerable' benefit to future continued sobriety (83.2 and 13.1%).

3.3.2. Substance use and behavioral addictions: current status

Most students had not drank alcohol or used drugs in several years (mean days since last drank = 952; mean days since last used drugs = 1053) although the range of durations since last use were both wide (Table 3). Five percent (5.4%) drank alcohol and/or used drugs in the past month. Restricting the analyses to students considering themselves in recovery from a substance use problem ($n = 433$)—see next section, 4.8% had used a substance in the past month (2.3 % alcohol and 3.6% drugs, not shown). Independently of any recent substance use, a small percentage of students had engaged in one of more behavioral addiction in the past 90 days, sex and love, and disordered eating being the two most common (Table 3).

3.4. Recovery

Consistent with their history of multiple problem behaviors, most students considered themselves in recovery from more than one substance and/or behavioral problem (Table 4). Recovery from alcohol and from drug problems were cited most, as may be expected. While much less prevalent, several behavioral addictions were also cited, the top three being disordered eating (15.6%), self harm (10.5%), and sex and/or love addiction (9.5%).

3.5. Utilization of SUD services and recovery resources: treatment and self-help groups

Most participants had received professional substance use treatment (detailed in Table 4). Mean age at first treatment was 20.6 years of age. In addition to treatment, frequently reported forms of help included individual counseling, and being prescribed medications. Finally though not strictly fitting in the addiction services category, 43.5% had visited an emergency room department because of drug or alcohol use (e.g., overdose) at least once over their lifetime.

Turning to self-help group participation, most had attended 12-step meetings, and level of 12-step involvement was generally high (Table 4). Asked to rate the helpfulness of 12-step attendance to their recovery (not shown in Table 4), over half (56.3%) selected 'extremely' and another quarter, 'very much'. A small percentage of students reported attendance at a non 12-step addiction recovery support meeting, a practice whose helpfulness was rated as low by most (19.2% 'not at all', 46.2% 'a little/moderately', 19.2% 'very much and 15%, 'extremely').

4. Discussion

4.1. Reprise of key findings

Consistent with the only published report—one that bears on a single site (Cleveland et al., 2007), our national CRP student sample is somewhat older than traditional college students, mostly Caucasian, and enrolled in college full-time. On average, students had been in their CRP for 7 semesters, and had remained substance-free for nearly 3 years.

The use of multiple substances was the norm. *Alcoho*l was primary for nearly four out of ten, and secondary for another 41%; no individual *drug* emerged as primary. While mean duration of substance use was shorter than in typical addiction study samples that consist of adults, lifetime addiction severity was high. Several other data points also suggest severe SUD problems and consequences. This includes high rates of treatment utilization including residential treatment and 12-step meetings, a third of students reporting a period of homelessness, and a high rate of past criminal justice involvement.

Among notable findings is the high rate of smoking: 40% of students smoke, twice the national rate (18.1%), even when considering only the age group with the highest smoking prevalence, adults aged 25–44 years (21.6%) (Center for Disease Control and prevention, 2014). Little is known of smoking patterns in SUD recovery. One study of adults in recovery ($n = 285$, mean age 43.5) reported a 69.5% smoking rate (Laudet, 2009). Moreover, a large minority of smokers in that study reported that smoking had become more important since they stopped using substances, emphasizing the need to address smoking cessation as part of SUD services for young adults.

CRP students reported an extensive history of mental health problems. This is the first large scale study of young people (and college students) in recovery; we were unable to locate relevant reports bearing on this population. However our findings are consistent with several converging lines of research. This includes high rates of co-occurring mental health issues among adults in SUD recovery (Laudet, 2012; Laudet, Timko, & Hill, 2014) and among students in recovery high schools (Moberg, Finch, & Lindsley, 2014). Moreover, the prevalence of mental health disorders is generally high among college age individuals, regardless of college attendance status (Blanco et al., 2008).

While most students reported a substance as their primary problem as expected given the substance use focus of CRPs, behavioral addiction (BA) reports as a secondary problem were not infrequent, with sex and love addiction, and eating disorders reported by more than one in ten. Consistent with this finding, up to one in six students reported being in recovery from a behavioral addiction. Similar percentages had also engaged in a BA in the past 90 days. While the prevalence of BAs among SUD affected persons is likely not surprising to many clinicians, this is, to our knowledge, the first systematic attempt to document comprehensively such patterns among college students (be they in SUD recovery or not) or among SUD-affected persons.

Discussing behavioral addictions in depth is beyond our scope. We sought only to obtain a broad overview of the types and prevalence of BA in this population. Studies typically examining a single behavioral addiction have documented high rates of co-occurrence with substance

Table 3
CRP students' substance use and behavioral addiction history and current Status ($N = 486$).

Primary and secondary addictions	% or mean/SD	
	Primary	Secondary*
Alcoholism	38.9	40.7
Drug addiction	52.6	32.5
Eating disorder	5.5	10.9
Sex/love addiction	0.6	12.8
Self harm/injury	0.4	7.8
Gaming/gambling addiction	0.4	4.1
Compulsive shopping	0.0	2.9
Internet addiction (other than for sex, gambling or shopping	0.2	2.5
Exercise	0.0	4.1
Other	1.3	–
No secondary problem		10.3

Substances	Ever regularly	Primary	Other problematic*	Age started regular use	Years regular use
Alcohol including alcohol-containing energy drinks	61.1	41.2	48.6	15.9 (2.58)	6.9 (5.8)
Sedatives (e.g., barbiturates)	29.6	0.2	16.3	18.4 (9.9)	4.2 (3.9)
Tranquilizers or anti-anxiety drugs	30.5	3.3	24.9	18.1 (5.0)	4.3 (3.6)
Pain relievers (e.g., Codeine)	37.7	11.1	32.5	17.4 (4.2)	4.7 (4.7)
Stimulants (e.g., uppers)	36.2	6.9	27.8	17.4 (4.2)	5.1 (5.2)
Marijuana, hash, THC, or grass	74.5	10.0	42.6	15.3 (2.5)	6.4 (5.2)
Cocaine or crack	33.1	11.7	29.4	18.9 (5.7)	4.9 (4.3)
Hallucinogens (e.g., Ecstasy)	21.0	2.0	23.0	16.9 (3.2)	4.1 (4.2)
Inhalants or solvents (e.g., amyl nitrate)	6.4	0.2	7.4	17.2 (6.5)	3.9 (3.6)
Heroin	15.0	11.9	10.9	19.5 (5.2)	3.3 (3.5)
Performance enhancing drugs (e.g., steroids, HGH)	1.9	0.0	0.8	20.2 (4.8)	2.3 (2.1)
Any other medicines, drugs, or substances	10.7	1.5	7.8	19.6 (6.3)	3.7 (3.5)
Time since last drank/used drugs (among ever used regularly)					
Days since last drank alcohol	952 (962)				
Days since last used any drug	1053 (1196)				
Days since last used any drug or drank alcohol	975 (1073)				
Alcohol use past month	3.4				
Any drug past month	4.5				
Alcohol or drug use past month	5.4				
Problematic/compulsive behavior patterns past 90 days					
Eating disorder	11.3				
Sex/love addiction	11.7				
Self harm/injury	5.3				
Gaming/gambling addiction	5.1				
Compulsive shopping	8				
Internet addiction (other than for sex, gambling or shopping)	3.1				
Exercise	2.9				

use. For example, our findings on eating disorders (the most prevalent BA here) are in line with reports, most obtained among females, documenting a high co-occurrence of substance use (Cohen et al., 2010; Czarlinski, Aase, & Jason, 2012; National Center on Addiction and Substance Abuse, 2003).

4.2. Study limitations

This is the first national study of students participating in a Collegiate Recovery Program. As such, it is an important initial step toward acquiring the information necessary information to develop and refine supports and services to promote recovery and a healthy life style in this population. This exploratory study has a number of limitations. The cross-sectional design relies on retrospective information for several key domains (e.g., substance use history), and the need to use a relatively short online survey precluded in-depth diagnostic interviews. Moreover, 19% of the estimated 600 CRP membership nationwide at the time of the survey did not participate. While our 81% participation is strong, as with all studies, some members of the target population are not represented. We cannot determine whether and how non completers compare to completers. However, our sample characteristics are highly consistent with CRP directors' reports of the students they serve (Laudet et al., 2013; Laudet, Harris, Winters, Moberg, & Kimball, 2014), and with student characteristics reported in two single site CRP studies (Bell et al., 2009; Cleveland et al., 2007). This affords us strong confidence about the representativeness of our sample and the generalizability of findings to CRP students nationwide. Our results have several implications for services development, and highlight a number of critical areas that need to be investigated further.

4.3. Implications for services and research

One of the unique aspects of this study in addition to its focus on SUD recovery, is that it also examines a number of unhealthy behavioral patterns that are ongoing in the context of SUD recovery although rarely examined simultaneously. While functioning well enough to attend college and remain substance free, many students continue to be treated for mental health, a significant proportion smoke, and a smaller percentage engage in behavioral addictions. As summarized in the Study Objectives section, disseminating such findings has implications for several stakeholder groups.

For CRPs, whose focus is on supporting SUD recovery, findings emphasize the need to broaden the scope of support groups, counseling (where available) and weekly addiction education seminars, to incorporate discussions about past and current behavioral addictions. Many CRPs may not have the necessary resources to address these issues as fully as they do SUDs, but could draw on institutional and community-based resources (e.g., faculty, local treatment agencies). Most importantly,

Table 4
CRP students' utilization of recovery resources history ($N = 486$).

	% or mean/SD
Recovery	
Considers self in recovery from a substance and/or behavior addiction or compulsion	87.6
In recovery from…	
Alcoholism	71.6
Drug addiction	72.6
Eating disorder	15.6
Sex/love addiction	9.5
Self harm/injury	10.5
Gaming/gambling addiction	2.5
Compulsive shopping	3.1
Internet addiction (other than for sex, gambling or shopping)	0.6
Exercise	3.3
Other (please specify)	2.9
Utilization of recovery resources	
Ever received addiction treatment	82.5
(IF YES) age first treatment	20.6 (5.0)
Treatment type (among ever treated)	
Detoxification (drug or alcohol)	49.5
Drug maintenance (e.g., methadone maintenance) (drugs only)	10.6
Current among 'ever'	4.95
Therapeutic community or other long-term residential (>30 days)	65.7
Short-term residential (e.g., 21/28 day inpatient rehab)	55.1
'Drug free' outpatient treatment or day treatment (non-methadone)	60
Treatment in jail or prison (alcohol or drugs)	7.8
Ever in emergency room because of drugs or alcohol	43.2
Ever prescribed medication for substance use pb (e.g., naltrexone, acamprosate)	19.5
(IF YES) currently taking Rx medication for substance use pb	9.9
Ever attended wilderness program (e.g., Outward Bound) to deal w/ substance 8u.s4e pb	
Ever attended recovery high school	4.9
Ever in individual counseling for substance use pb	51.8
(IF YES) Currently in individual counseling for substance use pb	35.1
Twelve step fellowships and other support groups	
Ever attended a meeting (e.g., Alcoholics Anonymous, Narcotics Ano)	93.3
(IF YES) age started 12 step attendance	21.3 (5.9)
Attended 12-step meeting past year (among ever attenders)	99.3
Attended 12-step meeting past month (among ever attenders)	89.8
12-step involvement past year (0–9; among ever attenders)	7.53 (2.15)
Ever attended non 12-step (e.g. Life Ring)	11.3
(IF YES) age started Non 12 step attendance	27.1 (9.7)
Attended 12-step meeting past year (among ever attenders)	73.1
Attended 12-step meeting past month (among ever attenders)	34.6

openly discussing behavioral addictions can help decrease the stigma attached to these behaviors, enhancing the likelihood that students struggling with these issues discuss, and more importantly address their unhealthy behavior patterns. The same holds for mental health problems: CRPs may not have the local resources to treat these issues, but can sensitize students to the fact that common negative feelings such as depression or loneliness may threaten SUD recovery.

Findings can also inform CRP outreach to referral sources: CRPs are a new model about which many potential referral sources may not have heard. While treatment and 12-step utilization are the two most prevalent forms of help reported here, the utilization of emergency departments is also high. ER and local hospital staff may not be aware of the availability of a local CRP. Informing students treated in an ER for substance use about this resource as part of an ER based SUD intervention can potentially connect the student with a valuable source of recovery support.

College health personnel is anecdotally aware of the multiplicity of problems some students face. However, findings can be valuable to them in at least two ways. First, they highlight a growing campus-based recovery support resource many institutions may not know is available. Disseminating our findings can encourage institutions to explore hosting a CRP. Second, health clinics typically come into contact with students experiencing a specific concern—e.g., depression, or referred/mandated because of an offense resulting from substance use. It is critical that these contacts be used as an opportunity to explore potential co-occurring problematic behavior patterns. A recent national college study reported that few institutions have adequate strategies to address alcohol problems (Lenk, Erickson, Winters, Nelson, & Toomey, 2012; Toomey et al., 2013). While their effectiveness at addressing drug use and other behavioral problems was not examined, it is likely even less adequate than are strategies to deal with alcohol abuse. In addition to substance use and behavioral addiction, the very high prevalence of smoking in our sample emphasizes the urgent need for academic institutions in general, and health programs serving college students in recovery in particular, to increase prevention efforts and to address smoking as an integrated component of recovery support and health services. Note that while campuses are smoke free, the majority of CRP students live off campus where smoking among peers is likely highly prevalent.

Finally, our findings have implications for SUD treatment programs serving young people, and for addiction researchers. SUD clinicians may be anecdotally aware of the potential for co-morbid behavioral addictions. However, although individuals grapple with multiple life problems simultaneously, professionals (i.e., providers, funders, researchers) typically focus on a single area of functioning (Laudet, 2012). For instance, until two decades ago, many SUD treatments excluded clients with mental health problems and vice versa. Our findings highlighting the relatively high prevalence of multiple behavioral health issues among young persons in SUD recovery underscore the need to adopt an integrated approach to promoting recovery and healthy functioning.

The need to adopt a more integrated approach applies to research as well. Historically, we have mostly focused on studying on a single 'problem', treating any co-occurring issue as a confound to be controlled for in analyses. The approach has merit in many contexts. Nonetheless,

we ought to recognize the need to cast a wider net, especially when describing a previously under-examined population as we do here, or seeking to elucidate patterns of dynamic processes and broader outcomes, such as behavioral health. SUD researchers can incorporate indices of potentially related domains to begin bridging the knowledge gap about the prevalence of co-occurring behavioral addictions in SUD recovery. Failure to do can yield but a partial picture of overall clinical functioning that is insufficient to inform recovery and overall health services and supports.

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