SUBSTANCE USE BEHAVIOUR CHANGE AND TREATMENT SEEKING DURING EMERGING ADULTHOOD: UNDERSTANDING MOTIVATION FROM A DEVELOPMENTAL PERSPECTIVE

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A DISSERTATION SUBMITTED IN CONFORMITY WITH THE REQUIREMENTS FOR THE DEGREE OF DOCTOR OF PHILOSOPHY

GRADUATE PROGRAM IN SCHOOL AND CLINICAL CHILD PSYCHOLOGY, DEPARTMENT OF APPLIED PSYCHOLOGY AND HUMAN DEVELOPMENT ONTARIO INSTITUTE FOR STUDIES IN EDUCATION/ UNIVERSITY OF TORONTO, TORONTO, ONTARIO

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Substance Use Behaviour Change and Treatment Seeking during Emerging Adulthood: Understanding Motivation from a Developmental Perspective, 2014

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Abstract

**Objective.** Despite the peak prevalence of substance use and substance use problems during emerging adulthood (e.g., ages 18-25), little research has focused on understanding behavior change processes during this transitional period. Emerging adults with problematic substance use face a number of challenges transitioning into adulthood (e.g., high rates of unemployment, low educational attainment, interpersonal difficulties, and financial difficulties) rendering these youth at an increased risk for long-term adverse health and mental health difficulties as well as problematic substance use into adulthood. This study employs a developmental lens to understand motivation related to substance use change in a clinical sample of emerging adults seeking treatment. **Paper 1.** The first paper extends Arnett’s (2004) theory of the psychosocial features of emerging adulthood to explore how these processes may relate to treatment motivation (e.g., readiness to comply with treatment) and motivation to change (e.g., problem recognition and taking steps towards change). One hundred and sixty-four youth presenting to outpatient substance abuse treatment completed questionnaires investigating problematic substance use, mental health, psychosocial features of emerging adulthood and motivation. Results of hierarchical regression analyses indicated that youth who perceived themselves as having greater responsibility towards others were more intrinsically motivated, were more likely to recognize their substance use as problematic and were taking steps towards
change. **Paper 2.** Using qualitative data gathered from semi-structured interviews with 31 emerging adults seeking treatment for substance use, the second paper sought to 1) explore how this clinical sample of youth conceptualize their transition to adulthood and 2) investigate the interrelationships between youth’s substance use and treatment seeking experiences and their self-perceived developmental status. Youth identified the criteria they perceive as necessary for the achievement of adulthood and reflected on their substance use, mental health and treatment seeking as influential factors in their pathway towards adulthood. **Conclusions:** The findings provide important insights for service provision with this vulnerable population. Intervention recognizing emerging adult developmental processes and encouraging youth-driven goals may be particularly effective in increasing motivation and substance use change. Continued research into the behaviour change processes during emerging adulthood may establish best practices for youth seeking treatment for substance use.
Acknowledgements

The completion of this dissertation would not have been possible without the support of a number of invaluable individuals. At the forefront, my gratitude extends to my supervisors, Dr. Joanna Henderson and Dr. Michele Peterson-Badali whose guidance and encouragement provided me with the confidence to persevere when the mountain seemed insurmountable. Your dedication and commitment to ensuring clinical research is relevant and accessible to those beyond the academic community inspired many of the decisions leading to the foundation of this work. Thank you for your open door supervision and compassion as this process unfolded. I am also indebted to Dr. Abby Goldstein for your unwavering enthusiasm and helpful expertise throughout your involvement with this project.

I am forever thankful for the emerging adults who participated in this study. Their willingness to answer difficult questions and to share their stories for the benefit of other youth struggling with substance use and mental health has been truly humbling. You have reminded me to look deeper, ask more and to stay aware of my biases – lessons I will keep with me as a researcher and clinician.

There are a number of people in my academic social network who are deserving of acknowledgement. I am forever grateful for my OISE friendships for your willingness to lend an ear over coffee or to answer a phone call or email late at night. I feel so fortunate to have been on this academic and personal journey with you. I want to thank Dr. Sheri Turrell, whose guidance has extended well beyond the role of a supervisor in countless ways. To the staff at the Youth Addictions and Concurrent Disorder Service at the Centre for Addiction and Mental Health: Thank you for supporting my research endeavors and your commitment to the data collection
process. I would like to extend a special debt of gratitude to Dr. Susan Rosenkranz for ongoing mentorship and friendship and always being two steps ahead.

A project of this magnitude would not have been able to be completed without the supportive pillars that are my family and friends. To my parents and sister who have always believed in me and have taught me to strive for my hopes and dreams. Thank you for helping me to keep things in perspective and being the nurturing cushion I often needed. I want to thank my wonderful extended family and best friends for your commitment to keeping me balanced and for frequent reminders that there is life beyond graduate school. And lastly to Josh – words cannot express how much I appreciate you joining me on this roller coaster ride. You have kept me afloat in so many ways and have made me laugh through the toughest moments - for that I can’t thank you enough.
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Introduction

Substance abuse is associated with significant social, physical, and mental health problems in young Canadians, with 60% of illicit substance users in Canada falling between 15 and 24 years old (Canadian Center for Substance Abuse [CCSA], 2011). National survey data highlight that approximately 83% of youth in this age range identify as current or past alcohol drinkers and approximately 50% of youth report using cannabis within the past year (CCSA, 2011). Substance use has been found to lead to severe consequences including overdose and/or poisoning, unintentional injuries (e.g., traffic accidents, falls), risky sexual behaviours, sexual victimization, aggressive behaviour, physical violence, self-harm, academic/vocational difficulties and family concerns. Further, those who have prolonged substance use are at increased risk of long-term adverse effects including poor physical health (e.g., chronic illness), cognitive impairment, and mental health disorders and substance use disorders (Merline, O’Malley, Schulenberg, Bachman, & Johnston, 2004; Rohde, Lewinsohn, Kahler, Seeley, & Brown, 2001; Spirito, Jelalian, Rasile, Rohrbeck & Vinnick, 2000; Valdez & Curtis, 2001).

Consequently, long-term substance use in adolescence and young adulthood can significantly impede youth achievement of developmental milestones necessary for the successful transition into adulthood. In response, both provincial and federal initiatives have put forth a call to action highlighting the urgent need for increased attention to the issue of substance use and mental health in youth (CCSA, 2007; Mental Health Commission of Canada, 2009).

Examining this issue of problematic substance use from a developmental perspective provides a useful framework for identifying important processes involved in the maintenance of substance use problems and responses to treatment. Indeed, substance use across North American populations peaks during emerging adulthood (i.e., ages 18-25), a developmental
period that has received increasing empirical attention in recent decades (Arnett, 2004; 2005). Emerging adulthood has been differentiated from both adolescence and adulthood and marks the time when youth begin to make independent decisions concerning vocation and/or education, residential arrangements, and interpersonal relationships (Martin & White, 2005). Although for most youth, the transition to adulthood is a time of optimism and growth, it is also often accompanied by insecurity and self-doubt, as evidenced by the increase in mental health disorders and problematic substance use that occurs during this developmental stage (Arnett, 2005). During emerging adulthood, some substance use is considered normative behaviour across the general population, and tends to peak and then subside as youth assume adult roles and responsibilities related to family, work and community (Bryant & O’Malley, 2004; Chen & Kandel, 1997; Hammer & Vaglum, 1990; Schulenberg & Zarrett, 2005; Schulenberg, 2006).

With the new freedom that accompanies leaving the parental home, entering post-secondary education or the workforce, being exposed to diverse peer groups, and having fewer institutional controls governing their behavior, youth have increased access to and experimentation with substances (Bachman, O’Malley, Schulenberg, Johnston, Bryant & Merline, 2002). Further, research has indicated that cessation from substance use is related to transitioning into long-term romantic partnerships, such as marriage or cohabitation (e.g., Bachman et al., 2002). Although decreased substance use occurs as most youth enter adulthood, a proportion of youth continue to engage in high levels of substance use and experience a number of consequences as a result, including long-term problematic use and poor mental health functioning into adulthood (Larimer, Kilmer, & Lee, 2005).

Research on youth substance use has focused on identifying the multiple pathways through which youth initiate and maintain their substance use. Two groups have been identified
as key targets of intervention for service providers seeking to curtail the long-term adverse
effects of youth substance use: 1) Early adolescents with problematic substance use (ages 13-14
years or younger) have been identified as an at-risk group for poor outcomes in late adolescence
and young adulthood (Tucker, Ellickson, Orlando, Martino & Klein, 2005) and; 2) Youth who
abstain or minimally experiment with substances in adolescence, but whose substance use
increases to high levels during emerging adulthood, rendering these youth at risk for developing
substance use disorders into adulthood (Tucker et al., 2005). Many emerging adults who develop
problematic substance use during emerging adulthood have been exposed to environmental,
individual as well as interpersonal stressors throughout their development that place them at risk
for ongoing difficulties with substance use as they transition to adulthood. Indeed, youth who
have developed difficulties with substances by the time they reach emerging adulthood are more
likely to have been subjected to peer rejection and bullying (Arthur et al., 2002), have substance
using peers (Hawkins et al, 1992), come from families poor in family functioning (i.e., parental
substance use, high family conflict, poor family management practices; Arthur et al, 2002) and
be connected to highly disorganized (e.g., high adult crime rates, high population density) and
low socioeconomic communities. Moreover, several studies have found an association between
childhood maltreatment (e.g., physical or sexual abuse) and the development of problematic
substance use in adolescence and adulthood (Kendler, Bulik, Silberg, Hettema, Myers &
Prescott, 2000; Nelson et al, 2002).

The same multitude of stressors that render youth at risk for substance use can also
impact their overall mental health functioning. In a study investigating older adolescents and
emerging adults, Lubman, Allen, Rogers, Cementon and Bonomo (2007), found that 69% of
youth seeking treatment for substance use reported a lifetime history of mental health disorders.
Several studies have reported that across all age groups there is an association between substance use severity and co-occurring mental health difficulties (e.g., both internalizing and externalizing disorders; Dennis, Chan, & Funk, 2006; Kessler & Magee, 1993; 1994; Lewinsohn, Rohde, Seeley & Fischer, 1993). Further, youth with both mental health and substance use concerns have higher levels of substance related difficulties, are at an increased risk for polysubstance use, and have poorer long-term outcomes (e.g., relapse; Shane, Jasiukaitis, & Green, 2003). When compared with younger adolescents and older adults, emerging adults (e.g., ages 18 to 25) are the most vulnerable to co-occurring substance use and mental health difficulties (Chan, Dennis & Funk, 2006).

Emerging adults with substance use concerns present unique challenges to service providers as they transition into adulthood, particularly as most youth with a history of problematic substance use are unlikely to seek help or will do so only once their substance use has led to severe consequences (Gayman, Cuddeback, & Morrissey, 2011). In addition, while most youth may be age-appropriate for adult services as they “age-out” of child and adolescent programs, the process of ongoing change and development (e.g., cognitive, psycho-social, sexual, identity formation) that is characteristic of youth in this transitional period may not be adequately addressed by adult services. Further, while there is a large body of literature investigating the efficacy of treatment programs developed for adults, and, more recently, a younger adolescent population, transition-aged youth with substance use concerns have been largely under-investigated (Smith, Godley, Godley, & Dennis, 2011). Consequently, substance use and mental health services targeting older youth are scarce and there is a paucity of research on which to base evidence-informed practices (CCSA, 2007).
In order to address the gap in service provision and to offer timely and effective services for this at-risk youth population, research is needed to illuminate the processes that propel youth to seek treatment and change their substance use behaviour. Although the complex process of behaviour change varies considerably between individuals, it is typically comprised of a number of non-linear stages: initial problem recognition, taking actions towards change, treatment entry and retention, treatment completion and behaviour change maintenance (Bellino, DiClemente & Neavins, 1999). Whether and how an individual moves through these stages of change is dependent on numerous factors including problem severity, consequences associated with substance use, co-occurring mental health concerns, social network involvement (e.g., pressure/coercion, social support) and environmental context (DiClemente, 1999; 2003; 2005; Goodman, Henderson & Peterson-Badali, 2011; Klar, 1999). Each of these factors contributes to one’s overall motivation to change, identified in the literature as one of the strongest predictor of problematic behaviour change, engagement in treatment, and positive treatment outcome (Broome, Joe & Simpson, 2001; DiClemente, 1999; DiClemente, et.al, 2004; Wild, Cunningham, & Ryan, 2006). As a broad concept, motivation within the behaviour change literature refers to one’s internal mental states, including the “personal considerations, commitments, reasons and intentions that move individuals to perform certain behaviours” (DiClemente, Schlundt, & Gemmell, 2004), such as changing one’s substance use or seeking treatment (Blanchard et al, 2003, Freyer et al, 2005). Motivation has been recognized as important by clinicians and researchers alike, and has become a focus of intervention efforts with adolescents, emerging adults and adults with substance use concerns (Barnett, Sussman, Smith, Rohrbach, & Spruijd-Metz, 2012; Kavanaugh, Young, White, Saunders, Wallis, Shockley, et al., 2004). Despite acknowledging the importance of bolstering motivation when supporting
behaviour change, there is a paucity of research attempting to understand the unique processes that may underlie motivation as youth transition to adulthood. An increased understanding of the developmental processes that impact behaviour change during this critical period will provide valuable insight for service providers seeking to increase motivation and treatment engagement, address the developmental needs of this population, and ultimately support youth in moving towards a more adaptive trajectory into adulthood.

The purpose of the current work was to contribute to an understanding of how development and behaviour change motivation intersect as youth with substance use concerns navigate the transition to adulthood. The dissertation is comprised of two papers, each examining how features of the emerging adult period may relate to behaviour change and/or treatment seeking in a sample of youth involved in substance use treatment. In the first paper, I seek to determine potential predictors of two motivational phenomena - treatment motivation (e.g., readiness to follow through with treatment) and motivation to change (e.g. problem identification and taking steps towards change) - as they occur in emerging adults with substance use concerns. Using quantitative data gathered from self-report measures, this paper investigates whether the psychological processes most characteristic of emerging adulthood relate to motivational variables, seeking to shed light on the influence of shifting developmental processes during emerging adulthood. The second paper uses qualitative data gathered from semi-structured interviews to explore the interrelationships between youth’s perceptions of their own development and their substance use and treatment seeking. In this paper I examine whether emerging adults with substance use concerns conceptualize adulthood using a framework similar to that which is characteristic of the broader youth population. Specifically, I investigate the internal processes (e.g., perceived independence) as well as developmental markers (e.g., full-
time employment, long-term relations) as indicators of self-perceived adult status. I also explore whether youth identify their substance use and related experiences (e.g., treatment seeking) as influential in their transition (or anticipated transition) to adulthood. Findings are discussed in terms of their application to service provision that seeks to augment youth motivation. The dissertation concludes with an integrated discussion that highlights the importance of examining treatment-related issues from a developmental perspective in order to inform youth-focused interventions.
Paper 1

The Relationship Between Psychosocial Features of Emerging Adulthood and Substance Use Change Motivation in Youth

Compared to all other age groups across the lifespan, youth in the emerging adult period (late teens through early twenties; also termed transition-age youth) engage in more illicit drug and alcohol use (National Survey on Drug Use and Health, Substance Abuse and Mental Health Services Administration [SAMHSA], 2011; Canadian Center for Substance Abuse [CCSA], 2007) and have the highest rates of substance use disorders and comorbid psychiatric problems (SAMHSA, 2008; Chan, Dennis & Funk, 2008). Frequent or prolonged substance use during adolescence and young adulthood render youth at increased risk of developing numerous long term adverse effects including chronic illness, cognitive impairment, poor general physical health, concurrent mental health disorders and substance dependence into adulthood (Merline, O’Malley, Schulenberg, O’Malley, Bachman, & Johnston, 2005; Rohde, Lewinsohn, Kahler, Seeley, & Brown, 2001; Spirito, Jelalian, Rasile, Rohrbeck & Vinnick, 2000; Valdez & Curtis, 2001). Although there is a large body of literature investigating the treatment efficacy and treatment seeking processes of older adults -- and more recently adolescents – emerging adults with substance use problems have been largely under-investigated. When compared to adults and adolescents, emerging adults have lower motivation (DiClemente, Doyle & Donovan, 2009) and demonstrate the poorest outcomes in response to interventions targeting substance use (Satre, Mertens, Arean & Weisner, 2003; Smith, Godley, Godley & Dennis, 2011). In order to offer effective services to emerging adults who struggle with their substance use and to prevent long-term substance use related consequences, research is needed to understand how the processes that underlie treatment seeking and behavior change function during this developmental period.
Examining this issue from a developmental framework may be useful in understanding whether and how youth seek and engage in treatment and ultimately experience successful treatment outcomes.

1.1 What is Emerging Adulthood?

Emerging adulthood is generally recognized in the developmental psychology literature as the period between the ages of 18 to 25 years old and is characterized by unique developmental markers and processes that are distinct from both adolescence and adulthood in North American youth (Arnett, 2000; Arnett, 2004; Martin & White, 2005). During this period, emerging adults begin to make independent decisions regarding academic and/or vocational pursuits, residential arrangements (e.g., living with peers, independently, or remaining in the parental home) and begin to consolidate their own values and beliefs (Arnett, 2004). In addition, youth’s primary relationships are also in transition: peers and romantic partners become more intimate and focal to youth identity formation and decision making, and parents tend to exert less power and influence on youth (Beyers & Seiffge, 2007; Hartup & Stevens, 1997). With increased autonomy and independent decision-making in the absence of the traditional responsibilities of adulthood (e.g., having one’s own family) youth’s values and lifestyles may fluctuate several times while they explore multiple possibilities and begin to form their adult identities (Arnett, 2004). Although for many young people, this is a period of opportunity and growth, it is also one that is accompanied by significant stress, uncertainty and instability as a result of the new pressures associated with making the transition to adulthood and navigating the world independently (Arnett, 2004; 2005; Martin & White, 2005).

Based on qualitative data from structured interviews with emerging adults in multiple settings, Arnett (2004) posited that there are five unique psychosocial features of this
developmental period. Emerging adulthood is an age of identity exploration, particularly in romantic relationships and employment; it is an age of instability as youth begin to make independent decisions and discover who they are; emerging adulthood is the most self-focused life stage, with decreased responsibility to parents; it is an age of feeling ‘in between’ adolescence and adulthood; and it is an age of optimism about future possibilities (Arnett, 2004; 2006). These features distinguish emerging adulthood from adolescence and adulthood across North American populations, and are experienced by most youth despite the dramatic variability in their achievement of any life course milestones (e.g., establishing a career, living independently, entering a long term relationship). While these features are pertinent to the emerging adult experience, how and when each manifests over the course of transition into adulthood remains largely unknown.

1.2 Understanding Behaviour Change

Increasing empirical attention has been devoted to determining when and how individuals with substance use problems change their behavior, and on isolating the processes through which these individuals seek and adhere to treatment guidelines and achieve successful outcomes (DiClemente, 1999). Across varied populations with problematic substance use, studies indicate that motivation for changing problem behavior is among the strongest predictors of engagement in treatment and positive treatment outcome (Broome, Joe & Simpson, 2001; DiClemente, 1999; DiClemente, Schlundt & Gemmell, 2004; Wild, Cunningham, & Ryan, 2006). Two separate but related motivational constructs critical to understanding why individuals make successful changes to their substance use through treatment seeking are motivation to change and treatment motivation. Motivation to change refers to one’s personal intentions related to identifying substance use as problematic and taking steps towards change. Treatment motivation refers to an
individual’s intentions and willingness to seek support through treatment and his/her readiness to engage in that treatment program as a means to change. Although these two constructs are closely related, they are not interchangeable, and each plays a unique role in the behavior change process.

1.3 Motivation to Change

The Transtheoretical Model (TTM) of change, commonly known as the Stages of Change Model (Prochaska et al, 1992), is a five stage model widely used in clinical practice and discussed in the scholarly literature to understand the motivational processes related to behavior change, or readiness to change. The TTM was initially intended for use with individuals interested in smoking cessation and has since been adapted for a variety of problem behaviors (e.g., substance use, binge eating; Prochaska & DiClemente, 1992; DiClemente, 2003). The theory describes how individuals move from having no intention to change (pre-contemplation), to beginning to weigh the costs and benefits of their substance use (contemplation), re-examine their current situation and identify room for change (preparation), modify their behavior (action) and sustain these changes into the long term (maintenance). This model provides a framework for understanding the processes of change and determining appropriate interventions based on readiness (Carey, Maisto, Carey & Purnine, 2002). In addition, the TTM provides some theoretical foundation for motivationally based therapies (e.g., motivational enhancement therapy; motivational interviewing) that support individuals as they progress through the stages of change (DiClemente, 2005). The degree to which young people identify their behavior as problematic and their willingness to actively attempt to change separates individuals in the earlier stages from those who have progressed into the action and maintenance stages.
The TTM can also be used to understand the continuum of motivational processes that underlie treatment seeking, known as readiness for treatment. For example, whereas an individual with substance use problems may have no intention of seeking treatment, another may be preparing for treatment (e.g., looking at treatment options), or initiating and engaging with treatment (e.g., enrolling in a treatment program, attending therapy sessions, completing homework etc.). Although readiness to change and readiness for treatment often co-occur, an individual seeking treatment may be at any stage of the change process. One individual might become involved in treatment as a first step in preparing to make changes to substance use, whereas another may have already significantly reduced substance use prior to entering treatment. Thus, in order to most accurately determine how to best meet individual needs, it may be critical to determine the nature of the motivational forces that propel each person to seek formal support.

1.4 Self-Determination Theory and Treatment Motivation

Self-determination theory (SDT) offers a perspective that sheds additional insight into the psychological processes that underlie the process of behavior change, a process that may involve seeking treatment. This theory characterizes the motivational mechanisms that underlie any behavior as occurring on a continuum ranging from being completely influenced by external forces (e.g., coerced or extrinsically motivated) to those that are entirely autonomous (e.g., fully self-determined in the absence of social controls or intrinsically motivated). Extrinsically motivated behavior is governed by external sanctions and social pressure and is often accompanied by a desire to avoid negative social consequences (e.g., job loss, family conflict, incarceration). A person who is intrinsically motivated is one whose behavior is governed by his or her own values and interests (e.g., choosing to seek treatment for personal benefit, improved
functioning), perceives his or her decisions to be self-determined, and is more likely to put forth sustained effort towards change (Deci & Ryan, 2000; Ryan, Plant, & O’Malley, 1995; Wild et al., 2006).

Two types of intrinsic motivation that have been identified as important for understanding substance use behavior change are introjected and identified motivation. Introjected motivation refers to internal pressures or self-governing processes (e.g., feelings of guilt and shame) that propel individuals to seek treatment and occur in response to values that may have originated externally and have been internalized by the individual over time (i.e., no longer requiring the presence of an external regulator) (Scioli, Biller, Rossi, & Riebe, 2009). Identified motivation is intrinsic motivation that involves less internal conflict, occurs when personal beliefs and values are consistent with the goals of treatment seeking, treatment is viewed as important, useful and necessary, and commitment to treatment seeking is fully self-determined (Scioli et al., 2009). While intrinsic motivation has been found to be a stronger predictor of favorable treatment outcomes than external motivation, individuals who are high in both types are most likely to regularly attend treatment sessions and demonstrate successful behavior change than either type of motivation alone (Ryan et al., 1995; Wild, Cunningham & Ryan, 2006). In contrast to using TTM to classify individuals with problematic substance use with respect to their change process, SDT can be used to determine the locus of an individual’s motivation. Both models can be informative when predicting whether an individual will engage in treatment and experience lasting behavior change.

1.5 Psychosocial Processes of Emerging Adulthood

In the substance use literature, several factors are known to impact motivation to change and treatment motivation including age, substance use severity and history, perceptions of
negative consequences and benefits of substance use, mental health functioning, social networks, and environmental context (Barnett, Goldstein, Murphy, Colby & Monti, 2006; Bijl de Graaf, Hiripi, et al., 2003; Breda & Hellfinger, 2004; Broom et al., 2001; DiClemente 1999, 2003, 2005; DiClemente, Doyle & Donovan, 2009; Goodman, Peterson-Badali & Henderson, 2011; Klar, 1992; Smith et al., 2011). Having a concurrent mental health disorder in addition to substance use concerns is associated with lower motivational readiness to change, lack of treatment engagement and treatment compliance (DiClemente, Nidekcer, Bellak, 2008). Although these factors have been identified as important in the adolescent and adult literatures, there is a paucity of research investigating their influence during the emerging adult period.

In addition to known predictors, it may be useful to consider the developmental aspects of emerging adulthood and how these processes might relate to substance use change and treatment seeking in this population. Arnett (2005) hypothesized that the psychosocial features of emerging adulthood render youth at increased risk for substance use. For example, as emerging adults establish their own identities, youth are interested in a wide range of novel experiences that may involve using substances. Emerging adults are also characterized as being particularly self-focused: many are no longer subject to the rules and standards imposed by their parents and are not yet constrained by commitments to romantic partnerships, parenthood, and long term careers, which may render them less likely to monitor their behavior to avoid social consequences. Emerging adults also feel “in between” as they are now capable of making independent decisions regarding substance use but may not yet feel committed to adult social roles and responsibilities.

This theory can be applied further by considering how these same psychosocial processes underlie youths’ motivation to change and seek treatment and may add new insights to inform
intervention efforts targeting emerging adults with problematic substance use. For example, while increased *identity exploration* may be associated with substance use experimentation, emerging adults engaging in self-exploration to establish their own beliefs and values may also contemplate their substance use and think critically about their behaviors. In addition, consistent with the tenets of SDT, which emphasizes autonomy, competence and relatedness as critical factors that contribute to motivation (Deci & Ryan, 1985), youth who perceive themselves as more independent may perceive fewer external controls and may be more intrinsically motivated to seek treatment. It may also be that youth who are increasingly interdependent, and identify having a responsibility towards others may have transitioned into more mature interpersonal relationships and may be more likely to examine their behavior and seek treatment in response to both introjected internal conflict (e.g., I am ashamed of my substance use) as well as in accordance with identified interpersonal values (e.g., I want to be in treatment to become a better partner).

1.6 The Present Study

The present study addresses two focal research questions in a treatment-seeking sample of youth with substance use concerns 1) How do the psychosocial features of emerging adulthood relate to motivation to change and 2) How do the psychosocial features of emerging adulthood relate to treatment motivation? No hypotheses were generated between the specific psychosocial features and motivation at the outset of the study. However, drawing on the literature regarding changes in substance use during the transition to adulthood, it was anticipated that youth who are farther along developmentally (i.e., closer to adulthood) would be more intrinsically motivated to change and to seek treatment overall. By investigating the developmental factors that motivate young people to seek treatment, this study’s goal is to begin
to construct a developmentally appropriate motivational model that can inform clinical practice and research with emerging adults who present with substance use problems and mental health difficulties. This is particularly important for establishing best practices for this population, whose needs may not be met by either adolescent or adult service systems.

Method

2.1 Selection Criteria and Participants

Participants were recruited from an outpatient substance use and concurrent disorders treatment program at an urban mental health facility in Toronto, Canada. Prior to commencing formal treatment, youth attended a brief orientation session at which they were also asked to complete a package of self-report questionnaires as part of their clinical assessment. Youth were asked for consent to have this information utilized for research purposes. Of the 196 clients seeking admission to the treatment program over a 15-month period (November 2011 through January 2013), 164 consented to study participation (84%). This study received university and hospital ethics approval.

The present sample consisted of 96 male (58.5%) and 68 female (41.0%) participants ranging in age from 16 to 24 years old (M = 19.60; SD = 2.40). Participants were asked to identify their primary substances of concern. Responses were as follows: cannabis (n = 62, 38.0%), alcohol (n = 47, 28.8%), opiates (n = 18, 11.0%), cocaine (n = 13, 8.0%), ketamine (n = 6, 3.7%), amphetamines (n = 5, 3.1%), and other drugs (n = 3, 1.8%). The remaining 9 participants (5.5%) did not specify a primary substance and reported drug use broadly (i.e., “drugs”, “chemicals”) and/or reported behaviour/mental health (e.g., depression, anxiety, anger) as their only area of concern. Over half of the sample (n = 87, 53.4%) reported concerns with
more than one substance. Additional demographic information is listed in Table 1. Using an aged-based definition, emerging adulthood is typically described as commencing at age 18, when youth are legally considered adults in North America. Consistent with recent investigations, this study uses a broader conceptualization of this developmental period in recognition of the emerging adult psychological processes that can begin to occur for some youth during late adolescence (e.g., ages 16 and 17) (Kong & Bergman, 2010; Lisha et al., 2012). Further, youth age 16 and older accessing substance use and mental health services in Ontario can act as independent decision makers with respect to their health care (Health Care Consent Act, 1996), and make treatment related decisions without parental involvement. Thus, we have included youth aged 16 years and older to accurately represent the developmental continuum from late adolescence into young adulthood and to ensure that the sample represents younger youth who, despite their age, may have qualitatively entered emerging adulthood. Nevertheless, the large majority of youth in the sample were 18 years of age or older (n =136: 78%), in line with most studies investigating emerging adulthood.
<table>
<thead>
<tr>
<th></th>
<th>Full Sample (N=164)</th>
<th>Males (n= 96)</th>
<th>Females (n= 68)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Mean Age (SD)</strong></td>
<td>19.59 (2.40)</td>
<td>19.37 (2.24)</td>
<td>19.90 (2.10)</td>
</tr>
<tr>
<td><strong>Student</strong></td>
<td>45 (27.4)</td>
<td>28 (29.1)</td>
<td>17 (25.0)</td>
</tr>
<tr>
<td><strong>Employed Full Time</strong></td>
<td>23 (14.0)</td>
<td>13 (13.5)</td>
<td>10 (14.7)</td>
</tr>
<tr>
<td><strong>Employed Part Time</strong></td>
<td>37 (23.0)</td>
<td>21 (22.9)</td>
<td>16 (23.5)</td>
</tr>
<tr>
<td><strong>Ethnicity</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>European-Canadian</td>
<td>107 (65.2)</td>
<td>59 (61.5)</td>
<td>48 (70.6)</td>
</tr>
<tr>
<td>Asian-Canadian</td>
<td>13 (7.9)</td>
<td>10 (10.4)</td>
<td>3 (4.5)</td>
</tr>
<tr>
<td>African/Caribbean-Canadian</td>
<td>6 (3.7)</td>
<td>4 (4.2)</td>
<td>2 (2.9)</td>
</tr>
<tr>
<td>Latin American/Hispanic-Canadian</td>
<td>6 (3.7)</td>
<td>3 (3.1)</td>
<td>3 (4.5)</td>
</tr>
<tr>
<td>Aboriginal</td>
<td>5 (3.0)</td>
<td>4 (4.2)</td>
<td>1 (1.5)</td>
</tr>
<tr>
<td>Multiple ethnicities identified</td>
<td>13 (7.9)</td>
<td>7 (7.3)</td>
<td>6 (8.8)</td>
</tr>
<tr>
<td>Other ethnicities</td>
<td>6 (3.6)</td>
<td>4 (4.2)</td>
<td>2 (2.9)</td>
</tr>
<tr>
<td>Unknown</td>
<td>8 (4.9)</td>
<td>5 (5.2)</td>
<td>3 (4.4)</td>
</tr>
<tr>
<td><strong>Legal system involvement</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Within past 12 months</td>
<td>53 (32.3)</td>
<td>42 (43.8)</td>
<td>11 (16.2)</td>
</tr>
<tr>
<td>Previously</td>
<td>21 (12.8)</td>
<td>10 (10.4)</td>
<td>11 (16.2)</td>
</tr>
<tr>
<td>Mandated to treatment</td>
<td>20 (12.2)</td>
<td>17 (17.7)</td>
<td>3 (4.4)</td>
</tr>
<tr>
<td><strong>Primary Substance</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Alcohol Only</td>
<td>27 (16.4)</td>
<td>14 (15.5)</td>
<td>13 (19.1)</td>
</tr>
<tr>
<td>Drug Only</td>
<td>78 (47.6%)</td>
<td>50 (52.1)</td>
<td>28 (41.2)</td>
</tr>
<tr>
<td>Both Identified</td>
<td>55 (33.5%)</td>
<td>29 (30.2)</td>
<td>26 (38.2)</td>
</tr>
<tr>
<td>Unknown/Other</td>
<td>4 (2.4%)</td>
<td>3 (3.1)</td>
<td>1(1.4)</td>
</tr>
</tbody>
</table>
2.2 Measures

Information about the following variable groups of interest was obtained from self-report measures: developmental (e.g., age, psychosocial features of emerging adulthood; substance use (e.g., type of substances used, substance use frequency, and substance use related consequences); mental health (e.g., internalizing and externalizing symptoms) and motivation (e.g., locus of treatment motivation and motivation to change) factors (See Appendix A for sample items).

2.21 Substance Use Problems.

The Alcohol Use Disorders Identification Test (AUDIT; Babor, Higgins-Biddle, Saunders, Monteiro, 2001) was used to measure the severity of problems related to alcohol consumption. This 10-item self-report questionnaire includes questions related to the quantity and frequency of alcohol consumption and heavy drinking, and a variety of negative consequences experienced as a result of alcohol use within the last year. Items are scored on a 5-point Likert scale and total scores (ranging from 0 to 40) are calculated with higher scores (e.g., above a cut off of 8) indicating hazardous and harmful drinking with increasing severity. The AUDIT is a widely used, reliable and internally consistent, standardized measure that is utilized both clinically and for research (see Reinert & Allen, 2007 for a review). The AUDIT was initially developed for use with adults; however, it has also been shown to be a reliable and valid measure of problematic alcohol use with adolescents and emerging adults (Kelly, Donovan, Kinnane, & Taylor, 2002; Knight, Sherritt, Harris, Gates, & Chang, 2003). The measure showed high internal consistency in the present sample (Cronbach’s α = .90).

The 20-item version of the Drug Abuse Screening Test (DAST; Skinner, 1982) was used to measure the severity of consequences associated with drug use. Participants report on whether or not they have experienced a number of negative consequences typically associated with drug
use over the last year. Total scores range between 0 and 20, with higher scores indicating a greater likelihood of problematic substance use. The DAST has been used to assess drug use with diverse populations in both clinical and research contexts, including adolescents (Klitzner, Schwartz, Gruenewald, & Blasinsky, 1987; Martino, Grilo, & Fehon, 2000), and has moderate to high levels of internal consistency, test-retest reliability, construct validity and criterion validity (see Yudko, Lozhkina, & Fouts, 2007 for a review; Cronbach’s alpha for this sample = .86).

2.22 Mental Health Functioning.

Youths’ emotional and behavioral functioning was assessed using the Internalizing (depression, anxiety, suicidal ideation, etc.) and Externalizing (e.g., ADHD, aggressive behaviors, conflict with others) subscales of the Global Appraisal of Individual Needs - Short Screener (GAIN-SS) (Dennis, Chan, Rodney & Funk, 2006). Each subscale consists of 5 symptom items rated on a 4-point Likert scale indicating how recently each symptom was a significant problem (e.g., within the past month = 3, within the past year = 2, over a year ago = 1, or never = 0). Each item indicated as occurring within the past year received a score of 1, and those occurring more than a year ago or never received as a score of 0. Overall scores for each subscale were calculated by summing the number of symptoms experienced within the past year within each domain, with scores ranging from 0 to 5. This screening tool has been validated for use with both adolescents and adults and is an internally consistent, reliable and valid measure of mental health concerns (Dennis, Chan, & Funk, 2006; present sample Cronbach’s $\alpha$ for Internalizing Disorders = .79 and for Externalizing Disorders = .70).

2.23 Psychosocial Processes of Emerging Adulthood.

To assess psychosocial issues or processes associated with emerging adulthood, youth were asked to complete the Inventory of the Dimensions of Emerging Adulthood (IDEA;
Reifman, Arnett, & Colwell, 2007). This 31-item self-report questionnaire asks youth to consider the five years surrounding their current time of life and rate on a 4-point Likert scale (with 1 = strongly disagree to 4 = strongly agree) the extent to which they perceive their life stage as in agreement with a series of statements reflecting aspects of emerging adulthood (4-point Likert scale). This questionnaire yields six separate subscales of psychological features of emerging adulthood (Reifman et al., 2007): Identity Exploration (7 items; e.g., time of finding out who you are), Experimentation/Possibilities (5 items; e.g., time of trying out new things), Negativity/Instability (7 items; e.g., time of confusion), Other Focused (3 items; e.g., time of responsibility for others, settling down), Self-Focused (6 items; e.g., time of independence, self sufficiency), and Feeling “In Between” (3 items; e.g., time of feeling adult in some ways but not others). The IDEA is the only measure developed to directly investigate each of the psychosocial processes theorized to be associated with emerging adulthood. The scales detect individual differences in self-identification with the psychosocial process of emerging adulthood. Higher scores are indicative of a youth being in the emerging adult period. Previous investigations using the IDEA have reported moderate to strong internal consistency of subscales, test-retest reliability, and validity (Reifman, Arnett & Colwell, 2007; present sample Cronbach’s α = .70-.84).

2.24 Motivation

Motivation to Change. The Stages of Change Readiness and Treatment Eagerness Scale – Version 8 (SOCRATES; Miller & Tonigan, 1996) was used to measure participants’ self-reported motivation to change their alcohol use where youth identified it as a concern (SOCRATES-A) and their drug use where youth identified drug use concerns (SOCRATES-D). Each consists of 19 items that yield three scales, Recognition (problem recognition),
Ambivalence (uncertainty about change) and Taking Steps (action to change). Only the Recognition and Taking Steps subscales have been found to be reliable and internally consistent (α = .95 and .97 respectively) and thus were included in the current analyses (Burrow-Sanchez & Lundberg, 2007; Miller & Tonigan, 1996). SOCRATES scores were converted to deciles as per the scoring instructions.

Treatment Motivation. The Treatment Entry Questionnaire (TEQ) is a 30-item questionnaire developed by Wild, Cunningham and Ryan (2006) to assess youths’ locus of treatment motivation. It yields three subscales: external motivation (i.e., treatment seeking in response to pressure from external sources), introjected motivation (i.e., treatment seeking in response to feelings of guilt or shame) and identified motivation (i.e., treatment seeking in response to identifying with the goals of treatment and committing to them). Items are scored on a 7-point Likert scale (1 = strongly disagree to 7 = strongly agree), with scores above four indicating a positive endorsement and scores below four indicating a negative endorsement of the motivation subscale. Internal consistency coefficients were calculated for each scale with Cronbach’s alphas ranged from .85 to .94 for the subscales (see Table 2 for reliability and sample items).
Table 2. *Motivation measures and descriptive statistics*

<table>
<thead>
<tr>
<th>Variable Group Subcomponent</th>
<th>Sample Item</th>
<th>No. of Items</th>
<th>Cronbach’s α</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SOCRATES</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Recognition: D</td>
<td>I know that I have a drug problem</td>
<td>7</td>
<td>.95</td>
<td>3.42</td>
<td>1.09</td>
</tr>
<tr>
<td>Taking Steps: D</td>
<td>I am working hard to change my drug use</td>
<td>8</td>
<td>.95</td>
<td>3.50</td>
<td>1.03</td>
</tr>
<tr>
<td>Recognition: A</td>
<td>I am a problem drinker</td>
<td>7</td>
<td>.97</td>
<td>3.21</td>
<td>1.16</td>
</tr>
<tr>
<td>Taking Steps: A</td>
<td>I am actively doing things to change my drinking</td>
<td>8</td>
<td>.96</td>
<td>3.22</td>
<td>1.16</td>
</tr>
<tr>
<td><strong>TEQ</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Identified</td>
<td>I decided to enter a program because I really want to make some changes in my life.</td>
<td>9</td>
<td>.94</td>
<td>5.20</td>
<td>1.52</td>
</tr>
<tr>
<td>External Coercion</td>
<td>If I remain in treatment it will probably be because others will be angry with me if I don’t.</td>
<td>12</td>
<td>.89</td>
<td>3.05</td>
<td>1.32</td>
</tr>
<tr>
<td>Introjected</td>
<td>If I remain in treatment it will probably be because I’ll feel like a failure if I don’t.</td>
<td>6</td>
<td>.85</td>
<td>3.87</td>
<td>1.51</td>
</tr>
</tbody>
</table>
Results

3.1 Plan of Analysis

The results section begins with a description of the sample in terms of age, drug problems, alcohol problems, internalizing disorders and externalizing disorders. Next, descriptive statistics for the emerging adult psychosocial processes measured by the IDEA subscales of Identity Exploration, Experimentation/ Possibilities, Negativity/ Instability, Other Focused, Self Focused and In Between and the motivation measures are presented. Descriptive analyses for the motivation measures are presented last in this section. The Recognition and Taking Steps subscales from the SOCRATES Alcohol served as the “Motivation to Change” measures for all participants who endorsed alcohol as a concerning substance during their initial assessment. The Recognition and Taking Steps subscales from the SOCRATES Drug served as the “Motivation to Change” measures for all participants who indicated any drug (excluding alcohol or tobacco) as a concerning substance at the time of their initial assessment. The External, Introjected and Identified subscales from the TEQ were the “Treatment Motivation” measures for all participants.

Associations between background variables, emerging adult psychosocial predictors and motivation variables were explored using bivariate correlations. Next, hierarchical linear regression analyses were conducted to investigate each measure of motivation. For each motivation outcome, all background variables that were significantly related to outcome were entered simultaneously into Step 1 as control variables. All emerging adult variables significantly correlated with the motivation outcome were entered simultaneously into Step 2 in order to examine their contribution to the model beyond the effect of the control variables.

Assumptions of multivariate normality, homoscedasticity, and linearity were checked with
normal P-P plots and residual plots. These assumptions were satisfied in all analyses. Where appropriate, significance levels were adjusted for multiple comparisons. Diagnostic tests indicated the absence of multicollinearity for regression analyses ($VIFs < 2.5$).

3.2 Descriptive Analyses

3.2.1 Substance Use Problems and Mental Health

Respondents’ DAST scores ranged from 0 to 20, with a mean score of 11.42, falling in the lower end of the “substantial” range (11-15: Cocco & Carey, 1998) with respect to the severity of consequences related to drug use experienced within the past year. The majority of respondents (86.1%; $n = 141$) scored at or above the moderate range (6-10), indicating a moderate, substantial or severe drug problem. These youth are considered at risk of or currently meet diagnostic criteria for substance related disorders. Participants’ AUDIT scores ranged from 0 to 40, with a mean score of 14.88 for the full sample. This score falls towards the upper limit of the “medium” range (8-15; Babor, Higgins-Biddle, Saunders, Monteiro, 2001). Two thirds of the sample, (68.8%; $n =113$) reported scores higher than the clinical cut off score of 8, indicating an hazardous or harmful alcohol use, and an increased risk of meeting criteria for an alcohol use disorder. Just under half of respondents (42.6%; $n =70$) scored above 16 on the AUDIT, indicating high levels of alcohol related problems, increased likelihood for dependence, and a greater need for intensive intervention to address their alcohol use.

The majority of youth ($n=135; 82.3\%$ endorsed three or more internalizing symptoms (out of five possible symptoms) as occurring within the last year, indicating clinically significant internalizing difficulties. Slightly fewer youth, 68.3% ($n =112$), endorsed three or more externalizing symptoms (out of five possible symptoms) as having occurred within the last year, indicating that they were experiencing clinically significant externalizing difficulties.
3.22 Psychosocial Processes of Emerging Adulthood

As shown in Table 3, with the exception of the Other Focused subscale, most youth indicated that they somewhat or strongly agreed (scores 3 or 4 on a 4-point Likert scale) with the features of emerging adulthood on the IDEA as characteristic of their current stage of life.

Table 3. Descriptive data for IDEA subscales including proportion of the total sample endorsing each of the features of emerging adulthood (N = 158)

<table>
<thead>
<tr>
<th>Measure</th>
<th>M (SD)</th>
<th>Skewness (Std. Error of Skewness)</th>
<th>Kurtosis (Std. Error of Kurtosis)</th>
<th>% Somewhat or Strongly Agree</th>
<th>% Somewhat or Strongly Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Identity Exploration</td>
<td>3.27 (.62)</td>
<td>-1.13 (.19)</td>
<td>1.36 (.38)</td>
<td>89.9</td>
<td>10.1</td>
</tr>
<tr>
<td>Experimentation/ Possibilities</td>
<td>3.20 (.62)</td>
<td>-.72 (.19)</td>
<td>-.06 (.38)</td>
<td>85.1</td>
<td>14.9</td>
</tr>
<tr>
<td>Negativity/ Instability</td>
<td>3.12 (.63)</td>
<td>-.72 (.19)</td>
<td>-.06 (.38)</td>
<td>87.5</td>
<td>12.5</td>
</tr>
<tr>
<td>Other Focused</td>
<td>2.63 (.77)</td>
<td>-.04 (.19)</td>
<td>-.43 (.38)</td>
<td>58.0</td>
<td>42.0</td>
</tr>
<tr>
<td>Self Focused</td>
<td>3.10 (.58)</td>
<td>-.48 (.19)</td>
<td>.00 (.38)</td>
<td>89.3</td>
<td>10.7</td>
</tr>
<tr>
<td>Feeling In Between</td>
<td>3.09 (.70)</td>
<td>-.92 (.19)</td>
<td>1.03 (.38)</td>
<td>85.5</td>
<td>14.5</td>
</tr>
</tbody>
</table>

3.23 Motivation Measures.

With respect to treatment motivation (see Table 2 for descriptive statistics) 70% (n = 115) of the sample endorsed Identified Motivation as a reason for seeking treatment (M = 5.20). In contrast, only 14% (n = 23) of youth indicated External Motivation as underlying their treatment seeking (M = 3.05). Finally, approximately one third of respondents (34.5%, n = 57) indicated Introjected Motivation (e.g., shame and guilt) as a reason for treatment seeking (M = 3.87).

On the SOCRATES questionnaires, participants scored in the Low to Very Low range for both Recognition and Taking Steps to change for both drug and alcohol related behaviors,
indicating low motivation to change. Table 4 includes SOCRATES raw score distribution as well as interpreted scores (e.g., based on decile scores) (See Table 4).

Table 4. Score distribution for SOCRATES 8A and 8D by stage of change

<table>
<thead>
<tr>
<th>Stages (scale)</th>
<th>Median (Mean ±SD)</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Interpretation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recognition (Drug)</td>
<td>25.00 (23.96 ± 7.66)</td>
<td>7</td>
<td>35</td>
<td>Very Low</td>
</tr>
<tr>
<td>Taking Steps (Drug)</td>
<td>28.00 (27.84 ± 8.25)</td>
<td>8</td>
<td>40</td>
<td>Low</td>
</tr>
<tr>
<td>Recognition (Alcohol)</td>
<td>22.96 (22.47 ± 8.12)</td>
<td>7</td>
<td>35</td>
<td>Very Low</td>
</tr>
<tr>
<td>Taking Steps (Alcohol)</td>
<td>24.96 (25.76 ± 9.28)</td>
<td>8</td>
<td>40</td>
<td>Very Low</td>
</tr>
</tbody>
</table>

3.3 Correlation Analyses

3.31 Intercorrelations Between Emerging Adult Variables

Correlation analyses were conducted between age and the psychosocial processes associated with emerging adulthood (Table 5). Interestingly, age was not significantly related to any of the emerging adult psychosocial processes. Most of these processes (IDEA subscales) were significantly correlated with one another. Of particular note, the Experimentation/Possibilities subscale was strongly and significantly related to the Self Focused subscale \( (r = .71) \). In addition, Identity Exploration was moderately and significantly correlated \( (r > .52) \) with all of the other psychosocial processes except for the Other Focused subscale. Although Other Focused was significantly related to Identity Exploration \( (r = .23) \) and Negativity/ Instability \( (r = .19) \), the magnitude of these relationships is weak.
Table 5. Intercorrelations between emerging adult variables (N = 164)

<table>
<thead>
<tr>
<th></th>
<th>1.</th>
<th>2.</th>
<th>3.</th>
<th>4.</th>
<th>5.</th>
<th>6.</th>
<th>7.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Age</td>
<td>-</td>
<td>-.09</td>
<td>.08</td>
<td>.01</td>
<td>.11</td>
<td>.09</td>
<td>-.13</td>
</tr>
<tr>
<td>2. Identity Exploration</td>
<td>-</td>
<td>.62**</td>
<td>.52**</td>
<td>.23**</td>
<td>.59**</td>
<td>.55**</td>
<td></td>
</tr>
<tr>
<td>3. Experimentation/Possibilities</td>
<td>-</td>
<td>.37**</td>
<td>.18</td>
<td>.71**</td>
<td>.30**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Negativity/Instability</td>
<td>-</td>
<td>.19*</td>
<td>.30**</td>
<td>.48**</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Other Focused</td>
<td>-</td>
<td>.42**</td>
<td>.23**</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Self Focused</td>
<td>-</td>
<td>.24**</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. In Between</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

Note. ***p < .001. ** p < .01. *p < .05

3.32 Motivation (Outcome) Measures

As shown in Table 6, several motivation variables were significantly intercorrelated. Most noteworthy, Identified Motivation was significantly correlated with Introjected Motivation (r = .63); both were also related to the Recognition scale of the SOCRATES (drug) in the subsample of youth seeking treatment for problematic drug use (r = .58 and r = .51 respectively). Despite these significant relationships, composite motivation variables were not created due to moderate effect sizes and theoretical reasons for maintaining separate constructs.

Table 6. Intercorrelations between motivation variables

<table>
<thead>
<tr>
<th></th>
<th>1.</th>
<th>2.</th>
<th>3.</th>
<th>4.</th>
<th>5.</th>
<th>6.</th>
<th>7.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. External</td>
<td>-</td>
<td>.15</td>
<td>-.29**</td>
<td>-.06</td>
<td>-.08</td>
<td>-.05</td>
<td>.02</td>
</tr>
<tr>
<td>2. Introjected</td>
<td>-</td>
<td>.63**</td>
<td>.51**</td>
<td>.34**</td>
<td>.29**</td>
<td>.38**</td>
<td></td>
</tr>
<tr>
<td>3. Identified</td>
<td>-</td>
<td>.59**</td>
<td>.43**</td>
<td>.46**</td>
<td>.46**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Recognition Drug</td>
<td></td>
<td>.48**</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>5. Taking Steps Drug</td>
<td></td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>6. Recognition Alcohol</td>
<td></td>
<td>-</td>
<td>.59**</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Taking Steps Alcohol</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

Note. ***p < .001. ** p < .01. *p < .05
3.4 Predicting Motivation to Change

Correlation coefficients were calculated between background variables (age, sex, substance use problems and mental health) and motivation to change (alcohol or drug) outcome variables. As illustrated in Table 7, youth who experienced more severe drug related consequences, as reflected in their higher DAST scores, were more likely to identify their substance use as problematic and take steps towards change on the SOCRATES-D. Youth who experienced greater alcohol related problems as measured by the AUDIT were more likely to identify their alcohol use as problematic on the SOCRATES-A, but this variable was not significantly related to taking steps to change alcohol use in this subsample. Age was the only background variable significantly related to taking steps to change alcohol use such that older youth were more likely to take steps towards change. Correlations were also calculated to explore relationships between emerging adult psychosocial process variables and motivation to change. As shown in Table 7, the Other Focused subscale was significantly correlated with each measure of motivation to change both alcohol and drug use. In addition, the Identity Exploration, Self Focused and In Between subscales were significantly and positively correlated with Taking Steps towards changing drug use but were not significantly associated with any other motivation to change measures.
To examine the psychosocial process variables in relation to motivation to change, four hierarchical multiple regression analyses were conducted, one for each measure of motivation to change. Background variables identified as related to each outcome variable were entered into Step 1, followed by significant psychosocial process variables entered on Step 2. This analytic strategy was employed to determine whether the psychosocial process variables account for significant variance in motivation beyond relevant background factors.
As Table 8 reveals, adding the psychosocial process variables at Step 2 of the model accounted for unique variance beyond the background variables entered at Step 1 for both Recognition ($\Delta R^2 = .02, p < .05$) and Taking Steps ($\Delta R^2 = .13, p < .001$) in youth who indicated drug use as concerning at treatment intake. Beta weights presented in Table 9 reveal that the Other Focused subscale remained an important predictor of both Recognition ($\beta = .14, p < .05$) and Taking Steps ($\beta = .20, p < .05$). The Self-Focused subscale ($\beta = .20, p < .05$) was also positively related to Taking Steps and accounted for unique variance in the model using this subsample. Of note, the severity of participants’ drug problems was the strongest predictor in each of the models ($\beta = .64$ and $.39, ps < .001$).

Table 9 shows the results of the hierarchical regression analyses examining motivation to change alcohol use. As can be seen, the Other Focused measure added unique variance to alcohol problem Recognition ($\Delta R^2 = .06, p < .01$) and Taking Steps ($\Delta R^2 = .07, p < .05$) beyond the background variables entered at Step 1. Severity of problematic alcohol use ($\beta = .61, p < .001$) was the strongest predictor in the Recognition model. Although age ($\beta = .25, p < .05$) was also an important predictor in the Taking Steps model, it had only a moderate effect size.
Table 8. *Effects of significant predictors on Motivation to Change (Drug only: N = 133)*

<table>
<thead>
<tr>
<th>Motivation Subscale</th>
<th>Predictors</th>
<th>$R^2$</th>
<th>$\Delta R^2$</th>
<th>$F$</th>
<th>$\beta$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recognition Drug</td>
<td>Background variables (Step 1)</td>
<td>.40</td>
<td></td>
<td>93.77***</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Drug Problems</td>
<td></td>
<td></td>
<td></td>
<td>.64***</td>
</tr>
<tr>
<td></td>
<td>Psychosocial Processes (Step 2)</td>
<td>.42</td>
<td>.02</td>
<td>4.55*</td>
<td>.14*</td>
</tr>
<tr>
<td></td>
<td>Other Focused</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Taking Steps Drug</td>
<td>Background variables (Step 1)</td>
<td>.16</td>
<td></td>
<td>24.18***</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Drug Problems</td>
<td></td>
<td></td>
<td></td>
<td>.39***</td>
</tr>
<tr>
<td></td>
<td>Psychosocial Processes (Step 2)</td>
<td>.28</td>
<td>.13</td>
<td>5.76***</td>
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</tr>
<tr>
<td></td>
<td>Identity Exploration</td>
<td></td>
<td></td>
<td></td>
<td>-.11</td>
</tr>
<tr>
<td></td>
<td>Other Focused</td>
<td></td>
<td></td>
<td></td>
<td>.20*</td>
</tr>
<tr>
<td></td>
<td>Self Focused</td>
<td></td>
<td></td>
<td></td>
<td>.20*</td>
</tr>
<tr>
<td></td>
<td>In Between</td>
<td></td>
<td></td>
<td></td>
<td>.17</td>
</tr>
</tbody>
</table>

*Note.* ***$p < .001$. **$p < .01$. *$p < .05$
Table 9. Effects of significant predictors on Motivation to Change (Alcohol only: N =82)

<table>
<thead>
<tr>
<th>Motivation Subscale</th>
<th>Predictors</th>
<th>$R^2$</th>
<th>$\Delta R^2$</th>
<th>$F$</th>
<th>$\beta$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recognition Alcohol</td>
<td>Background variables (Step 1)</td>
<td>.37</td>
<td>.46</td>
<td>46.31***</td>
<td>.61***</td>
</tr>
<tr>
<td></td>
<td>Alcohol Problems</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Psychosocial Processes (Step 2)</td>
<td>.43</td>
<td>.06</td>
<td>8.31**</td>
<td>.25**</td>
</tr>
<tr>
<td></td>
<td>Other Focused</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Taking Steps Alcohol</td>
<td>Background variables (Step 1)</td>
<td>.07</td>
<td>.07</td>
<td>5.59*</td>
<td>.25*</td>
</tr>
<tr>
<td></td>
<td>Age</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Psychosocial Processes (Step 2)</td>
<td>.14</td>
<td>.07</td>
<td>6.48*</td>
<td>.27*</td>
</tr>
<tr>
<td></td>
<td>Other Focused</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note. ***$p < .001$. **$p < .01$. *$p < .05$

3.5 Predicting Treatment Motivation

Correlation coefficients were first calculated between background variables (age, sex, substance use problems, and mental health issues) and treatment motivation. As listed in Table 10, as age increased, respondents were less likely to report entering treatment in response to external pressure and were more likely to report entering treatment for ‘Identified’ reasons (e.g., personal will, values in line with treatment). Also of note, severity of participants’ drug problem as measured by the DAST (e.g., number of negative consequences experienced in relation to drug use) was significantly related to both Introjected and Identified motivation. Although not as strong an effect, both alcohol problems and internalizing disorders were also related to both types of internal motivation.

Correlation analyses were also conducted to explore whether any of the psychosocial processes of emerging adulthood related to treatment motivation (See Table 10). Youth who reported having greater responsibility to others (Other Focused) were more likely to identify
intrinsic reasons for seeking treatment (both Introjected and Identified). Youth with higher ratings on feeling ‘In Between’ adolescence and adulthood were also more likely to report seeking treatment for Introjected reasons. Finally, youth who believed this stage of their life was a time of greater self-focus and a time of experimentation reported higher Identified motivation.

Table 10. *Intercorrelations of background variables and emerging adult psychosocial processes with Treatment Motivation (N = 164)*

<table>
<thead>
<tr>
<th>Background Variables</th>
<th>External</th>
<th>Introjected</th>
<th>Identified</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>-.22**</td>
<td>.12</td>
<td>.31**</td>
</tr>
<tr>
<td>Sex</td>
<td>-.12</td>
<td>.08</td>
<td>.23**</td>
</tr>
<tr>
<td>Alcohol Problems</td>
<td>-.04</td>
<td>.19*</td>
<td>.20*</td>
</tr>
<tr>
<td>Drug Problems</td>
<td>.12</td>
<td>.38**</td>
<td>.35**</td>
</tr>
<tr>
<td>Internalizing Disorders</td>
<td>-.10</td>
<td>.16*</td>
<td>.20*</td>
</tr>
<tr>
<td>Externallizing Disorders</td>
<td>.05</td>
<td>.02</td>
<td>.01</td>
</tr>
<tr>
<td>Psychosocial Processes</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Identity Exploration</td>
<td>.02</td>
<td>.11</td>
<td>.13</td>
</tr>
<tr>
<td>Experimentation/Pos</td>
<td>-.05</td>
<td>.10</td>
<td>.17*</td>
</tr>
<tr>
<td>Negativity/Instability</td>
<td>.09</td>
<td>.12</td>
<td>.01</td>
</tr>
<tr>
<td>Other Focused</td>
<td>.04</td>
<td>.33**</td>
<td>.29**</td>
</tr>
<tr>
<td>Self Focused</td>
<td>-.10</td>
<td>.14</td>
<td>.20*</td>
</tr>
<tr>
<td>In Between</td>
<td>.06</td>
<td>.18*</td>
<td>.12</td>
</tr>
</tbody>
</table>

*Note.***p < .001. **p < .01. *p < .05*

Two hierarchical multiple regression analyses were conducted: one for Introjected treatment motivation and one for Identified treatment motivation. As age was the only variable related to External motivation, a regression analysis was not conducted for this variable.

As can be seen in Table 11, adding the psychosocial process variables at Step 2 accounted for unique variance ($\Delta R^2 = .04, p < .01$) in Identified motivation above and beyond the
contribution of significant background predictors (i.e., age, drug problem severity and sex) entered at Step 1; however, being other-focused was the only significant individual psychosocial predictor.

When investigating Introjected motivation, the addition of the psychosocial process predictors at Step 2 of the regression model accounted for additional unique variance ($\Delta R^2 = .08$, $p < .01$) beyond alcohol problem severity and drug problem severity entered as controls in Step 1. As with Identified motivation, the Other Focused subscale was the only significant individual psychosocial predictor of Introjected motivation. Beta weights presented in Table 11 reveal that the Other Focused subscale was positively associated with both Identified ($\beta = .17$, $p < .05$) and Introjected ($\beta = .27$, $p < .01$) motivation. Also of note, the strongest predictor in both treatment motivation regression models was drug problem severity ($\beta = .35$ and .36, $ps < .001$).
Table 11. *Effects of predictors on Treatment Motivation by analysis*

<table>
<thead>
<tr>
<th>TEQ Subscale</th>
<th>Predictors</th>
<th>$R^2$</th>
<th>Δ$R^2$</th>
<th>$F$</th>
<th>$\beta$</th>
</tr>
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<tr>
<td>Identified</td>
<td>Background variables (Step 1)</td>
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<td></td>
<td>11.47**</td>
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</tr>
<tr>
<td></td>
<td>Age</td>
<td></td>
<td></td>
<td>.35***</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Sex</td>
<td></td>
<td></td>
<td>.15*</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Alcohol Problems</td>
<td></td>
<td></td>
<td>.05</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Drug Problems</td>
<td></td>
<td></td>
<td>.35 ***</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Internalizing Disorders</td>
<td></td>
<td></td>
<td>-.01</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Psychosocial Processes (Step 2)</td>
<td>.33</td>
<td>.04</td>
<td>2.77*</td>
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</tr>
<tr>
<td></td>
<td>Other Focused</td>
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<td>.17*</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Self Focused</td>
<td></td>
<td></td>
<td>.02</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Experimentation/Possibilities</td>
<td></td>
<td></td>
<td>.05</td>
<td></td>
</tr>
<tr>
<td>Introjected</td>
<td>Background variables (Step 1)</td>
<td>.18</td>
<td></td>
<td>9.29***</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Alcohol Problems</td>
<td></td>
<td></td>
<td>.15*</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Drug Problems</td>
<td></td>
<td></td>
<td>.36***</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Internalizing Disorders</td>
<td></td>
<td></td>
<td>-.01</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Psychosocial Processes (Step 2)</td>
<td>.26</td>
<td>.08</td>
<td>8.91***</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Other Focused</td>
<td></td>
<td></td>
<td>.27**</td>
<td></td>
</tr>
<tr>
<td></td>
<td>In Between</td>
<td></td>
<td></td>
<td>.05</td>
<td></td>
</tr>
</tbody>
</table>

*Note.*** $p < .001$. ** $p < .01$. * $p < .05$*

**Discussion**

This study applied Arnett’s theory of emerging adulthood to explore whether the psychosocial features of emerging adulthood (measured using the IDEA scales) are related to motivation to change substance use and motivation to enter treatment in a sample of youth with substance use concerns. The primary finding of this study was the strength of the Other Focused subscale as a significant predictor of almost all measures of motivation investigated. With the exception of the External Motivation outcome variable, the Other Focused subscale accounted
for additional variance in all motivation to change and treatment motivation regression models beyond age and significant substance use and mental health variables. Thus, emerging adults who perceived themselves as having greater responsibility to others were more likely to identify their drug and alcohol use as problematic, take steps towards change, and enter a treatment program for intrinsic reasons. With the exception of the Other Focused psychological process, each measure of motivation was found to have different contributing background and emerging adult psychosocial predictors (See Figure 1. for a summary of the regression results).

It is noteworthy that none of the primary psychosocial features of emerging adulthood identified in Arnett’s (2004) work (i.e., identity exploration, feelings of instability, being self-focused, feeling in between, and possibilities), as measured by participants’ scores on the IDEA subscales, emerged as a significant predictor of motivation in the regression models. The absence of these relationships may be reflective of limitations of the IDEA measure to detect individual differences in this cohort of youth. For example, there was limited variability of some IDEA scales as a result of most youth endorsing high agreement with the psychosocial processes (see limitations for further discussion). Alternatively, significant relationships may have gone undetected as a consequence of the potential curvilinear nature of a number of IDEA scales as youth develop into adulthood. Specifically, while high scores suggest emerging adult status, low scores on Identity Exploration, Experimentation/Possibilities, In Between and Negativity/Instability indicate either 1) an individual who has not yet progressed into the emerging adult period or 2) a youth who has resolved emerging adulthood and transitioned into adulthood. The vast majority of youth in this study’s sample were not likely to have reached adulthood earlier than expected as they were not yet living on their own, were under employed, and remained dependent on others for financial support. Thus, the findings were interpreted such
that high scores indicate a youth who in the midst of exploring and becoming gradually independent, having matured from adolescence into emerging adulthood. Interestingly, correlation analyses revealed relationships between most of the psychosocial features and the higher, self-determined change processes (i.e., Taking Steps Drug and Identified Motivation). Although these relationships did not remain significant in regression models, these findings provide some preliminary evidence for the relationship between psychosocial maturation processes and motivation.

Finally, the context in which youth were asked to complete the IDEA measure offers an additional explanation for the weak relationships between Arnett’s IDEA scales and motivation in the regression analyses. The IDEA questionnaire was included as part of a clinical assessment at the outset of treatment, and youth may have interpreted questions regarding their optimism, experimentation, identity exploration and autonomy as measures of their psychological processes related to treatment entry (i.e., openness to treatment), rather than representing their overall stage of developmental.

Figure 1. Summary of Findings

<table>
<thead>
<tr>
<th></th>
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<th>Treatment Motivation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Drug</td>
<td>Alcohol</td>
</tr>
<tr>
<td></td>
<td>Recognition</td>
<td>Taking Steps</td>
</tr>
<tr>
<td><strong>Background</strong></td>
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<td></td>
</tr>
<tr>
<td>Age</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Sex</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Drug Problems</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Alcohol Problems</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td><strong>EA Processes</strong></td>
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<tr>
<td>Other Focused</td>
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<td>✓</td>
</tr>
<tr>
<td>Self Focused</td>
<td>✓</td>
<td>✓</td>
</tr>
</tbody>
</table>
4.1 Other Focused as a Predictor of Motivation

This study’s primary finding that youth who perceive themselves as having responsibility to/for others are more likely to identify their substance use as problematic, begin to change their behavior, and to be intrinsically motivated to change is supported by the emerging adult literature. In one study, Molgat (2007) interviewed young adults (age 25-29) to determine factors influencing their perception of adulthood. Those youth who indicating responsibility towards others as a critical factor also noted that their leisure activities had shifted from centering on an active ‘night life’ to family oriented leisure. Further, several studies have shown that the frequency of risk-taking and health-compromising behaviors decreases once emerging adults enter into marriage (Johnston et al, 2003; Schulenberg et al., 2006). In their study investigating premarital behavior, Willoughby and Dworkin (2009) found that simply having the desire to make a long-term commitment to another individual (irrespective of current relationship status) was related to lower levels of binge drinking and alcohol use for both males and females. Although these studies may be limited in their application due their investigation of non-treatment seeking samples, they highlight the effect that one’s sense of commitment towards others can have on substance use behavior. Our study did not investigate the impact of being other-focused on substance use outcomes, however, we detected a consistent relationship between this measure and the motivational variables that underlie behavior change. Further, we found that the Other Focused subscale was a significant predictor of self-reported action (e.g., making a plan, reducing quantity and frequency of substance use) towards change.

Although the Other Focused subscale was a significant predictor of motivation to change and intrinsic treatment motivation (e.g., introjected and identified), it was not significantly related to external motivation. This finding is interesting and suggests that although youth may
be motivated by the presence of others to whom they feel committed, they do not perceive those relationships as coercive or as a direct catalyst of treatment seeking. Further support for this notion comes from a recent investigation of the role of social networks on treatment motivation in a similar sample of emerging adults with substance use problems. In this study, youth who perceived pressure from family were more likely to report being externally motivated to seek treatment, whereas youth who perceived pressure from their peers (friends and romantic partners) reported being more intrinsically motivated (Goodman et al., 2011). These findings suggest that as peer relationships become closer, more reciprocal, and focal during the transition to adulthood (Hartup & Stevens, 1997), peers may be in a position to empower youth to reflect on their substance use in a way that is autonomy-supporting, such that youth arrive at treatment and make change decisions independently.

Emerging adult theory sheds additional light on factors that may account for individual differences in having a sense of commitment towards others. As youth develop independence from their parents, they seek friendships and romantic relationships with peers who have similar values and beliefs. These peer relationships have been found to satisfy needs for companionship, feelings of self-worth, intimacy, and social support and can support emerging adult identity development as well as achievement of adult milestones (Barry, Madsen, Nelson, Carroll & Badger, 2009). Perhaps youth may be more likely to recognize problematic substance use behavior where they perceive that it can jeopardize these focal relationships.

4.2 Other Focused as a Unique Psychosocial Predictor

This study’s findings suggest that the psychosocial process of being other-focused functions differently than the other psychosocial dimensions occurring during emerging adulthood. Indeed, an examination of the descriptive statistics revealed that of the six IDEA
subscales measuring the dimensions of emerging adulthood, the Other Focused subscale was the only subscale with significant variability in youth response. At least 85% of youth either somewhat or strongly agreed with each of the other features of emerging adulthood. In contrast, youth were almost split on the Other Focus subscale (i.e., 58% somewhat or strongly agreed, 42% somewhat or strongly disagreed). Although the Other Focused subscale had the greatest variability and was most normally distributed, the means across all IDEA subscales are not drastically different from one another. While some may argue that our findings are due to differences in distribution, a closer examination of the descriptive statistics reveals that of the five remaining subscales, only the Identity Exploration and Experimentation/Possibilities subscales were highly negatively skewed and are subject to a ceiling effect. Although the restricted variability of these two scales may suggest the IDEA’s limitations for measuring these constructs, the Self Focused, Negativity/Instability and In Between subscales were less skewed (the majority of respondents did not reach a maximum score), providing additional statistical evidence for our conclusions regarding the importance of the Other Focused subscale.

A growing body of literature further supports our interpretation of the Other Focused subscale as measuring a critical psychosocial developmental process during the transition to adulthood. Reifman and colleagues (2007) found that the scores of 18-23-year-olds on each of the other dimensions (identity exploration, experimentation/possibilities, negativity/instability, feeling ‘in between’, and self-focus) were highest in this age group and significantly decreased with age (e.g., up to age 50). In contrast, the Other Focused subscale had an inverse effect: as youth moved into adulthood, their scores on the Other Focused subscale increased, indicating their increased feelings of responsibility towards others. Further, when emerging adults’ scores were compared with younger youth (in 6th to 12th grades), emerging adults scored highest on the
Other Focused, Identity Exploration and Feeling In Between subscales. This trend further suggests that the degree to which youth feel a responsibility towards others increases with development and this process may be a key factor in separating youth on the brink of transitioning into adulthood from those who are more deeply entrenched in the emerging adult period.

As youth transition into adulthood they first go through a process in which they become concerned with establishing their independence and increased self-sufficiency, followed by a shift towards focusing on other individuals with whom they have developed significant relationships (Carroll et al., 2007). In Molgat’s (2007) investigation to determine the factors influencing young adults’ perceptions of having achieved adulthood, Responsibility towards others was found to be a critical feature of adulthood after increased autonomy from parents and financial independence. Further, respondents who identified having responsibility towards others included both career related responsibility (e.g., responsibility towards co-workers) and establishing a family (e.g., having a close relationship, living with a partner or having a child). Similarly, Nelson and Barry (2005) found that emerging adults who perceived themselves as adults were less focused on themselves, more family focused, and were able to identify the qualities in an ideal romantic partner. This literature supports conclusions regarding the process of becoming oriented towards others as an indication that one is shifting out of emerging adulthood and a feature that has significant influence on motivation to address concerning substance use.

4.3 Limitations and Directions for Future Research

There are several methodological limitations that are important to consider when interpreting the results of this study. First, we used a sample of treatment seeking youth that may
limit the generalizability of our study to other substance using populations (e.g., pre-continental youth, non-treatment seeking youth, youth who change on their own). The majority of emerging adults included in our sample indicated Identified motivation as underlying treatment entry, with few endorsing external coercion as a catalyst for treatment seeking. While it may be that our sample was primarily intrinsically motivated to seek treatment, is also likely that respondents underreported external coercion due to concerns that appearing unmotivated would influence the course of treatment and therapeutic relationship. Future investigations may wish to replicate our findings using a broader sample of emerging adults who have not accessed treatment.

Secondly, while the results suggest that feeling a sense of responsibility towards others may be important for both treatment motivation and motivation to change, these findings are based on data collected at a single time point and causality should not be assumed. For example, it is possible that a third variable can better account for the relationships detected. It may be that youth who are on the cusp of transitioning into adulthood become increasingly self-critical regarding their substance use behaviours as they establish their independent adult identities, values and beliefs. These more “mature” emerging adults may also be those who are more likely to enter committed relationships, an advanced emerging adult process. A longitudinal study that investigates youth as they evolve into adulthood can better clarify how these psychosocial transitions may relate to youth contemplation of substance use, movement through the stages of change, treatment seeking and engagement over time.

Similarly, our use of participants who are in the crux of the emerging adult period (i.e., range in age from 16 – 24) may account for the limited variability in some of the IDEA process scales and – via this restricted variability – for the fact that these scales did not predict the
motivation variables. A study comparing a broader age range of emerging adults (i.e., using a cross sectional or longitudinal design) seeking treatment for substance use would help to address this limitation by identifying relationships that may have gone undetected by the use of our methodology. Broadening the age range to include individuals up to age 30 (more recently conceptualized as the upper limit of emerging adulthood), may allow for greater response variability.

Future research can also consider a more fine-tuned investigation to determine whether mental health functioning can account for some of this study’s outcomes. It is possible that high scores on the IDEA scales reflect youth with greater overall mental health functioning (i.e., more optimistic, autonomous, etc.), and can account for findings suggesting that youth who are farther along developmentally (i.e., into emerging adulthood) are more motivated to change. The vast majority of this study’s sample reported significant difficulties with mental health, which was not found to relate to the psychosocial processes of adulthood or motivation. However, previous studies have found lower levels of psychiatric comorbidity to relate to higher motivation and treatment engagement in adult samples (Mertens & Weisner, 2000; Choi, Adams, MacMaster, Seiters, 2013). Future investigations using larger samples and incorporating measurement tools with greater sensitivity may allow for further exploration of the role of mental health functioning on emerging adult development and motivation. For example, individuals experiencing severe depression may be unmotivated as a result of their mental health symptoms rather than a reflection of their substance use or development. In contrast, youth who experiencing greater anxiety may be more motivated to seek treatment. Comparison of individual differences in diagnosis, mental health severity as well as diagnostic comorbidity may offer additional insights.
4.4 Treatment Implications

This study has provided additional insight into the psychosocial processes that are associated with motivation in emerging adults with problematic substance use, an important subgroup with unique treatment needs that differ from both adolescents and older adults (Mason & Lucey, 2003). At the forefront, this study illuminates the influential role youth relationships may have on encouraging motivation and substance use behaviour change. Integrating these findings with existing literature, we have theorized that emerging adults who are other-focused are most likely to be intrinsically motivated by their close peers and romantic relationships (Goodman et al., 2011). Thus, youth who have established stronger, emotionally supportive relationships in emerging adulthood may be more likely to reflect on their substance use and initiate change.

Treatment targeting youth during this developmental period can consider these findings to inform practice. Although youth in this cohort desire close relationships, aspects of youth mental health and substance use can impede their capacity to form and sustain close connections with others (Jivanjee, Kruzich, & Gordon, 2008). For example, symptoms of depression and anxiety can result in social isolation and limited motivation to nurture friendships and romantic partnerships. Intervention that focuses on youth interpersonal development may increase internal motivation such that youth may begin to reflect on how their substance use impacts these primary relationships. This may be particularly beneficial in supporting youth who arrive at treatment unmotivated to contemplate their substance use, but are interested in addressing interpersonal difficulties. Through these processes, youth may begin to consider how their substance use helps or hinders their ability to connect with others, which may be a useful gateway to encourage greater self-reflection regarding substance use more broadly.
In addition to individually based treatment, group intervention can promote these important interpersonal processes. By offering a forum to connect with youth who have had similar experiences, are facing emerging adult challenges, and are simultaneously working towards substance use goals, treatment programs can foster peer relationships where youth can develop a sense of interpersonal commitment. Youth entering treatment may also have existing relationships with peers and romantic partners to whom they feel accountable. In addition, some youth may feel a responsibility towards their parents or other family members, particularly as parental relationships become increasingly autonomy focused and companionate for many youth (Kins et al., 2009). When possible, involving individuals the youth identify as primary supports in the treatment process (i.e., welcoming them into sessions, providing psychoeducation regarding substance use and mental health) may further bolster motivation. This notion is supported by recent research demonstrating the impact of involving significant others in support of change on increasing change-talk in individuals with problematic alcohol use (Apodaca, Magill, Longabaugh, Jackson & Monti, 2013).

Taken together, our findings provide support for intervention programs that use a developmental treatment approach for emerging adults with substance use and mental health concerns. By recognizing youths’ evolving relationships as integral to the transition to adulthood, and supporting youth as they become increasingly oriented towards others, service providers can promote treatment engagement and substance use behavior change. Since treatment is constrained to a finite number of sessions and is contingent on sustained engagement, youths’ interpersonal relationships are in a position to motivate youth beyond their therapeutic involvement and can act as powerful long-terms agents of change.
Youth Perspectives on the Transition to Adulthood: Exploring the Impact of Problematic Substance Use and Treatment Seeking

Substance use and concurrent mental health disorders reach peak prevalence during emerging adulthood, a developmental period during which individuals’ treatment needs differ significantly from those of adolescents and adults (Blanco, et al., 2008; Davis, 2003; Sheidow et al., 2012; Substance Abuse and Mental Health Services Administration, 2008; Tanner, Reinherz, Beardslee, Fitzmaurice, Leis, & Berger, 20076; Davis, 2003). Although some experimentation with illicit drug and alcohol use is considered normative (Johnson, O’Malley, Bachman, & Schulenberg, 2005; Substance Abuse and Mental Health Service Administration [SAMHSA], 2008), substance use is most likely to become problematic (i.e., dependency) during the emerging adult period. Further, concerning substance use often accompanies significant mental health concerns in emerging adults (Armstrong & Costello, 2002): up to 48% of youth aged 18 – 25 with a diagnosed mental health condition report past year substance use, 36% of whom meet criteria for a substance use disorder (National Survey on Drug Use and Health [NSDUH]; SAMHSA, 2003).

Adding to these bleak statistics, emerging adults (also termed transition-age youth) are the least likely to engage in treatment and demonstrate the poorest outcomes in response to substance use intervention when compared to other age groups (Satre, Mertens, Arean & Weisner, 2003; 2004; Smith, Godley, Godley, & Dennis, 2011). Although youth over 18 may meet the chronological age requirements for adult services, many do not yet have the psycho-social maturity to benefit from adult treatment programs (Osgood, Foster & Courtney, 2010). Further, these youth present unique challenges to service providers as existing treatment does not
often consider the developmental needs coinciding with the transitional period (Smith et al., 2011). To date, substance use and mental health support that meets the specific needs of emerging adults is extremely limited and best practice guidelines for service provision remain largely undetermined (Canadian Centre on Substance Abuse, 2007; Osgood et al., 2010).

1.1 What is Emerging Adulthood?

Emerging adulthood is most widely conceptualized as the developmental period following adolescence during which youth are in transition towards adulthood (Arnett, 2001, 2004, 2005). This period occurs while youth are roughly between the ages of 18 and 25 (and for some, extends up to age 29) and is characterized by life course changes and psychological processes that differ from other developmental stages. Many emerging adults experience increased autonomy and greater access to adult behaviors (e.g., reaching the legal drinking age) accompanied by decreased dependence on both individuals and organizations on which they formerly depended (e.g., parents/families of origin, mandatory schooling, child welfare) (Arnett, 1998; 2004; Bachman, Johnston, O’Malley & Schulenberg, 2006). Emerging adulthood is also regarded as a period of increased possibility and optimism as youth explore multiple academic and vocational interests, encounter new peers with whom to establish friendships and romantic relationships, and make independent decisions and experiment with new worldviews: a process through which they establish their adult identities (Arnett, 2000; 2004; Cote, 1996). No longer are youth expected to follow a typical trajectory that involves completing high school, immediately entering the workforce or higher education, and soon after seeking to establish a long term marital relationship (Arnett 2001; Arnett, 2005; Tanner, 2012). Rather, the possibilities are boundless as youth explore multiple and diverse pathways towards adulthood.
When asked whether they have reached adulthood, emerging adults most often feel “in between”, and will respond that they “sometimes” feel adult while at other times they do not (Arnett, 2001; Arnett, 2004; Nelson & Barry, 2005). This reflects the transitional nature of the period, during which most emerging adults recognize that they are no longer adolescents, but also not quite adults. It is not until youth are in their late twenties to early thirties that the majority will consider themselves fully adult (Arnett, 1997, 2000; Nelson, 2003). As a result of the new responsibilities, increased independent decision-making and feeling of being “in between” that are characteristic of the period, most youth experience some anxiety and uncertainty during this transitional period (Arnett, 2005; other source). Although moderate feelings of instability are typical, a subset of youth experience significant difficulties with mental health and substance use that may interfere with their successful transition to adulthood. Understanding how youth conceptualize adulthood may offer important insight into youth developmental processes and how to best support youth as they navigating the challenges associated with the transition to adulthood.

1.2 Adulthood Criteria

Using historical, anthropological and sociological data in combination with quantitative and qualitative empirical investigations with emerging adults, investigators have identified multiple criteria on which emerging adults base their perceptions of ‘adulthood’ (Arnett, 1997, 2000, 2001, Nelson & Barry, 2005, Molgat, 2007). These experiences and processes include those related to youth’s experience of independence (i.e., financial independence, independent living), interdependence (e.g., committed to long-term love relationship, greater consideration for others), role transitions (e.g., finishing education, having a child), norm compliance (e.g., avoiding becoming drunk, avoiding petty crimes), biological transitions (e.g., grow to full height,
capable of childbearing), chronological transitions (reached age 18, having a driver’s license),
and family capacities (e.g., becoming capable of supporting a family financially, capable of
keeping a family physically safe) (Arnett, 1994, 1997, 1998, 2001; Barry, Madsen, Nelson,
Carroll, & Badger, 2009; Nelson & Barry, 2005). Across numerous studies, emerging adults
have consistently identified characteristics related to individualism and self-sufficiency as critical
markers of adulthood, with the specific qualities of accepting responsibility for one’s self,
making independent decisions, and financial independence at the forefront (Arnett, 1997, 1998;
Green, Wheatley, & Aldava, 1992; Molgat, 2007; Scheer, & Palkovitz, 1994). Secondary to
these criteria, emerging adult subgroups have emphasized interdependence (i.e., entering a long
term partnership) and objective life course role transitions (i.e., becoming employed) as salient
criteria; however their order of importance varies depending on sample characteristics (i.e., age,
socioeconomic status, ethnicity) (Arnett, 1994, 1997, 2003; 2004; Plug, Zeijl, & Du Bois-
Reymond, 2003; Westberg, 2004). For example, emerging adults from lower socio-economic
subgroups have been found to perceive adulthood in terms of adult-related accomplishments
(e.g., starting a family, getting a job), whereas those from higher socioeconomic subgroups tend
to emphasize individual development (i.e., increased independence) (Plug et al., 2003).

1.3 Investigating Perceived Adulthood in Treatment Seeking Youth

Although several investigators have examined how youth in both community and
university samples conceptualize adulthood (Barry, Madsen, Nelson, Carroll, Badger, 2009; Plug
et al., 2003; Arnett, 1994; 1997; 1998; 2001; 2004), researchers have not yet considered the
perspectives of a clinical sample of emerging adults with substance use concerns. Information
derived from this specific subgroup may be imperative for service providers working with this
population, as current approaches are grounded in knowledge of a broad emerging adulthood population and may not adequately consider the needs of youth with more complex needs.

Whereas emerging adults are generally at increased risk for substance use, those who are already experiencing substance use problems by the time they have reached emerging adulthood are more likely to encounter a greater number of challenges as they move into adulthood. In addition to the negative impact of problematic substance use, these youth frequently experience one or more environmental, individual or interpersonal stressors which can impede effective adult functioning and/or their successful acquisition of adult roles and responsibilities (Arthur, Hawkins, Pollar, Catalano & Baglioni, 2002; Kendler, Bulik, Silberg, Hettema, Myers & Prescott, 2000; Nelson et al, 2002; Rutter, Giller, & Hagell, 1998; White & Jackson, 2012). For example, emerging adults with substance use problems have higher rates of serious emotional and behavioural problems, legal problems, and are at an increased risk for experiencing a number of potentially traumatic events, such as violence and victimization, than other emerging adults. Further, these youth are more likely to be involved with peers who have come into conflict with the law and/or use illicit substances and to come from highly discordant families who may be unwilling or unable to offer effective support (Carmona, Barros, Tobar, Canobra, & Montequin, 2008; Conger, Ge, Elder, Lorenz & Simons, 1994; Cunningham & Randal, 2003). Consequently, youth with problematic substance use are vulnerable to experiencing poor adult functioning across domains including low rates of educational attainment, high unemployment, and difficulty establishing financial and residential independence into adulthood (Armstrong, Dedrick & Greenbaum, 2003; Federation of Families, 2001: Vander Stoep, Davis & Collins, 2000; Jivanjee, Kruzich & Gordon, 2008, 2009).
In addition to the numerous risk factors that can account for poor youth outcomes into adulthood, emerging adults are also less likely to access substance use and/or mental health treatment when compared to other age groups (Blanco et al., 2008). Moreover, those who do initiate treatment often have lower motivation, are less engaged in the treatment process than older adults (Chan, Dennis & Funk, 2008; DiClemente, Doyle, & Donovan, 2009; Mason & Luckey, 2003) and very few experience long-term gains (Satre, Mertens, Arean & Wisner, 2003, 2004; Smith, Godley, Godley, & Dennis, 2011).

1.4 The Present Study

In response to these discouraging outcomes, service providers -- and more recently, researchers and policy makers -- have advocated establishing an evidence base of effective approaches to assessment and intervention for emerging adults (Davis, 2003; Osgood et al., 2010; Smith et al., 2011). Further, in Canada, both provincial and federal initiatives have included a call to action that highlights the urgent need for increased attention to the issue of substance use and mental health in youth (Canadian Center on Substance Abuse CCSA, 2007; Mental Health Commission of Canada, 2009). To date, however, this author is unaware of any work that addresses whether Arnett’s (2000, 2004, 2005) characterization of emerging adulthood is applicable to this at-risk group. Understanding how emerging adults with substance use concerns conceptualize their path towards adulthood and the factors that youth themselves consider important criteria may be a critical first step in informing service provision, particularly for understanding how to best motivate and support this population. Thus, the present study seeks to explore the following research questions: 1) How do youth with substance use concerns perceive their developmental status during the transition to adulthood? 2) Are the criteria for adulthood established with a general emerging adult population also identified as important by
youth with substance use concerns? and 3) Do youth perceive their substance use and/or treatment seeking as related to their perception of their developmental status?

This study seeks to answer the above research questions using a deductive analytic approach to determine whether a clinical sample of emerging adults with substance use and mental health concerns conceptualize adulthood using similar theoretical criteria as the broader youth population. Quantitative results generated from the first research question describe where youth with substance use concerns identify themselves on a trajectory towards adulthood. The remaining research questions are explored through qualitative analyses using data gathered from youth interviews and by integrating descriptive demographic data whenever appropriate to further illuminate emergent themes. Seeking to refine existing theory, this confirmatory methodological approach examines whether existing emerging adult phenomena are applicable for this critical subgroup and will offer an in depth exploration of the phenomena that underlie youth’s subjective experience of adulthood. In addition, by exploring the ways in which substance use and related behaviors may intersect with youth transition into adulthood, the results will offer new perspectives with implications for service delivery for these youth with complex clinical needs.

Method

2.1 Participants

The sample consisted of 31 participants (16 females, 14 males and 1 participant who did not indicate their gender on the demographics form) involved in a youth substance abuse treatment program at a large addictions and mental health facility in Toronto, Canada. Youth ranged in age from 17 to 25, with a mean age of 20.8 (SD = 2.4). The majority of participants identified as Caucasian/European (n = 24, 77.4 %), with 19.3% (n = 6) identifying as another
ethnicity (Chinese, Filipino, South Asian, Other), and one unknown. Twenty-nine individuals (93.5%) indicated that English was their first language. The majority of youth reported residing with their parents (71.0%), with 16.1% living alone, 6.5% sharing a residence with peer roommates, and 3.2% living in supportive or transitional housing. Youth were also asked to identify the substance or behaviour that was most concerning to them and were provided with the option of indicating up to five additional concerns. Most youth indicated either cannabis (38.7%, n = 12) or alcohol (32.3%, n = 10) as their substance of primary concern. Other youth indicated cocaine (9.7%), heroin (6.5%), and opiates (3.2%). Just under half of the sample 48.4% (n = 16) identified concerns with mental health (i.e., anxiety, social anxiety, mood, depression, anger management, bipolar disorder) in addition to at least one substance; 40% indicated concerns with more than one substance. Participants attended at least weekly outpatient services (e.g., meeting with a clinician individually, or participating in group treatment); 29% were involved in intensive full-time day treatment (n=4) or summer day treatment programs (n=5).

2.2 Procedure

Youth who had provided consent to be contacted to participate in relevant research initiatives at the mental health facility were approached between May and August 2012 to participate in the interview. Letters of consent outlining the purpose and procedures of the study were reviewed with youth and written consent for participation was obtained. Participants completed a short substance use questionnaire, a demographic survey and a 90 minute semi-structured interview with the overarching purpose of understanding substance use and mental health treatment seeking processes among emerging adults; as an expression of appreciation, participants received a $20 gift card. All procedures were reviewed and approved by the hospital Research Ethics Board. Analyses reported in the present study are based on a subset of interview
questions designed to elicit emerging adults’ perspectives on their developmental status, criteria for adulthood in general, and whether and how their substance use related to the transition to adulthood. Four main questions with additional probes were used to gather this information: 1) Do you think you’ve reached adulthood? a) Yes; b) No; c) Sometimes Yes, Sometimes No. Participants were asked to elaborate on their responses by indicating Why?/Why not? In addition, to elicit further elaboration, and regardless of their initial response, youth were prompted by two probes: “in what ways do you think you’re an adult?” and “in what ways are you not an adult?” 2) How will you know when you’re an adult? 3) Is there someone in your social group who you perceive as being more adult-like? Explain. 4) Is there a connection between your substance use and becoming an adult? How do they fit together?

Interviews were recorded and transcribed, and transcripts were organized and analyzed using NVivo 10, a qualitative analysis software program (QSR International, 2013). During the first stage of the coding process, two of the study’s investigators independently analyzed 10 interview transcripts to identify primary themes and subthemes. Responses that coincided with known criteria for adulthood were coded using a preliminary thematic structure informed by existing literature (Arnett, 1994, 1997, 1998, 2001; Nelson & Barry, 2005). Additional ideas and themes derived from participants’ responses were highlighted as they emerged and codes were established accordingly.

To prepare for the second coding stage, the researchers met to discuss their findings and agreement among coders was compared on a quote-by-quote basis. Discrepancies in codes were discussed in order to establish an agreed upon coding scheme to capture the range of youth perspectives represented in the transcripts. After discussion, another six transcripts were independently analyzed using the coding system generated in initial meetings; additional codes
were identified as they emerged through analyses. Inter-coder agreement on this set of transcripts was 92%; again, disagreements were discussed and resolved. The first author coded the remaining 15 transcripts independently. Using NVivo software, a list of all individual quotations (phrases or sentences) coded into each category and subcategory were examined multiple times, and notes were taken to summarize the ideas represented within each theme. Specific statements were selected from each category to reflect a typical youth response and are included in the findings. To further illuminate the salience of the content generated by participants, the percentage of youth who expressed each major theme was calculated and are included in the results section. In the following section, findings are discussed according to the research questions identified previously.

Results

3.1 How Do Youth Conceptualize their Developmental Status?

Almost two thirds of participants (N=20) responded “sometimes yes and sometimes no” when asked whether they perceived themselves to have reached adulthood; 4 youth responded in the negative, indicating that they were not at all yet an adult and 7 youth responded in the affirmative, indicative of their belief that they had completely transitioned into adulthood. When asked to explain their developmental location, most youth noted being adult in one or more life domains while at the same time feeling “young,” “immature”, “not adult” and/ or “childlike” in other areas. Additional questions and probes outlined in the methods section were used to understand how youth conceptualized adulthood in general as well as to ascertain their perceptions of their own location on the developmental continuum.
3.2 Critical Criteria for Achieved Adulthood.

Two broad themes emerged, each with multiple subthemes as youth described the reasons underlying their developmental perception and the critical criteria necessary for adulthood. The majority of responses were coded as relating to either 1) individualism and independence or 2) role transitions. Three additional specific criteria emerged not under either of these two broad themes: interdependence, chronological transitions, and norm compliance and adult behaviour (See Table 12).
<table>
<thead>
<tr>
<th>Theme</th>
<th>Subtheme</th>
<th>Example</th>
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| Individualism and Independence            |                                              | “I try to support myself, live on my own and no one takes care of me”  
“Everything is my own problem. I don’t fall back on anyone anymore...being an adult is being fully independent and dealing with your own issues.” |
| Self Care                                 |                                              | “I’m seeking therapists and all that, I’m trying to fix my mental health problems”  
“when I’m [an adult] I’ll be doing my own laundry, cooking my own food...”                                                                                                                                  |
| Financial and living independence         |                                              | “I haven’t had anything handed down to me. I’ve managed all my finances... that seems like adulthood.”                                                                                                                                                                     |
| Beliefs and values                        |                                              | “Having independent thinking and independent rules and stuff like that.”                                                                                                                                                                                                |
| Accepting responsibility and mature decision making |                                              | “I’ve grown up having to get clean and face issues as to why I was using”  
“I’m choosing not to drink, and I’m taking responsibility for my problems”                                                                                                                                                                                            |
| Role Transitions                          | Employment                                   | “I don’t think I’m fully an adult...right now, for example, I’m not working.”  
“having a regular job, having a career...having a job that pays more than minimum wage.”                                                                                                                                                                       |
|                                           | Education                                    | “Move out, go to university...doing real school, living in another city and starting an independent life.”                                                                                                                                                              |
|                                           | Establishing a family                        | “I think when I have my first child. I think that will be when it hits.”                                                                                                                                                                                             |
| Interdependence                           |                                              | “I’m immature when it comes to romantic relationships. I’ve only ever known hookups...I’ve never had a real relationship and I think that’s an adult like thing to do.”                                                                                                           |
| Chronological Transitions                 |                                              | “Legally I am [an adult] and I can buy my own alcohol.”  
“When I turn 18.”                                                                                                                                                                                                                                                  |
| Norm Compliance and Adult Behaviour       |                                              | “I’ve grown past the youthful behaviour that most of my peers still participate in...going out, using, partying, things like that.”                                                                                                                                 |
|                                           |                                              | “They are still selling drugs. That’s not adult behaviour.”                                                                                                                                                                                                                           |
3.21 Individualism and Independence

Respondents overwhelmingly referred to criteria related to independence and self-sufficiency as critical for adulthood. Twenty-seven participants (87%) mentioned criteria in this domain as either a reason they considered themselves to be adult or, for most youth, as an area that needed to change for achieving adulthood. For example, when asked to explain why she did not yet consider herself adult one youth explained:

I still feel like I’m dependent on the people around me. I feel like I’m dependent on my teachers, for example, to get me where I need to go or my parents to finance me… I still feel like there are adults who are influencing my life, to the point where I feel like I’m still not there yet.

Within the independence domain, several specific, yet interconnected, subthemes emerged. Youth described needing to gain increased control over their own lives, whether defined as relying on parents less, taking better personal care of themselves, desiring financial independence, or moving out of the family home to live independently or with peers. These are described in detail below.

Self-Care. Just over half of the youth connected depending on their parents for support with day-to-day personal care as a hindrance to their identification with adulthood. Youth reflected on the numerous daily self-care activities (e.g., chores, laundry, cooking, cleaning, groceries etc.) for which they relied on their parents and anticipated that the eventual assumption of these responsibilities would make a difference in how they perceive themselves. For example, one young man stated:

…Just the fact that my mom still does my laundry (laughs) and those kinds of things. My mom complains about that a lot. I definitely have got to take control of some of those things, especially if I’m going to move out. That’s another reason why I think that [I’m not an adult]; it’s a really necessary thing for me to do to grow up.
The few youth who already perceived themselves as adults also reasoned that self-reliance was a critical factor for their progression into adulthood. Interestingly, these youth described taking responsibility for their health and mental health in addition to daily self-care. Specifically, they referred to making changes to their substance use, initiating treatment appointments, and deciding to attend and follow through with treatment as adult behaviour. For example, one youth stated:

I’m choosing to not drink and I’m taking responsibility for my problems. I’m seeking therapists and all that. I’m trying to, you know, fix my mental health problems. I feel like that’s a responsible and adult-like thing to do.

Financial Independence and Independent Living. Within the subthemes that emerged in the larger independence domain, almost all participants identified financial independence as a criterion that is crucial for adulthood. Recognizing the importance of this domain, youth who continued to at least partially rely on their parents for monetary support reflected on this financial dependency as interfering with their self-perception of adulthood. Youth also described the financial insecurity and dependency on others that resulted from their substance use as interfering with their transition into adulthood. For example, youth reflected on the financial consequences of frequent and/or prolonged substance use such as spending a significant portion of one’s income on substance use or related recreational activities, or depending heavily on family and/or peers to provide the financial means to obtain substances. One youth in his mid 20s described how his substance use had carried significant consequences for his financial independence and had set him off course:

Between a year and a half ago to maybe two and a half years ago, I was doing really well for myself and could have bought lots of things but I bought lots of drugs instead. I was basically supporting myself a lot more than I am now.
Youth tended to consider financial independence as an intermediate step that leads to many of the other milestones necessary for adulthood (e.g., independent living, establishing a family). Indeed, over half of the youth remarked that living independently from one’s parents was its own adulthood benchmark that was usually seen as conditional on establishing financial autonomy. Despite their perception of independent living as a necessary marker for adulthood, demographic data revealed that most youth had not yet achieved this milestone: less than one quarter of participants lived on their own or with peers and almost three quarters (71%) endorsed residing with their parents at the time of the interview.

**Independent Beliefs and Values: Adult Thinking.** Youth referred to developing more adult or independent beliefs or values that differed from their younger “childish” ways of thinking or from “immature” same-aged peers who they believed they had surpassed developmentally. This theme emerged most often when youth described their adult-like attributes, which included new ways of understanding personal and social circumstances, experiencing life events that led to enlightened thinking, being less naïve to the realities of adult life, and behaving according to individual values as opposed to peer or social expectations. Many of these youth indicated these “adult” perspectives were a direct result of their experiences with substance use and/or the behaviour change process. One young woman who had completed a residential treatment program and was abstaining from substances at the time of the interview reflected on the life experience she gained as a result of using substances:

> Without using, I wouldn’t have met the same kind of people that I’ve met and been in the same kind of situations, had the same learning experiences, so yeah…I just find that people who use and people who don’t use have different perspectives on life, and sometimes it’s easier to get a broader perspective when you’ve been around people who use…
Other youth described their experiences of addressing their substance use and seeking professional supports as catalysts for developing adult ways of thinking and new insights. One youth explained:

I feel that I’m more mature than a lot of people that are my age. I feel that because I’ve been through so many different therapy programs that I have, definitely, at least a better understanding of substance abuse and mental health issues. So in that respect I feel like I’m an adult because I have absorbed so much information, and I feel like I’ve grown, applied it to my life.

Accepting Responsibility and Mature Decision Making. Additional individualistic criteria repeatedly identified in the emerging adulthood research literature as necessary for adulthood are the qualities of accepting responsibility for one’s actions and, relatedly, making autonomous decisions. These features also emerged throughout youth interviews; however, respondents who mentioned these criteria tended to specifically refer to accepting responsibility for actions related to their substance use and making decisions to change these behaviours in connection with their definition of adulthood. Youth who had already made significant behaviour changes tended to be those who also spoke about how their substance use had contributed to their difficulties transitioning into adulthood. Illustrating this point, one youth stated:

When I was using, I was more childish and I cared less so…I wasn’t as mature when it came to decision-making and seeing actions to my consequences and consequences to my actions.

Youth also referred to their thinking more broadly to include being more “rational” and “level headed” prior to making “mature” decisions as a criterion for adulthood. Several youth spoke about being close to, but not yet reaching, adulthood due to their continued work towards their change goals or as a result of relapsing after a period of prolonged change. Others referred directly to their decision to make changes to their substance use or as seeking treatment as the ways in which they perceived themselves as adult.
3.22 Role Transitions

In addition to the subjective adult experience related to individualism and independence, over three quarters of participants (77%) anticipated that going through, or achieving, at least one adult marker or role transition was necessary to consider oneself an adult. Youth mentioned role transition domains related to their career, education, marital status, and parenting.

*Employment.* Given the strong endorsement of financial independence as critical for adulthood described earlier, it is not surprising that establishing a long term career that allows for financial stability was the most frequently mentioned transition marker that youth equated with adulthood. Rather than desiring any form of employment, youth identified that having a “real job” and maintaining it would precede the experience of financial security that they believed was necessary for adulthood. One youth commented:

Being financially independent, having a, a regular job, having a -- a career. Maybe not necessarily the job I want *per se*, but having a job that pays more than minimum wage, yeah, is when I’ll feel really on my own and independent.

*Education.* Although not as frequently identified as career related transitions, youth described a desire to complete their education or pursue additional schooling, which they attributed as part of the transition to adulthood. Slightly more than a third of participants indicated they were in school at the time of the interview, and half of these youth were completing high school through courses offered in a substance use day treatment program. Interestingly, it was those youth who had not yet attained their education-related goals (i.e., had not yet completed high school or, if desired, postsecondary education) who identified this domain as an important adult marker; however, those who were studying or had already completed their schooling did not tend to express this adult criterion. Education-related themes emerged alongside the career and financial independence domains such that these youth
mentioned the pursuit of education as a stepping-stone towards a long-term career with an ultimate goal of financial security. Thus, regardless of whether youth indicated education-related goals, gaining employment and working towards financial self-sufficiency were the dominant themes that emerged as necessary for a full transition into adulthood.

Establishing a Family (marriage and children). Beyond career and education, a small subgroup of participants (n=6) indicated that marital- and family-related transitions were necessary criteria for adulthood. Whenever mentioned, family markers were rarely elaborated on and were listed within a more general list of adult criteria (e.g., “when I have a job, a career, a family”). For some young people, these markers were listed with or linked to other more critical criteria such as having greater responsibilities or generally shifting priorities. One young woman anticipated that she would become an adult when her “priorities aren’t getting f***ed up as opposed to …wanting to have a family and things like that.” Despite recognition of these domains, family-related role transitions was a secondary theme to the more central adult achievements discussed above.

3.23 Other Salient Criteria

Although very few youth identified traditional family-related milestones such as marriage and children as crucial criteria, several participants conveyed their association of establishing relationships -- and interdependence more broadly -- with achieving adulthood. Youth described difficulties forming primary relationships such as close friendships and intimate romantic relationships due to poor social skills, and expressed that is was difficult to envision themselves in long-term romantic partnerships in the future (e.g., making long term or lifelong commitments through cohabitation or marriage). The few youth who did comment on forming romantic connections noted feeling less adult-like due to never having experienced a “real” relationship
based on more than casual encounters. These youth considered their struggles connecting with others as indicative of social immaturity and saw these limitations as interfering with their achievement of adulthood. For example, one youth stated:

I definitely am extremely immature when it comes to romantic relationships. I’ve only ever known hook ups and …maybe dating for a few weeks. I’ve never had a real relationship and I think that that’s an adult thing. So in that respect I don’t feel like an adult. I don’t feel like…I’m mature in terms of relationships. In terms of friendships I think the same thing goes. I’ve messed a lot of them up. I feel like I’ve been overly dependent on friends in the past and that’s kind of smothered or destroyed the relationship so I feel like I’m immature in interpersonal relationships.

**Chronological Transitions.** Chronological transitions, such as ‘legal adulthood’ and age-related markers, were repeatedly identified as important criteria. Youth who responded that they did **not** at all consider themselves to be an adult noted this domain as one of the only reasons they believed they had achieved adulthood (e.g., “because the law says so”). These tended to be the younger youth in the sample; most had not yet completed high school and mentioned achieving very few of the other adult criteria previously described. Several youth noted that while they may have legally achieved adulthood, they were not perceived by others to be an adult and thus did not identify with it:

I guess I should [think of myself as an adult], but I don’t know. I just feel like a teenager still, I’m still 19. I don’t really feel like an adult. Nobody thinks I’m adult, so that’s another reason.

As illustrated above, these youth tended to define adulthood almost exclusively in terms of external markers (i.e., legal status, others’ perception), rather than any internal identification with the adulthood stage.

**Norm Compliance and Adult Behaviour.** Consistent with a broader conceptualization of adulthood in the emerging adulthood literature, behaviours related to social norms emerged as an adulthood theme. However, norm compliance was raised nearly exclusively in conjunction with
participants’ current or past substance use behaviours. Youth anticipated that their frequent or heavy substance use would eventually need to change in order to comply with adult roles and responsibilities. One youth noted, “you can’t be like 40 years old and stoned every single day and doing nothing with your life ’cause that’s, like, not normal in society.” Further, several youth noted that while some substance use is normative in adolescence and during the transition to adulthood, it is no longer conventionally acceptable in adulthood. One young woman expressed:

I know that right now I feel like the reason I’m okay with weekend drinking is because I know it’s socially acceptable for people my age to just go out every weekend and drink and stuff. But I mean, as you get older, I don’t think it’s quite so socially acceptable.

Although a number of youth considered their behaviours in relation to social norms, the majority described behaving responsibly as a critical feature of adulthood. Youth expressed adult-like, “mature” behaviour across multiple contexts such as addressing interpersonal conflict, behaving professionally at work, staying in control of one’s emotions, being able to communicate well with others, and taking on adult roles and responsibilities. Youth also reflected on their “childish” or “immature” behaviours including acting “goofy” and “silly”, engaging in childish recreation (e.g., attending amusement parks, pulling pranks), “partying” frequently, having numerous sexual partners, general stubbornness, behaving selfishly, purposely skipping classes at school, arguing with siblings and impulsive spending.

3.3 Substance Use and the Achievement of Adulthood.

While most youth spontaneously referred to their substance use and related behaviours when asked about their general perception of adulthood, youth were also asked specifically whether they perceived their substance use as connected to their achievement of adulthood; 77% responded in the affirmative. Youth described their substance use as interfering with one or more
of the adult domains – most commonly independence, achieving life goals, and general
motivation – that they identified as critical for their anticipated transition into adulthood. When
asked this final question, one youth responded “Yeah basically [using substances] is just making
you more ok with things not getting to where you want. Not progressing or not being at the point
that you’d like it to be.” Another 25 year old young woman described how her long term struggle
with substance abuse perpetuated behaviours that prevented her from feeling fully adult: “I mean
the more I use, the more I’m giving into this child, I guess. The more likely I am to do the things
that are going to set me back and it just causes me so much more pain.” Youth who had not yet
altered their substance use expressed their hopes and expectations to benefit from eventual
changes to their behaviour. For example one youth anticipated:

If I got all my sh*t together I can actually live on my own and not have to worry if
I’m going to f**k things up or if I’m going to have to give up my place, or if I think
I’m going to lose my job at any moment or something like that.

Similarly, youth who had made significant changes to their substance use perceived their
transition into adulthood (e.g., both the psychological experience as well as objective markers of
adulthood) as coinciding with their change process. Illustrating these ideas, one young man who
had been abstinent from all substances except cannabis for over one year commented:

When I was using I would definitely say I was more of a child because I was
dependent on a drug and children are dependent on something, right. Whereas now,
I’m not dependent on it anymore, I’m more independent, which means that I’m more
adult and I’ve had to go through all these things and learn all these life lessons, so
yes I would say that it’s related.

3.3.1 Controlled Substance Use

Youth expressed that their substance use related to their developmental stage but also that
substance use would need to change as they progressed into adulthood. Overall, youth identified
being in control of one’s substance use as an adult feature. Several equated their difficulty setting
limits on their substance use as “childlike” and discordant with adulthood. A young woman who indicated that she had not yet reached adulthood remarked, “If you are an adult, and you have a liquor cabinet, you’re not just scouring it and taking a drink all the time, you know it’s there. I don’t think I can do that right now.”

Although many youth expressed that they would decrease their substance use by reducing the quantity or using less frequently in adulthood, most did not envision themselves abstaining. Rather, youth expressed their belief that moderate substance use is most congruent with adult behaviour and referred to “cutting back” or “cutting out” some, but not all, substances. One youth conveyed this perspective and expressed:

Oh one thing that I really associate with adulthood is drinking in moderation, so one thing that my friends and I say now when we go out is…”oh we are such adults now, look at us drinking wine and eating” and yeah that’s definitely…So alcohol in moderation and being choosy about your alcohol.

3.32 Controlled Mental Health

Although interview questions were generated in order to understand emerging adults’ perspectives on their substance use specifically, youth also reflected on how their mental health related to their developmental process. Just under half of the participants touched on this theme, most describing their mental health symptoms as keeping them “stuck” in adolescence or held back from reaching adulthood. One young woman described having intrusive thoughts that interfered significantly with her self-perception:

I’m too focused on my own thoughts. I let them take reign over my life and I guess that doesn’t help at all with my life…I’m too self destructive to be an adult….Not living as a person should generally be living.

Similar to the way in which youth described the relationship between adulthood and substance use, participants expressed feeling a lack of control over their mental health, which they referred to as feeling “weak”, “small”, “stunted” and “childlike.” In contrast, youth who had
sought support for their mental health functioning and experienced gains described feeling “level headed”, “rational” and “in control”: mental states that these youth likened with adulthood. One youth described her changed self-perception as she addressed her difficulties with anxiety:

I am not super anxious anymore, you know, and it’s like a time that it is not there anymore and I associate my anxiety with childhood because it felt really like … claustrophobic and diminutive, like small and …I didn’t feel like I had a place in the world. So yes I feel like an adult now.

**Discussion**

Emerging adults with substance use and concurrent mental health disorders are vulnerable to a number of challenges as they transition into adulthood including low levels of educational attainment, high rates of unemployment, frictional familial and peer relationships, and low rates of independent living (Armstrong et al., 2003; Federation of Families, 2001; Jivanjee, Kruzich & Gordon, 2009; Vander Stoep et al., 2000). The purpose of this study was to explore how emerging adults who are seeking treatment for substance use with or without concurrent disorders conceptualize the transition to adulthood, and to better understand how youth perceive their trajectories during this vulnerable period of development. Consistent with numerous studies investigating youth self-perception of adulthood (Arnett 1997, 2001, Nelson, 2003), the overwhelming majority of participants identified their experience of being “in between,” having progressed past adolescence but not yet emerging fully into adulthood (Arnett, 2004). Thematic analyses revealed that when asked to provide a rationale for their self-perception of adulthood, youth recognized criteria that coincide with the domains identified in studies investigating broader community samples of emerging adults. Participants referred to independence and self-sufficiency as well as identifying specific role-related markers of adulthood, chronological milestones, qualities of interdependence, and adult norms and behaviours. Findings reveal that while treatment-seeking youth used a similar framework for
understanding adulthood as youth from the general population (Arnett, 2004), in many ways their transition experiences were unique and related to their substance use and mental health concerns.

4.1 Substance Use in the Context of Establishing Independence

Participants emphasized a subjective experience of independence as the most salient quality necessary for adulthood, and a goal towards which most participants aimed. Youth described the processes of becoming autonomous and self-reliant as achieved through numerous and diverse pathways that differed for each individual (e.g., decreased family dependency for daily activities, financial self reliance, establishing independent attitudes and beliefs). These findings are congruent with the emerging adult criteria determined with the broader population of transition aged youth period (Arnett, 2004).

While experiences of independence and self-sufficiency are increasingly important for youth at large, how individuals acquire these psychological states depends on individual youth experience. Our results suggest that for youth with substance use concerns, substance use and treatment seeking are significantly related to the perception of independence. Youth described identifying personal consequences of their substance use (accepting responsibility), arriving at new insights and knowledge (independent beliefs and values), making decisions to change (mature decision making) and/or seek treatment (self care) for their mental health and substance use as indicators of independence: processes youth associated with adulthood. Despite the emphasis participants placed on substance use change as it relates to independence in adulthood, very few studies investigating emerging adults have identified substance use as an integral part of the transitional process. When substance use has been considered within existing frameworks, it is typically conceptualized as a form of norm compliance such as avoiding drunk driving and
avoiding illegal drug use – behaviours that are considered alongside unrelated prudential and conventional criteria such as ‘driving safely’, ‘avoiding use of profanity’, ‘using contraception’, and ‘avoiding committing petty crimes’ (Arnett, 2004; Barry et al., Madsen, Nelson, Carroll & Badger, 2009; Nelson & Barry, 2005). The youth in our study placed greater emphasis on restricting substance use as a form of norm compliance. The youth anticipated the potential social consequences that may accompany long-term use: many participants reflected on their frequent and/or heavy substance use as unsustainable in the long term and incongruent with societal expectations of adulthood. Identifying this discrepancy between substance use and youth conceptualization of adult values may be particularly motivating for youth who perceive their transition to adulthood as imminent.

The results of the present study suggest that when conceptualizing adulthood, substance use and related experiences hold more weight for youth involved in treatment for substance use problems than for those in the broader emerging adult population. Further, the processes of change, such as reflecting on one’s substance use and considering decreasing substance use and/or treatment seeking, may be important variables in these youths’ progression towards adulthood. It is conceivable that through reflecting on their change experiences, youth perceive the new thoughts, feelings and behaviours associated with change as ‘adult-like’: markers of independence that signify progress towards adulthood. Alternatively, those youth who already experience themselves as independent outside of their substance use experiences may be more likely to pinpoint their change-related occurrences as characteristic of adulthood. Regardless of the interpretation, these results suggest that youths’ understanding of their independence is augmented by substance use change-related decisions and accompanying insights, which in turn, may bolster their pathway towards adulthood.
4.2 A ‘Role’ for Role Transitions

Beyond independence criteria, emerging adults reported a number of transition ‘events’ as integral criteria for adulthood. Most youth equated education- and career-related role transitions as underlying their eventual achievement of adulthood. Although role transitions are important criteria, they are closely linked to youth’s experience of autonomy and independence. In his study of older emerging adults (age 25-29), Molgat (2007) found that specific life-course events were central components of the transition process, acting as concrete indicators confirming an individual’s subjective experience of adulthood. While achieving role transitions (e.g., selecting a career path, deciding to return to school, entering a long term partnership) can lead to greater independence, having a strong sense of one’s independence (i.e., autonomous decision making, established independent beliefs) may also be necessary to progress through these life course milestones. Thus the two domains can act as a powerful feedback loop propelling an individual towards adulthood.

The relationship between achieving role transitions and experience of independence was also reflected in our analyses such that youth anticipated that they could concretely determine that they had reached adulthood once achieving employment milestones (i.e., full time, consistent, and/or well paid), completing schooling, and establishing a family in addition to “being independent” more generally. Moreover, career and education milestones were repeatedly identified by youth as necessary for financial autonomy, the most frequently mentioned independence indicator identified by youth and the third pillar of adult status (after accepting responsibility for oneself and making independent decisions) according to Arnett’s work (2004).

Regardless of whether role transitions are directly related to youth’s experience of adulthood or indirectly foster one’s subjective adult experience of independence, youth evaluated
their adult status as dependent on whether these life events had occurred. This is particularly noteworthy given the prevalence of poor educational and occupational outcomes for youth with problematic substance use. Within our sample, a significant number of participants had not completed or advanced beyond high school and most youth described struggling to obtain steady and fulfilling employment. Although difficulty obtaining consistent employment is characteristic of even those emerging adults who have completed post secondary studies (Tremblay, 2003), youth with substance use and mental health concerns are especially vulnerable to underemployment, unemployment, and low educational attainment (Davis, 2003; Schulenberg, Sameroff, & Cicchetti, 2004). Supporting youth in working towards youth-identified goals related to role transitions may be critical in steering those who are at risk of veering off course towards a more typical emerging adult path.

With respect to interpersonal role transitions, research has shown that most emerging adults do not emphasize entering a marital commitment and having children as necessary indicators of adulthood. This is not surprising considering that North Americans typically delay marriage and parenthood to their later 20’s or early 30’s (i.e., the average age of marriage for men and women in 2008 was 31.1 and 29.1, respectively; Statistics Canada). However, research indicates that youth continue to focus on interdependence criteria more broadly, such as their involvement in long term romantic relationships and having responsibility for others (i.e., romantic partners, children, siblings, parents; Arnett, 2000, 2005; Nelson & Barry, 2005 Seiffge-Krenke & Beyers, 2007). While our respondents also recognized interdependence as an important feature of adulthood, they tended to view themselves as lagging behind their peers in this respect due to difficulties forming deep interpersonal connections with peers (i.e., friendships and romantic partnerships). Further, youth identified their substance use and mental
health difficulties as hindering their capacity to form close connections with others and, consequently, inhibiting their perception of adulthood. These findings suggest that, irrespective of their achievement of other adult markers, these youth may have reached an impasse in their transition to adulthood due to difficulties developing emotionally supportive long-term interpersonal relationships. Previous research supports this interpretation: one study found that emerging adults who reported positive qualities in their romantic relationships (i.e., companionship, worth, affection and emotional support) were more likely to have developed secure identities and achieved a greater number of adult criteria (Barry et al., Madsen, Nelson, Carrol & Badger, 2009). The process of making long-term other-oriented commitments is considered an advanced emerging adult quality that marks an individual as further along in the transition to adulthood (Tanner, 2006; 2009). Supporting youth in broadening their social networks and developing the skills necessary to form reciprocal nurturing interpersonal relationships may be an important target for intervention when working with this population of emerging adults.

4.3 Substance Use and Mental Health as a Barrier to Adulthood

Throughout the interviews, youth provided numerous examples of how their substance use acted as an obstacle with respect to their progression into adulthood. Whether interfering with their experience of independence, financial autonomy, their achievement of transitional milestones, and/or their interpersonal relationships, substance use limited youths’ ability to achieve their goals. Further, irrespective of the criteria that each youth identified as necessary for becoming an adult, respondents expressed that they would reach adulthood once they had gained control over their lives, which included managing their substance use and/or mental health, including using substances “responsibly” and in moderation (rather than abstaining entirely).
In addition to considering how substance use interfered with their transition processes, youth raised their mental health as an additional barrier to achieving adulthood – viewpoints that emerged despite the fact that the interview questions focused on substance use. This finding is reflective of the high incidence of both mental health disorders and substance use dependency during emerging adulthood (Greenbaum in Davis & Vander Stoep, 1997, Davis, 2003). Indeed, when compared with other developmental periods, emerging adults have the highest prevalence of co-occurring substance use and mental health disorders and the poorest treatment outcomes (Sheidow, McCart, Zajac, & Davis, 2012). Our results indicate that youth themselves perceive their mental health as additionally immobilizing; they reinforce the need for integrative treatment that concurrently addresses substance use and mental health when preparing youth for adulthood. Despite youth recognition of this treatment need, an evidence base of effective treatment programs for emerging adults with concurrent disorders has not been established (Sheidow et al., 2012). This paucity in both existing research and service provision illuminates the urgent need for implementation of developmentally grounded, innovative treatment approaches.

4.4 Additional Treatment Implications

This study advocates for intervention efforts that explicitly support youth to become increasingly self-sufficient as they transition to adulthood. Treatment programs that recognize emerging adults’ underlying drive towards independence and individuation can optimize this process by making it a focal point of intervention. First, assisting youth in identifying the barriers that impede independence across domains and addressing these areas of concern can be launching points for intervention and may redirect youths who veered off course. Relatedly, encouraging youth to consider how substance use may serve as a barrier to achieving adulthood by sustaining dependency on others (or on the substance use itself) and limiting one’s autonomy
may be more effective as a means of encouraging a perspective shift in youth who are beginning to contemplate their substance use related actions and consider behaviour change. Secondly, given emerging adults’ inclination towards self-reliance, these youth may wish to limit the involvement of parents and or other individuals who may be seen as restricting these processes. Instead, youth may wish to define family more loosely, including members (which may or may not include immediate family) from their wider social network. These individuals may be better able to act as supports without being experienced as endangering youths’ independence. Educating concerned family members on how best support youth without undermining their independence and autonomy may be particularly valuable as well. For example, suggesting parents minimize the use of ultimatums and coercion and instead encourage youth to identify their own struggles and goals.

Adopting this developmental lens may be particularly important for clinicians working with youth attending treatment as a result of one or more external pressures (e.g., family, legal system). Specifically, emerging adults who are disinterested in contemplating changes to their substance use may be motivated to reflect on other life domains that foster their increased autonomy as they transition to adulthood. An individualized treatment approach that seeks to meet youth where they are at across developmental domains may be more effective in motivating youth to engage in treatment. For example, supporting youth as they seek supportive peer relationships, obtain employment, gain financial self-sufficiency, and/or learn self-care skills may supersede any discussion of their substance use, and may serve as a means of engaging youth. Further, youth-led treatment that addresses the unique developmental challenges of the emerging adult period may indirectly encourage youths who are pre-contemplative to explore their substance use and its potential negative impact on their developmental path. Indeed,
comprehensive treatment programs that recognize and address these specific social role changes and related areas of functioning may be more effective than programs that focus solely on substance use and mental health symptoms (Clark & Unruh, 2009). As the psychological processes and transitional milestones necessary for adulthood differ for each youth, treatment programs that encourage a process of discovery, welcome youth to prioritize goals, and to assert their treatment needs may be most effective in engaging them in treatment and addressing mental health and substance use.

In addition, our results are consistent with autonomy-supportive treatment approaches, such as motivational interviewing, as a means of intentionally encouraging behaviour change in youth. There is a growing body of evidence for the application of this treatment modality to address both substance use and mental health concerns in adults (Kavanagh et al, 2004) and adolescents (Barnett et al, 2012) however research with emerging adult cohorts is limited. This therapeutic approach is based on the tenet that personal autonomy should be preserved throughout treatment and arguments for change should be elicited from the individual, without coercion from a therapist or other outside influence (Miller & Rollnick, 2009). This treatment method is used to increase intrinsic motivation to change, whereby an individual is encouraged to reflect on his/her behaviour and any modifications made are in accordance with his or her individual and independent desires, interests, and goals. Given motivational interviewing’s emphasis on client-therapist collaboration and on the belief in client’s own capacity for change it is hypothesized to be developmentally appropriate for emerging adults. As increased self-determination is paramount for youth with substance use and mental health concerns, this open-ended, youth-driven process of personal exploration may be particularly valuable.
Our findings also provide support for using a harm-reduction framework to address problematic substance use with emerging adults. When reflecting on their substance use, most youth equated controlled substance use with adulthood, rather than expressing a desire to abstain entirely from substance use. This is not surprising given that recreational substance use is characteristic of the emerging adult experience, during which both drugs and alcohol are more readily available and socially accepted (Arnett, 2005). A harm reduction approach that focuses on evaluating risks and reducing the negative consequences associated with substance use, and views abstinence as one option amongst many potential change pathways, may be particularly effective with emerging adults (Poulin, 2006).

4.5 Limitations and Directions for Future Research

The results of this study should be considered in light of the treatment seeking sample of emerging adults, which may limit its application for youth who do not access treatment for their substance use and/or mental health concerns. It is possible that the substance use, mental health and developmental profiles of these youth may be significantly different from those represented by our sample. Despite this limitation, our study set out to understand a group of treatment seeking youth in order to inform best practices in treatment for youth who do access treatment, a goal that was achieved by our existing methodology.

In addition, youth level of motivation to change or seek treatment may impact how youth perceive their transition to adulthood, such that youth who are more motivated are more likely to experience their substance use as a barrier to adulthood (e.g., affecting friendships, increased dependency). In contrast, it may also be that youth who are not interested in change perceive their substance use as a gateway to adulthood (i.e., establishing friendships with substance using peers, separating from parents, independent values). Future investigations that directly assess
youths’ motivation to change may clarify whether this variable has any impact on their perception of adulthood. In addition, replicating this research with a broad range of emerging adults (e.g., treatment-seeking and non-treatment-seeking emerging adults, low vs. high motivation to change) would allow further exploration of these hypotheses.

It is also noteworthy that that our findings are interpreted based on an assumption that most emerging adults are interested in progressing towards adulthood with respect to one or more adult criteria (Arnett, 2004; Arnett, 2005). However, two youth included in our sample described a feeling of relief that they did not yet need to assume adult roles and responsibilities despite recognizing that changes would inevitably occur. Our study would be complemented by a closer examination of this subgroup, particularly by considering whether those emerging adults who are disinterested in transitioning are less likely to perceive their substance use as a barrier to adulthood.

Future research using a larger sample size may expand our exploration to investigate important within-sample differences such as detecting differences between self-perceived adult status, treatment intensity (i.e., day treatment, outpatient), type of substance used (i.e., alcohol vs. cocaine, heroin) and severity of mental health concerns. Although beyond the scope of our study, research investigating these subgroups would further specify how youth seeking treatment for substance use understand their transition to adulthood and assist in identifying differences in the transition process for subgroups of emerging adults presenting for treatment.

4.6 Conclusion

This study’s findings provide new insights into the treatment needs of a vulnerable youth subpopulation and can inform best practices for emerging adults with concurrent disorders. It is evident that the transition to adulthood can be turbulent for youth with concurrent disorders as
they struggle to progress across numerous domains of functioning. Despite these difficulties, these youth have similar expectations for adulthood as their peers in the emerging adult stage. To assist in circumventing maladaptive functioning in adulthood, service providers can seek to support each individual’s progress across developmental domains. Holistic assessment and treatment approaches that consider the transitional elements of the emerging adult period and support youth in becoming increasingly self-determined may bolster motivation to address substance use and mental health concerns and may ultimately assist in a successful transition into adulthood.
Conclusion

Investigating the factors that contribute to behaviour change has been of interest to clinicians and researchers seeking to determine how to increase motivation, support change and improve existing clinical practice with those who struggle with problematic substance use. Youth who are in the emerging adulthood period are more vulnerable to developing problematic substance use, less likely to seek and engage in treatment, and have lower treatment motivation than other age groups (Blanco et al., 2008; Chan, Dennis, & Funk, 2008; DiClemente, Doyle & Donovan, 2009; Smith, Godley, Godley, & Dennis, 2011). Further, treatment developed for adults has been delivered to emerging adults with limited efficacy and evidence informed practice with emerging adults remains largely undetermined (Smith et al., 2011). An extensive body of research has established the importance of internal motivation as a critical variable in the process of substance use behaviour change (DiClemente, Schlundt & Gemmell, 2004). Seeking to add to the existing knowledge base and to inform service provision, the two study’s that constitute this dissertation explored the factors that underlie motivational processes in a sample of emerging adults seeking treatment for substance use. This work employs a developmental framework to explore how the psychosocial processes that are characteristic of emerging adulthood relate to motivation and substance use behaviour change.

The first paper explored how the psychosocial features of emerging adulthood relate to motivational processes. None of the primary psychosocial features of emerging adulthood identified in Arnett’s (2004) work emerged as a significant predictor of motivation. Instead, the process of being “other-focused” (i.e., perceiving a sense of responsibility for others) emerged as a salient predictor of motivation to change (i.e., identify substance use as problematic, take action to change) and intrinsic treatment motivation (i.e., identified and introjected motivation).
That is, youth who perceived themselves as having a greater sense of responsibility towards others were more internally motivated, more likely to identify their substance use as problematic and were more likely to have begun to actively change their substance use.

These findings are consistent with emerging adult literature investigating shifting trends in substance use during the course of transition into adulthood. Indeed, studies have demonstrated that substance use and other health compromising behaviours decline once emerging adults seek out and enter committed romantic partnerships and/or parenthood (Molgat, 2007; Johnston et al., 2003; Schulenberg et al., 2006; Willoughby & Dworkin, 2009). The findings are also in line with emerging adult theory suggesting that developing a sense of responsibility towards others is a process that may distinguish youth who are on the brink of adulthood from those still in the midst of the emerging adulthood period (Carroll, et al., 2007; Reifman et al., 2007; Nelson & Barry, 2005; Tanner, 2009). Further, these findings are in agreement with research suggesting the critical role of youth social networks on internal motivational processes (Goodman et al., 2011), such that having a sense of responsibility for another may empower youths to make independently-driven decisions regarding substance use behaviours. This study did not investigate the direct impact of social network involvement, such as perceived support or coercion, and how these factors may influence the relationship between being other-focused and motivational variables. This is an important area for future investigation. Taken together, these findings provide evidence for youth interpersonal development as an important focus of intervention seeking to foster intrinsic motivation.

The second paper sought to understand how youth with substance use concerns conceptualize their transition to adulthood, and to determine whether and how youth substance use treatment seeking processes relate to the achievement of adult status. Results revealed that
youth with problematic substance use consider their intra-psychic experience of independence and self-sufficiency – as well as role-related markers (i.e., full time employment, completed education, marriage), chronological milestones, interdependence and adult norms/behaviours - as integral to adulthood. These results consistent with factors determined to be important for self-perceived adulthood in the broader emerging adult population (Arnett, 1994, 1997, 1998, 2011, Barry et al, 2009; Nelson & Barry, 2005). Despite their similarities, findings from the current study also illuminated qualitative differences in the transition experiences of youth with problematic substance use, such that these youth reflected on their substance use, mental health and treatment seeking as influential factors in their progression towards adulthood. More specifically, many youth perceived their substance use as a barrier hindering their path towards adulthood and anticipated an adult future in which they would experience increased control over their substance use.

Although the qualitative study did not measure motivation directly, the results highlight how substance use change and developmental factors relate during emerging adulthood and offers important insight for clinicians seeking to increase youth motivation. Our findings suggest that although many youth with substance use and mental health concerns may have difficulty transitioning to adulthood (Davis, 2003; Tremblay, 2003; Schulenberg et al., 2004; Sheidow et al., 2013), they remain motivated to progress across multiple domains perceived as critical for their evolution into adulthood. Emerging adult theory supports these findings through emphasis on the multiple and diverse pathways through which youth progress towards adulthood (Arnett, 2004). Motivation literature proposes long-term behaviour change as most likely when individuals are intrinsically motivated, such that their own experiences, values and interests govern their behaviour (Broome et al., 2001; DiClemente, 1999; DiClemente et al., 2004; Wild
et al., 2006). Integrating these theories, this study’s findings suggest that treatment goals should be youth-guided and individualized, focusing on increasing youth independence as an indirect means of bolstering motivation for substance use change. By supporting emerging adults in moving towards personally identified adult goals, youth may be more likely to contemplate their substance use and its implications on their development. In addition, findings highlight discrepancies in some youth’s behaviours from their envisioned adult-selves, a phenomenon that can serve as a potential target for motivation related intervention. Autonomy-supportive techniques (i.e., motivational interviewing) that elicit these discrepancies in thinking and encourage arguments for change directly from the individual (Miller & Rollnick, 2009) may be particularly effective with emerging adults.

It is noteworthy that both papers highlight interpersonal processes as critical gateways for influencing behaviour change. These findings also add to a previous study with the same population indicating peer pressure to change and/or seek treatment as a significant predictor of intrinsic motivation (Goodman et al., 2011). Taken together, findings reveal primary relationships to be influential motivators during emerging adulthood; however, many youth with substance use concerns have not yet established close social networks and struggle interpersonally. Indeed, a number of studies have highlighted poor interpersonal functioning of youth with substance use and mental health concerns (Davis, 2003; Sheidow et al., 2012). Rather than focusing on substance use directly, treatment focused on interpersonal development may encourage social network support for substance use change. Supporting youth in this domain may involve offering group-based therapy with same age peers, adopting a broad definition of family to include peer relationships and supporting youth social development in the context of individual therapy.
This study’s findings must be considered in light of a number of limitations. Data for the current study were collected at a single time point and causal relationships are inconclusive. While findings are suggestive of a number of directional relationships, such interpretations are grounded in theory and existing research and were not directly investigated. Future research utilizing a longitudinal design would allow for additional clarity with respect to these processes. Similarly, the current work was limited to exploration of emerging adults within a restricted age range (16-25) and between-group comparison was not possible. Although the current sample captured the transition from late adolescence to emerging adulthood, the sample size limited investigation of the transition into adulthood. Similarly, the older cohort of youth in the emerging adult period (i.e. up to age 30) was not represented in this investigation. Future investigations can endeavor to expand on this study’s methodology by including a larger sample of emerging adults spanning the full continuum between adolescence and adulthood, which would illuminate shifting processes throughout the transition. Although it is expected that findings are applicable for emerging adults struggling with a number of problematic behaviours (i.e., aggressive behaviour, eating disorders), replicating these findings with these subgroups would provide support for wider generalization of conclusions. In addition, the treatment-seeking sample utilized in this study limits the application of findings to groups of youth who are struggling with substance use and do not access treatment. Similarly, replication with a non-clinical sample would clarify the needs of emerging adults with substance use concerns in the broader population.

Despite limitations, this dissertation provides new insight into the processes of substance use behaviour change and treatment seeking in emerging adults. Youth who have developed problematic substance use by the time they reach emerging adulthood are at risk for difficulties
acquiring the skills necessary for adaptive functioning into adulthood. Effective intervention is needed to divert potential maladaptive pathways. Findings from the current work can be utilized to inform innovative treatment approaches specifically for emerging adults as well as guide the modification of existing intervention developed for use with other cohorts. Continued empirical exploration of the processes that govern behaviour change will strengthen the foundation on which to base the development and implementation of best practices with emerging adults struggling with substance use.
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Appendix A

Sample Items from Measures

Measures of Motivation

The Stages of Change Readiness and Treatment Eagerness Scale – Version 8 (SOCRATES; Miller & Tonigan, 1996)

Recognition

My drug use/drinking is causing a lot of harm.

I know that I have a problem with drugs/alcohol.

Taking Steps

I have already started to make some changes in my use of drugs/drinking.

I am working hard to change drug use/drinking.

I have already changed my drug use/drinking and I am looking for ways to keep from slipping back to my old pattern

Treatment Entry Questionnaire (TEQ; Wild, Cunningham and Ryan, 2006)

Identified Motivation

I decided to enter a treatment program because it feels important for me to personally deal with my substance abuse problem.

I decided to enter a treatment program because I really want to make some changes in my life.

Introjected Motivation

If I remain in treatment it will probably be because I’ll feel like a failure if I don’t.

I plan to go through with a treatment program because I’ll be ashamed of myself if I don’t.

External Motivation

If I remain in treatment it will probably be because others will be angry with me if I don’t.
The reason I am in treatment is because other people have pressured me into being here.

**Measures of Substance Use Problems**

*Drug Abuse Screening Test (DAST; Skinner, 1982)*

Have you had “blackouts” or “flashbacks” as a result of drug use?

Have you lost friends because of your use of drugs?

*Alcohol Use Disorders Identification Test (AUDIT; Saunders, Aasland, Babor, de la Fuente, & Grant, 1993)*

How often during the last year have you found that you were not able to stop drinking once you had started?

How often during the last year have you failed to do what was normally expected of you because of drinking?

**Measures of Mental Health Functioning**

*Global Appraisal of Individual Needs: Short Screener (GAIN-SS; Dennis, Chan, Rodney & Funk, 2006)*

Internalizing Scale

When was the last time you had significant problems…

Feeling very trapped, lonely, sad, blue depressed or hopeless about the future?

With feeling very anxious, nervous, tense, scared, panicked or like something bad was going to happen?

Externalizing Scale

When was the last time you did the following things two or more times?

Lied or conned to get things you wanted or to avoid having to do something?

Were a bully or threatened other people?

**Psychosocial Processes of Emerging Adulthood**

*Inventory of the Dimensions of Emerging Adulthood (IDEA; Reifman, Arnett, & Colwell, 2007)*

Identity Exploration
Time of finding out who you are?

Time of separating from parents?

Experimentation/Possibilities

Time of many possibilities?

Time of trying out new things?

Negativity/Instability

Time of many worries?

Time of feeling stressed out?

Other-Focused

Time of responsibility to others?

Time of commitments to others?

Self-Focused

Time of responsibility for yourself?

Time of independence?

Feeling “In-Between”

Time of feeling adult in some ways but not others?

Time of gradually becoming an adult?