

“I DON’T GET DRUNK. I GET AWESOME!”
EMPLOYING A VULNERABILITY-STRESS-ADAPTATION FRAMEWORK TO
EXAMINE ALCOHOL USE IN EMERGING ADULTHOOD

by

Sizhan Liang

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As members of the Dissertation Committee, we certify that we have read the dissertation prepared by Sizhan Liang, titled *“I Don’t Get Drunk. I Get Awesome!” Employing a Vulnerability-Stress-Adaptation Framework to Examine Alcohol Use in Emerging Adulthood* and recommend that it be accepted as fulfilling the dissertation requirement for the Degree of Doctor of Philosophy.

Heidi Legg Burross

Dr. Heidi Burross

Date: 12/29/2022

Melissa Curran

Dr. Melissa Curran

Date: 12/29/2022

Adriana Cimetta

Dr. Adriana Cimetta

Date: 12/29/2022

Final approval and acceptance of this dissertation is contingent upon the candidate’s submission of the final copies of the dissertation to the Graduate College.

I hereby certify that I have read this dissertation prepared under my direction and recommend that it be accepted as fulfilling the dissertation requirement.

Heidi Legg Burross

Dr. Heidi Burross
Dissertation Committee Chair
Department of Educational Psychology

Date: 12/29/2022

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Abstract

Building on emerging adulthood theory and the Vulnerability-Stress-Adaptation (VSA) framework, this dissertation research examined emerging-adult newlywed couples' alcohol drinking behaviors. Four-annual-wave, dyadic data from 963 couples were analyzed with an Actor-Partner Interdependence Model (APIM) to investigate 1) personality traits and stressful life events (SLEs) as predictors of emerging adults' alcohol use, and 2) personality traits and alcohol use as predictors of emerging adults' experiences with SLEs. Results revealed great predictive power of personality traits, especially for emerging-adult men; trait kindness and trait sociability were influential in alcohol involvement while trait anxiety and trait depression were closely associated with SLEs. Emerging-adult women's perceived stressfulness of SLEs displayed both actor and partner effects, positively predicting alcohol involvement for themselves as well as for their emerging-adult husbands. The potential vicious circle of SLEs and alcohol drinking behaviors suggested by the VSA model was not supported. The findings inspire researchers to further explore whether men are more affected by internal characteristics whereas women are more susceptible to the external circumstances, which may enlighten couple therapy on coping strategies.

Keywords Emerging Adulthood • Alcohol Use • Stress • Personality • VSA Model • APIM

Chapter 1 – Introduction

Statement of Problem

Alcohol use and abuse are not only an important public health problem, but also one of the primary preventable causes of death in humans (Courtney & Polich, 2009). According to the National Survey on Drug Use and Health (Substance Abuse and Mental Health Services Administration [SAMHSA], 2021), over 50 percent of people aged 12 or older in the United States were alcohol users, 22.2 percent were binge alcohol users (defined as consuming five or more drinks on the same occasion at least once in the past 30 days for males, four or more drinks for females). Among all the age groups, the prevalence of alcohol use/abuse was highest among young adults aged 18 to 25, so was cigarette and illicit drug use. Consistently, the percentage of people with a substance use disorder (e.g., alcohol use disorder, illicit drug use disorder) was highest among 18- to 25-year-olds. Furthermore, the rates of major depressive episode, mental illness, and suicidal thoughts and behaviors were also significantly higher among 18- to 25-year-old young adults than any other age group. These data made the age group of 18 to 25 stand out while raised the question: what makes this population so distinctive? Developmental theories have identified the age range of 18 to 25 (sometimes 18 to 29, as the duration is highly variable) as a new life stage named emerging adulthood (Arnett, 2000, 2005, 2007, 2014), which takes place between adolescence and young adulthood and differs from both. Emerging adulthood is a distinct period of life demographically, subjectively, and psychologically (Arnett, 2000; Tanner & Arnett, 2011). It possesses multiple characteristics that distinguish it from other life stages (Arnett, 2014). Consistent with previous data, people during emerging adult years displayed the greatest needs for substance use treatment as well as mental health services (SAMHSA, 2021).

Why is emerging adulthood so problematic? The need to examine this population cannot be underscored enough.

Purpose and Significance of Study

Alcohol use/abuse is linked to a variety of negative consequences (e.g., fatalities and injuries, health problems), especially in the pattern of binge drinking. Although underage alcohol use has been an issue (16.1 percent among 12–20-year-olds in 2020), alcoholic beverages are prohibited among people younger than 21 in most states (SAMHSA, 2021). In other words, consuming alcohol becomes accessible in emerging adulthood. This dissertation research aims to investigate emerging adults' alcohol drinking behaviors with the purpose of identifying the potential predictors, including the internal characteristics (personality traits) and the external circumstances (stressful life events). Guided by the Vulnerability-Stress-Adaptation framework, alcohol use is explored as both a cause and an effect of stressful life events. To be specific, the associations among personality traits, stressful life events, and alcohol use are examined, the one between the latter two is expected to be reciprocal. Participants were emerging-adult newlywed couples, meaning that they were in transition to a new life chapter in addition to the transitional phase of emerging adulthood that they were already at. The results have the potential to (a) shed light on the causes and effects of emerging adults' alcohol use, (b) facilitate understanding of the mutual relationship between alcohol and stress, and (c) inspire future research directions and new coping strategies for theory and therapy, respectively.

Organization of This Dissertation

This dissertation is divided into six chapters. Chapter One stated the problem and briefly introduced the purpose and significance of this study. Chapter Two reviews the literature on the two theoretical frameworks that this dissertation was built on: emerging adulthood theory and the

Vulnerability-Stress-Adaptation model, after which a series of hypotheses are proposed. Chapter Three describes in detail the sample selected for this dissertation, the process of data collection, the measurement used to assess each variable, and the analytic plan. Chapter Four reports the results. Chapter Five summarizes and interprets the significant findings, and then discusses the strengths and limitations of this study, theoretical and practical implications, as well as suggestions for future research. The last chapter presents the final conclusions.

Chapter 2 – Literature Review

Theoretical Frameworks

Emerging Adulthood Theory

Overview

At the beginning of the twenty-first century, Jeffrey Jensen Arnett (2000) coined the term *emerging adulthood* to describe the developmental period from the late teens through the twenties (i.e., ages 18 to 29), which is also known as the transition from adolescence to young adulthood. For most young people today, this transitional period is a time of profound and frequent change as various possible life directions are being explored (Arnett, 2000). During this period, important life-marker events (e.g., first jobs, marriage) are most likely to take place, representing a critical turning point in life span development (Tanner, 2006). Emerging adulthood is not simply a brief phase of transition into adult roles, instead, it is a unique period that lasts long enough to build a new life stage (Arnett et al., 2014). Distinguishing from both adolescence and young adulthood, emerging adulthood constitutes an extended period of development. According to Arnett's theory, emerging adulthood is unique from other life stages demographically, subjectively, and psychologically (Arnett, 2000; Tanner & Arnett, 2011). The uniqueness of emerging adulthood is elaborated on later in the chapter.

Background

Before Arnett, a number of other developmental psychologists made contributions to the understanding of emerging adulthood – although without naming the period “emerging adulthood”. One of the early contributors was Erik Erikson (1968), who is most famous for his theory of psychosocial development. In Erikson's eight life stages of psychosocial development, he did not specify a stage that could be considered parallel to emerging adulthood as Arnett

proposed. However, he did point out that adolescence is typically extended in industrialized societies, wherein young people are granted a phase of psychosocial moratorium “during which the young adult through free role experimentation may find a niche in some section of his society” (Erikson, 1968, p. 156). The *prolonged adolescence* and *psychosocial moratorium* described by Erikson indicates a period in the life course that seems to be neither adolescence nor young adulthood – but somewhere in between.

Another theoretical contribution was made by Erikson’s mentee, Kenneth Keniston (1970, 1971). Keniston’s theory of youth is probably the best-known theory of development from the late teens through the twenties (Arnett, 2000). He specifically raised the question: “If neither ‘adolescence’ nor ‘early adulthood’ quite describes the young men and women who disturb American society today, what can we call them? My answer is to propose that we are witnessing today the emergence on a mass scale of a previously unrecognized stage of life, a stage that intervenes between adolescence and adulthood” (Keniston, 1970, p. 635). Keniston (1970, 1971) proposed the term *youth* to classify this developmental stage between adolescence and young adulthood. Like his mentor Erikson, Keniston conceptualized youth as a time of confusion, ambivalence, and continued role experimentation (Keniston, 1971). Despite Keniston’s application of the confusing and controversial term *youth* (Arnett, 2000), which has long been used to refer to childhood and adolescence in the English language, his theory of youth does acknowledge a life stage between adolescence and young adulthood that could be considered analogous to Arnett’s ideas about emerging adulthood.

Erikson’s colleague, Daniel Levinson (1978) also made major contributions to the field of adult development. Levinson conducted extensive interviews of middle-aged men and women about their lives. Throughout the interviews, Levinson discovered common patterns of

development and created a theory regarding adult phases in the life cycle. He proposed the name *the novice phase* to refer to the developmental sequence of entry into adulthood, roughly ranging from ages 17 to 33 (Levinson, 1978). According to Levinson, the overriding task of the novice phase is to find a place in the adult world and establish a life structure that is stable and suitable for the self, which is similar to Erikson's belief that it is a time to form a niche in some section of the society that fits one's individual needs (Erikson, 1968, p. 156). The novice phase contains a considerable amount of movement and instability, and the young person explores various possibilities while testing their choices in love and work during this process (Levinson, 1978). Levinson's conception of the novice phase is mirrored in the classic features of emerging adulthood that Arnett proposed (introduced later). Overall, these psychologists built the foundation for emerging adulthood by pointing out that there is a developmental stage between adolescence and young adulthood, and by laying the groundwork for many of the characteristics that emerging adulthood is possessed of.

Emerging adulthood has risen as a new life stage since the middle of the twentieth century, which is when the typical ages of marriage and parenthood started to rise steeply (Arnett, 2014). The median age at first marriage in the United States has increased from approximately 20 for women and 22 for men in the 1960s to over 28 for women and over 30 for men by 2020 (Payne, 2021). The age of first childbirth has also increased steadily for both genders, following a similar pattern (Arnett, 2000, 2014). Increased ages of entering marriage and parenthood have created a space for young people in their late teens and twenties to explore different possibilities in life, making emerging adulthood a common and typical period in modern societies (Arnett, 2000). Four revolutions in recent decades largely shaped today's world and accounted for the postponed marriage and parenthood, along with the rise of emerging

adulthood: the Technology Revolution, the Sexual Revolution, the Women's Movement, and the Youth Movement (Arnett, 2014, 2015).

The first revolutionary change was the Technology Revolution, mainly referring to the transition from a manufacturing economy to a knowledge economy (Arnett, 2015). Because of the rapid development of technology, manufacturing jobs were, to a great extent, replaced by machines, leaving far fewer jobs available for employment. As a result, industrialized countries have shifted to a knowledge economy, which underlines information, technology, and services (Arnett, 2015). Therefore, the new knowledge economy requires a high level of education and training for most information-based professions (Arnett, 2000, 2014). This revolution led to the highest college enrollment ever. Most young people would not give serious consideration to making enduring adult commitments such as marriage until they have finished education and found a secure job, meaning for many of them those commitments are delayed until at least the late twenties (Arnett, 2014).

The second change that greatly influenced the lives of young people was the Sexual Revolution, which resulted in today's lenient standards of sexual morality (Arnett, 2014). Triggered by the invention of birth control pills in the 1960s, the link between sexuality and reproduction was broken for the first time (Arnett, 2015). In turn, the link between sexuality and marriage became broken. Marriage is no longer a requirement for sexual relationships (Arnett, 2014). The time interval between first sex and first marriage has increased from 2.3 years in 1950s to 9.2 years in 2010 for women and from 6.0 to 11.4 for men, on average (Finer & Philbin, 2014). Today most young people start to engage in sexual relationships a decade or even more before they build the structure of family life, thusly the nature of the late teens and twenties has been changed (Arnett, 2015).

The next change was the Women's Movement, caused by women's higher educational achievement today and the corresponding expanded occupational opportunities open to them (Arnett, 2014, 2015). In 1960, young women were pressured by society to find a husband because of their extremely limited career options. At the time, there were twice as many college-educated men as women (Arnett, 2015). All this has changed over the past decades. Today, women outnumber men in both college enrollment and completion (Bryant, 2021). By the end of the 2020-2021 academic year, nearly 60% of college students were female and 57% of the bachelor's degrees granted by U.S. postsecondary institutions were awarded to women. Additionally, women are in medical, law, and business schools in numbers equal to men (Arnett, 2014, 2015). This revolutionary shift has opened the door to nearly unlimited occupational possibilities for women and therefore changed their lives. Young women today view and plan their lives differently from young women half a century ago (Arnett, 2015). Most of them accept the immense opportunities and luxurious freedoms that emerging adulthood has to offer with pleasure, using their emerging adult years to make progress in education and careers instead of settling down with a man in their early twenties (Arnett, 2014).

The last revolution was the Youth Movement, a consequence of which was a profound change in young people's opinions and attitudes about becoming an adult (Arnett, 2014). In the old days, adulthood used to be associated with many good things such as social status, security, and stability (it still is, but to a lesser extent) (Arnett, 2015). Thus, attaining adulthood was considered a great achievement to young people. They had an itch to settle down with a stable job, marriage, and children relatively early in life (Arnett, 2014). However, today young people see adulthood in quite a different light. For most in their late teens and early twenties, marriage and parenthood are seen as burdens rather than achievements. Even though most do want these

long-term adult roles eventually, they report that their late teens and early twenties seem too early for the enduring commitments and responsibilities (Arnett, 2014). The extended adolescence afforded by emerging adulthood represents a great deal of freedom and possibility and leaving it (i.e., entering adulthood) implies the end of such freedom and opportunities. Young people, as a result, are not as much in a hurry to “grow up” as previous generations were. They choose to enjoy (even prolong) and make the most of their emerging adult years instead (Arnett, 2015).

Demographic Diversity

As discussed above, the nature of the period from the late teens through the twenties has changed dramatically over the past decades, mainly reflecting in significant delays in entering long-term adult roles (Arnett, 2000; Tanner & Arnett, 2016). It is no longer normative for people to settle into enduring adult commitments and responsibilities in their late teens and early to mid-twenties. These demographic changes in work/school status, the timing of marriage and parenthood have led to a great deal of demographic diversity of emerging adulthood (Arnett, 2000). Unlike adolescence, during which the vast majority of individuals are enrolled in school, unmarried, and live at home with parents; and by contrast with full-fledged adulthood (roughly by age 30), where most people have married and finished education, a person’s demographic status in emerging adulthood is highly unpredictable (Arnett, 2000; Arnett et al., 2014). Nothing is standard demographically in emerging adulthood, which is distinct from any other periods of life. This demographic variability and unpredictability of emerging adulthood implies its exploratory and experimental nature (Arnett, 2000).

Two demographic areas that contain substantial diversity and instability among emerging adults are residential status and school attendance (Arnett, 2000). Most young people leave their

parents' household at the beginning of emerging adulthood, after which their living situation is difficult to predict (Arnett, 2000, 2014). Some emerging adults take on responsibilities of independent living as they go off to college, however, they often remain partially reliant on other adults such as parents and college authorities. Some live independently not for college but for full-time work. A significant portion of the population get involved in cohabitation with a romantic partner at some point. Only a small percentage continue to live at home with parents until marriage (Arnett, 2000). The uniform characteristic of emerging adults' residential status is probably its instability. Rates of residential change spike at age 18 and reach their peak in the mid-twenties, meaning that emerging adults have the highest moving rates among all the age groups (Arnett, 2000, 2014). This residential instability reflects the exploratory quality of emerging adulthood, because change of residence usually marks the end or the beginning of a period of exploration, such as the end of a romantic relationship, graduating college, or beginning a new job in a different place (Arnett, 2000).

School attendance is another demographic area in which there is a good deal of variability and mobility (Arnett, 2000). As mentioned before, the length of education has become longer during the past half-century and so has the school-to-work transition (Tanner & Arnett, 2011). Most emerging adults are not satisfied with secondary education alone nowadays as it is insufficient to fulfill job requirements in many industries. However, despite the increased college enrollment rate, education after high school is not always achieved in a linear way (Arnett, 2000). Emerging adults are highly diverse in their educational trajectories (Arnett et al., 2014). Some are in post-secondary education full-time, some are combining education with work, and more and more people who graduate with a bachelor's degree choose to enter graduate school after (Arnett, 2000). Those who do not pursue higher education after high school have been

referred to as the “forgotten half” (Tanner & Arnett, 2011), with significantly declined job opportunities over the past decades. The transition from degree completion to stable, long-term employment is taking longer as well. Because of the increases in educational attainment and occupational opportunities, young people today have more career options, including starting their own business. Some emerging adults like to explore different occupations/positions before making enduring choices (Arnett, 2007). In the meantime, if they find their educational background doesn’t fit the profession they desire, they may go back to school in pursuit of relevant knowledge and qualifications, which makes emerging adults’ educational trajectories even more complicated and diverse.

Subjective Sense of Ambiguity

When asked “Do you feel that you have reached adulthood?”, people of different ages display different patterns of response (Arnett, 2000). The majority of young people in their late teens and early to mid-twenties choose neither “yes” nor “no” but the ambiguous answer “yes and no” (i.e., in some respects yes, in some respects no), indicating a mixed feeling about their adult status. Emerging adults tend to consider themselves no longer adolescents, but not yet fully adults either (Reifman et al., 2007). This subjective sense of ambiguity usually lasts until at least the late twenties for most people, and when a clear majority of individuals feel they have completely entered adulthood (Arnett, 2000). Nevertheless, the duration of emerging adulthood can be highly variable and age is the roughest marker of it (Arnett, 2000, 2014). Research has indicated that nearly one third of people in their late twenties and early thirties do not feel they have achieved adult status (Arnett, 2000).

It seems plausible that emerging adults’ ambiguous feeling towards attaining adulthood is coming from the demographic variability and instability discussed above. A stable residence, a

settled career, and a committed long-term romantic relationship are considered traditional markers of adulthood and it might be difficult, therefore, for one to feel being a full-fledged adult without achieving a secure state in such areas (Arnett, 2000). However, research has consistently shown that these traditional markers are surprisingly irrelevant to people's conceptions of what it means to be an adult in today's society (Arnett, 2000; Nelson et al., 2007). In fact, both emerging adults and their parents rated role transitions such as finishing education, getting married, and becoming a parent as the least important category of potential criteria for adulthood (Arnett, 2000; Nelson et al., 2007). In other words, demographic transitions are not seen as necessary for the attainment of adulthood from both emerging adults' and their parents' perspective. The criteria that matter most are individualistic qualities of character, specifically in the area of relational maturity (Nelson et al., 2007). In a variety of studies with emerging adults, the top-rated criterion for adulthood has been "accept responsibility for the consequences of your actions", followed by "make independent decisions" and "become financially independent from parents" (Arnett, 2000, 2014).

The importance people place on these criteria indicates their conceptions of what is necessary to reach adulthood. The fact that people tend to endorse criteria related to becoming their own person in emerging adulthood reflects an emphasis on being a *self-sufficient* individual (Arnett, 2000). Accepting responsibility for one's self, making independent decisions, and financial independence all center around self-sufficiency. The third criterion, "financially independent from parents" is less of a character quality but more tangible compared to the other two top criteria and crucial to becoming a self-sufficient person. Only after the criteria emerging adults deem necessary for adulthood have been recognized as met do they experience a change in the ambiguous feeling towards their developmental status, from unsure about being an adult to

fully moved into young adulthood (Arnett, 2000). One low-ranked but noteworthy criterion is parenthood (i.e., having at least one child), which is not necessary but sufficient for completing the transition to adulthood (Arnett, 2000; Nelson et al., 2007). Because parenthood requires raising another person and taking on all the responsibilities, the focus inevitably shifts from responsibility for the self to responsibility for others and the explorations usually happen in emerging adulthood are sharply restricted (even terminated) as a result.

Five Features

After first introduced the theory of emerging adulthood in 2000, Arnett continued to flesh out the dimensions that best characterize emerging adulthood and proposed five distinctive features of it: it is the age of identity explorations (exploring the self while trying out different life options, especially in love and work); it is the age of instability (experiencing changes in various domains, mainly including love, work, and place of residence); it is the most self-focused age (lacking obligations to others, different from being self-centered); it is the age of feeling in-between (neither adolescent nor adult, but in transition); and it is the age of possibilities (being able to navigate life into numerous directions as opportunities flourish) (Arnett, 2005, 2014). These features distinguish emerging adulthood from the preceding adolescence and the following young adulthood, and each feature sheds light on the prevalence of alcohol use and abuse during this age period. Let's unpack each of them.

Identity Explorations. As the two core domains of identity development, love and work have received a lot of research attention. Although the explorations in love and work typically start in adolescence, they don't become truly serious and identity-focused until emerging adulthood (Arnett, 2005). In fact, the main part of identity explorations takes place during the years of emerging adulthood, as people start to ask themselves what kind of partner and job they

would like to choose for the long term, which requires them to self-explore. To be specific, they need to truly understand themselves (e.g., what they are capable of, what they are passionate about, what they value the most in a romantic partner/relationship) in order to make the right decisions (Arnett, 2005). This process of identity explorations may involve alcohol (and other substance) use/abuse in two ways. First, establishing a stable identity can be challenging and confusing and therefore cause unpleasant emotions, such as stress and anxiety. As a result, some emerging adults may adopt alcohol drinking as a coping mechanism to relieve their negative emotions associated with identity explorations (Kuntsche et al., 2017). Second, during their self-exploration journey, many emerging adults want to try out as many novel things as possible, which may include alcohol (Arnett, 2005). They want to have a wide range of new experiences before settling into adult roles and alcohol drinking could be one of them.

Instability. Emerging adulthood is arguably the most unstable life period due to its transitional nature. During the process of their identity explorations, emerging adults experience frequent changes in multiple areas of life, mainly including romantic relationship, work/school situation, and place of residence (Arnett, 2005). All these changes could disrupt their lives and lead to negative emotional states such as depression and anxiety, which in turn will increase self-medication. As a method of self-medication, alcohol use is especially popular following instability events (Arnett, 2005; Kuntsche et al., 2017). Emerging adults go through mood disruptions after experiencing transitions in love relationships, residence, school, and work, which will largely motivate alcohol use. There is also an increase in the incidence of psychopathology in emerging adulthood (Schulenberg & Zarrett, 2006), making alcohol use for self-medication more common.

Self-Focus. Emerging adulthood is a life stage that grants great freedom (Stone et al., 2012). In contrast to people in other developmental stages, emerging adults are exceptionally free from obligations and commitments to others (Arnett, 2005). Unlike adolescents, most emerging adults no longer live under the rules set by their parents and teachers (Scharf et al., 2004). As mentioned before, most of them leave their parents' household at the beginning of emerging adulthood. Unlike full-fledged adults, emerging adults have not taken on roles that require lasting daily responsibilities, such as being a parent. This high level of freedom allows emerging adults to devote all their time, energy, and attention to themselves, in summary, be self-focused (Arnett, 2005). They may engage in behaviors that will be less acceptable in young adulthood because of the luxurious freedom, including alcohol use/abuse. In addition, when social control is weak, behaviors that violate social norms are more likely to occur (Arnett, 2005). For instance, leaving home puts emerging adults out of the supervision of their parents and therefore could increase alcohol involvement. Research (e.g., Kypri et al., 2004) also indicates a significant increase in alcohol consumption among emerging adults as they transition to independent living and become old enough to purchase alcohol.

Feeling In-Between. As discussed earlier, emerging adults have mixed feelings about their status as adults. On one hand, they feel that they have left adolescence and on the other hand, they feel that adult roles and responsibilities are still at a distance (Reifman et al., 2007). The majority of 18 to 25-year-olds feel they have reached adulthood in some ways but not others (Arnett, 2000). Research investigating college students has consistently shown the majority of 18 to 25-year-olds do not feel they have achieved adult status, specifically, only about a quarter of the population consider themselves to be adults (Nelson et al., 2007). The ambivalence towards adult status could enhance participation in alcohol drinking in two ways. First, emerging adults

may feel entitled to make decisions for themselves in terms of alcohol use, without having to obtain parents' consent because they are no longer adolescents (Arnett, 2005). Second, since most emerging adults do not see themselves entirely as adults, they may not feel obligated to meet adult standards of behavior such as avoiding drunk driving and avoiding becoming drunk. In other words, not being fully adult could be seen as a permission to consume alcohol (and other substance) by emerging adults (Arnett, 2005).

Possibilities. Emerging adulthood is the age of possibilities, reflected in luxuriant opportunities in multiple life domains and emerging adults' optimistic attitude towards life (Reifman et al., 2007). Emerging adults tend to perceive a variety of life directions as available and therefore have high hopes for the future. Because of this high level of optimism, they may make light of the potential negative consequences associated with alcohol use (Arnett, 2005). They may also try out risky and stimulating things such as binge drinking in the belief that they can give them up after completing the transition to full-fledged adulthood. This strong optimistic bias in emerging adulthood could greatly promote alcohol use. In general, alcohol use and abuse reach their peak in emerging adulthood and the five features discussed here helped unveil the reason. Given its long-lasting high prevalence, it is possible that there are additional features of emerging adulthood (other than the five classic ones presented here) that apply specifically to alcohol use, which could be an inspiration for future research.

Emerging Adulthood in a Nutshell

To summarize, longer education, prolonged and rockier transition to a stable career, and later entry to marriage and parenthood today have opened up a space for an extended, new, and unique developmental stage between adolescence and young adulthood, named emerging adulthood (Arnett, 2000, 2014). The theory of emerging adulthood characterizes this special life

stage as the age of identity explorations, instability, self-focus, feeling in-between, and possibilities (Arnett, 2014). As a pivotal turning point in the human life span (Tanner, 2006), emerging adulthood is in fact a process of recentering, during which individuals make gradual, linear progress toward independence (i.e., becoming a self-sufficient person) while readjust the interdependence with the environment they live in (i.e., family and society). Although young people's experience during their emerging adult years may vary across contexts (e.g., culture, socioeconomic status) (Arnett, 2014), emerging adulthood as a new life stage has become more universal today – we all have to admit that the trajectory to adulthood is much more complicated than the past.

Vulnerability-Stress-Adaptation Model

Relevance

Among the five distinguishing features of emerging adulthood discussed above, the feature of *instability* was selected to be the focus of this dissertation, for three main reasons. First, instability is one of the most outstanding and representative characteristics of emerging adulthood. As Arnett (2014) stated “exploration and instability go hand in hand” (p. 13), emerging adulthood is exceptionally unstable with all the explorations taking place, the best reflection of which is in their change of residence. Moving rates reach their peak during emerging adult years (Arnett, 2000, 2005, 2014) and so do shifting choices in love and work, most likely because change of residence is usually caused by the latter, highlighting the great instability of emerging adulthood. Second, instability probably accounts for the high prevalence of alcohol use/abuse in emerging adulthood to the largest degree among the five features. As mentioned in the beginning, emerging adults have the highest rates of substance use/abuse, substance use disorders, as well as mental health issues (SAMHSA, 2021), indicating an

underlying close connection between substance use and mental illness. To be specific, mental illness could largely increase self-medication, a mechanism of which is substance use (Kuntsche et al., 2017). As a big source of negative mental states, instability events are more likely to take place during emerging adulthood than other periods of life, especially in the areas of love, work/school, and residence (Arnett, 2005; Tanner, 2006). Since instability events are change events, which usually disrupt people's lives and require personal readjustment (Scully et al., 2000), they are commonly reported as stressful. Important associations between stressful events and alcohol use have been found in different studies, implying a potential vicious circle of stressful events, mental illness, and alcohol use (e.g., Allan & Cooke, 1985; Veenstra et al., 2006). In other words, negative mental states following stressful events promote alcohol use as a coping mechanism, which in turn can worsen stressful events. For example, ending a romantic relationship motivates alcohol drinking to alleviate the accompanying sadness, which could result in other change events in life (e.g., missing work/school, change in health status) and cause more negative emotions, leading to more alcohol drinking. Therefore, instability is possibly the most responsible feature for the prevalent alcohol use in emerging adulthood, as it accelerates the reaction between negative mental states and alcohol consumption.

Last but not least, the sample of this dissertation was emerging-adult newlywed couples, which means they were in the transitional period to a new chapter of life in addition to the transitional developmental stage they were already at. According to Holmes and Rahe (1967), the developers of the Social Readjustment Rating Scale (SRRS), marriage is considered a change event since it involves movement from one equilibrium (i.e., steady state) to another and requires a considerable degree of readjustment. Newly married people are experiencing changes in different aspects of life and might encounter negative emotions unexpectedly, such as anxiety

and stressfulness (even though marriage is supposed to be a happy event). Thus, the participants of this study represented the instability feature of emerging adulthood well due to the transitional phase they were at and the many changes they were going through.

The Vulnerability-Stress-Adaptation (VSA) model of marriage (Karney & Bradbury, 1995) integrates the constructs discussed above (e.g., stressful events, maladaptive coping mechanism) in the context of marriage. Combining theoretical contributions and empirical findings on marital development, this framework identifies constructs that have important effects on marriage and examines their joint power. It addresses not only internal personal traits and external circumstances but also the interaction between spouses. Although marital outcomes exceed the scope of this dissertation (see Figure 1), the VSA model pinpoints the instability feature of emerging adulthood (i.e., stressful life events) as well as the consequent maladaptive processes (i.e., alcohol use). Moreover, it highlights the role of enduring vulnerabilities (e.g., attachment style, personality) that each individual carries and brings to the relationship, which are likely to make impacts on the other components of the model and account for the overall outcome (Karney & Bradbury, 1995). Hence, the adoption of the VSA model lays a solid theoretical foundation for this dissertation while providing guidance for the examination of interconnections among enduring traits, stressful life events, and alcohol use.

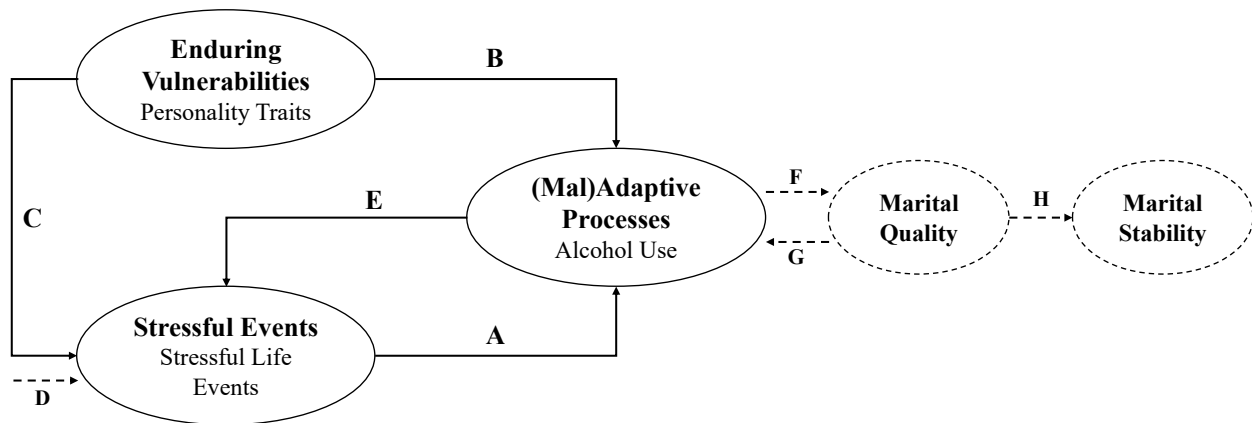
Overview

As shown in Figure 1, the VSA model examines marital development by specifying approaches through which marriages change over time and taking into consideration their joint power (Karney & Bradbury, 1995). Reciprocal relationships are identified within the model (Paths A and E; Paths F and G). Since marital quality and stability are beyond the scope of this dissertation, only Paths A, B, C, and E will be elaborated. Path D represents chance variables

that could possibly cause (or affect) the occurrence of stressful events and therefore will not be examined. From the model, enduring vulnerabilities refer to internal personal traits that each individual brings to the marriage, including but not limited to family history, personality traits, and demographic factors. Attachment theory (Bowlby, 1973; Mikulincer & Shaver, 2012) suggests that one’s experiences in early life and the characteristics formed at the time, which are usually stable, have lifelong influences on development. Stressful events represent external circumstances that require adaptation from the individual (and spouses), such as developmental transitions, adverse situations, challenges, and changes in any aspects of life in general. Crisis theory (Hill, 1949) emphasizes the effects of stressful events and the subsequent adaptation on marriage. Next, adaptive processes refer to behaviors enacted in reaction to stressful events, as well as the interaction between spouses and their cognition of these behaviors (Karney & Bradbury, 1995). Collectively, enduring vulnerabilities shape one’s well-being through adaptive processes in response to stressful events. Although each of these themes (i.e., vulnerability, stressor, adaptation) may account for marital outcomes separately, the VSA model argues that they combine to generate the greatest explanatory power (Karney & Bradbury, 1995).

Figure 1

The Vulnerability-Stress-Adaptation (VSA) Model



Note. The entire VSA model is beyond the scope of this dissertation. Paths denoted by solid lines (A, B, C, E) will be examined. Paths denoted by dashed lines (D, F, G, H) will not be examined.

Attachment Theory

Attachment theory (Bowlby, 1951, 1973, 1980) is centered on attachment relationships between children and parents, with an emphasis on the lifelong influences on development; it posits that the internal working models (IWMs) that a person develops in infancy persist throughout the life span. IWMs are based on affectional bonds formed with attachment figures early in life, including one model of self (i.e., Am I deserving of support?) and one model of others (i.e., Will others be there to support me?) (Bowlby, 1973). These models are influential from cradle to grave, shaping and predicting one's attachment behaviors in future relationships (Karen, 1990). In other words, internal relationships reflect external relationships. IWMs are intimately tied to early life experiences and of great importance to one's developmental trajectory, yielding a variety of outcomes such as psychological well-being, social behaviors, academic achievement, and romantic partnering (Mikulincer & Shaver, 2012).

An individual's behaviors and emotions could be positively or negatively influenced by the characteristics (e.g., attachment styles, personality traits) formed in early life, which are relatively stable over time (Bowlby, 1973). However, instead of being permanent, IWMs can be altered by developing a coherent perspective on early life experiences (if they are negative) (Phelps et al., 1998). In other words, as much as real-life experiences have powerful influences on development, one's insight on the experiences matters more. For instances, insightfulness about parents' marriage is a significant predictor of one's own marital conflict whereas content of the marriage (i.e., memories recalled from parents' marriage) is not (Curran et al., 2011) and

individuals who worked through negative attachment relationships (i.e., earned security) are able to break the intergenerational circle of poor parenting by not carrying on it with their own children (Phelps et al., 1998). Therefore, people who have the capacity to develop a positive attitude/perception in the face of challenging life situations are less likely to be affected by the potential adverse impacts.

Key Concepts

Enduring Vulnerabilities: Personality Traits. Enduring vulnerabilities refer to persistent personal traits that each individual carries and brings to the couple relationship, which are supposed to be relatively stable throughout the lifespan. Such vulnerabilities include individual histories (e.g., childhood experiences, relationship with parents, attachment representation), demographic characteristics (e.g., socioeconomic status, educational background), personality, and experiential factors that are stable and influential over time (e.g., chronic mental issues). Attachment theory draws attention to the role of personal traits resulting from early experiences and links them with relationships later in life. According to attachment theory, one's early experiences in close relationships with caregivers and the enduring traits developed at the time shape their subsequent relationships throughout the life course (Bowlby, 1973; Hazan & Shaver, 1987). Personality traits fit the conceptualization of enduring vulnerabilities because (a) the stability level of personality is remarkably high and even increases through adolescence and young adulthood (Caspi et al., 2005), and (b) personality has great predictive power and is manifested in people's thoughts, feelings, beliefs, and behaviors to result in a series of important life outcomes (Hampson, 2012). As introduced earlier, emerging adulthood has been identified as demographically diverse and unstable due to all the changes and explorations taking place in it

(Arnett, 2000). However, despite this great instability, personality traits remain incredibly stable and consistent through emerging adulthood (Caspi et al., 2005).

Stressful Events: Stressful Life Events (SLEs). Crisis theory points out the replicated effects of stressors and explains how families cope with stressful events. Several things are noteworthy from the theory. First, the impact of a stressful event largely depends on a family's definition/perception of it, which determines whether the resources a family possess are adequate for the members to successfully recover from the event (Hill, 1949). Second, the coping behaviors in response to an event can change over time and may have influences on responses to future events (McCubbin & Patterson, 1982). For example, poor adaptation to an event can create additional stressors, leading to subsequent maladaptive behaviors. Third, responses to a stressful event can result in adaptation or maladaptation, or both. Crisis theory highlights the role of each element involved in the process of coping with and recovering (or failing to recover) from stressful events. More importantly, it points out that each element (e.g., family's definition of an event) can evolve over time and should exert effect on not only the current adaptive (or maladaptive) process, but also future events and the subsequent coping. The stressful events selected for this dissertation are life events that are normally perceived as stressful, derived from clinical psychological experiences (Holmes & Rahe, 1967; Scully et al., 2000), covering areas of family, finance, work/school, health, and others. Each event requires a certain degree of change and readjustment from the involved individual. It is essential to recognize that even though the events are reported as "stressful", not all of them are negative or socially or personally undesirable. In fact, some of the events are considered desirable (e.g., pregnancy, vacation). This is because the events were selected based on the level of change required, "the emphasis is on

change from the existing steady state and not on psychological meaning, emotion, or social desirability” (Holmes & Rahe, 1967, p. 217).

(Mal)Adaptive Processes: Alcohol Use. Adaptive processes refer to behaviors enacted in response to a stressful event, which could result in both adaptation and maladaptation (Karney & Bradbury, 1995). As mentioned above, (mal)adaptive behaviors can develop over time and affect responses to future events. Alcohol use is considered a maladaptive behavior due to the many negative consequences associated with it, including harms to the self and harms to others. Harms to the self include severe ones like deaths, injuries, irreversible disabilities (most of which are caused by traffic accidents), health issues, and less severe but still problematic ones such as unintended and unprotected sexual activities and academic issues (e.g., missing classes) (Courtney & Polich, 2009; Stone et al., 2012). Harms to others can also be significant and thus should not be ignored (Kuntsche et al., 2017). An intoxicated driver can cause others’ deaths or lifelong disabilities. A woman who drinks alcohol during pregnancy can give birth to children with fetal alcohol syndrome (Stone et al., 2012). These potential consequences could deteriorate the original stressor (or produce additional stressors) and create a vicious circle. Besides the aforementioned potential consequences, which are relatively concrete and tangible, alcohol use also has implications for mental health and internalizing problems (Arnett, 2005, 2014; SAMHSA, 2021). Studies on stress and alcohol use have consistently found interconnections among stressful events, alcohol use, and mental health issues (e.g., Cole et al., 1990; Grzywacz & Almeida, 2008; Low et al., 2012). While an existing relationship between the occurrence of stressful events and alcohol use is supported by a lot of evidence, the direction is equivocal (Veenstra et al., 2006). Specifically, although stressful events generally increase alcohol

consumption (Arnett, 2005; Lensch et al., 2020; Perreira & Sloan, 2001), whether and the extent to which alcohol use will affect the subsequent stressful events merit further investigation.

Pathways

Path A: Stressful life events to alcohol use. The stressful life events (SLEs) in this dissertation are change events (aka instability events) that require movement from the current state of equilibrium to a new one (Holmes & Rahe, 1967). The longitudinal relationship between SLEs and marital outcomes (and life outcomes in general) has been well studied in research (Karney & Bradbury, 1995). The adaptive processes in response to SLEs, which either worsen or alleviate the situation, explains this longitudinal association to a considerable degree. As discussed earlier, alcohol use and abuse are considered maladaptive behaviors because of the negative effects and are more popular in emerging adulthood than other life stages (Arnett, 2014). SLEs are most common during the years of emerging adulthood as well, due to the instability feature of the period (Arnett, 2005). It is noteworthy that even though SLEs are supposed to be acute events, they could lead to chronic stress and potentially habitual poor adaptive behaviors (Lensch et al., 2020). Moreover, SLEs vary along multiple dimensions (e.g., severity, chronicity, expectedness), the degree of which may largely influence the subsequent adaptive processes (Karney & Bradbury, 1995; Keyes et al., 2011). Correspondingly, alcohol use as a stress response could result in different levels of consumption and consequence, ranging from occasional binge drinking to alcohol use disorders. In emerging adults, SLEs usually precede mental health issues, which are the main reason for self-medication (Low et al., 2012). Although it deserves further investigation whether mental health issues mediate associations between SLEs and alcohol use, utilizing mental health resources/services can help protect emerging adults from problem drinking in the face of SLEs (Lensch et al., 2020). In addition to

exposures to SLEs, the subject's perceived stressfulness and positivity regarding each event that occurred will also be assessed in this dissertation. In most circumstances, one's perspective on the experience plays a more important role than the experience itself (Phelps et al., 1998). The levels of perceived stressfulness and positivity may have greater predictive power for the pathway to alcohol use.

Path B: Personality traits to alcohol use. Attachment theory highlights the long-term impact of one's enduring traits formed in early life (Bowlby, 1973). There is plenty of evidence that these enduring traits shape life outcomes through their effects on people's capacity to adapt to the changes and challenges that life has to offer (Karney & Bradbury, 1995). As one of the most stable qualities that an individual possesses, personality is influential in the development of alcohol use and has been widely studied (e.g., Ibáñez et al., 2008; Shin et al., 2012). Early research has been attempting to identify a "prealcoholic personality profile" that differentiates alcoholics from nonalcoholics but failed to find a single risky or addictive alcoholic personality (Ibáñez et al., 2008; Levenson et al., 1987). However, it has been consistently found that a variety of personality traits are either positively or negatively associated with alcohol use and abuse. For example, among the well-known "Big Five" personality traits, binge drinking is more popular among people who exhibit high levels of extraversion but low on agreeableness, conscientiousness, and neuroticism/emotional stability (Adan et al., 2017; Kuntsche et al., 2017; Martin et al., 2021). Two main personality traits predicting alcohol use during emerging adulthood are impulsivity and sensation seeking, the latter is considered as a facet of the former in some studies (Adan et al., 2017; Dumas et al., 2017; Ibáñez et al., 2008; Lannoy et al., 2017; Shin et al., 2012). Although both traits are life-long explanatory factors, they are particularly present among younger people (Adan et al., 2017). The joint presence of impulsivity and

sensation seeking has been referred to as “disinhibited personality”, which is positively related to various alcohol outcomes including alcohol consumption, binge drinking, and alcohol use disorders (Shin et al., 2012). Other terms such as “addiction prone personality” (Barnes, 2013) and “stress-responsive personality” (Williams & Clark, 1998) have also been proposed to describe a combination of personality traits that are predictive for alcohol use, mainly including negative urgency, sensation/novelty seeking, high stress/low arousal, and lack of perseverance.

Path C: Personality traits to stressful life events. Enduring vulnerabilities not only affect individuals’ ability to adapt to SLEs, but also predict their exposures to SLEs to a certain degree (Karney & Bradbury, 1995). Research in developmental psychology has discovered links between various personality traits and experiences in SLEs. For instances, people who score highly on negative affectivity tend to report SLEs as more stressful (Marco & Suls, 1993) and people with chronic depression are likely to create stressful circumstances in order to maintain their depression (Hammen, 1991). As introduced earlier, attachment theory points out the importance of one’s insight on their experiences, which is often more powerful than the experiences themselves (Phelps et al., 1998). Despite other factors that could possibly lead to the occurrence of SLEs, one’s enduring traits resulting from early experiences largely decide their perception of an event and the impact of the event accordingly, which may exert an influence on the subsequent SLEs (Karney & Bradbury, 1995; Phelps et al., 1998). In other words, enduring traits could either increase or decrease exposures to SLEs through one’s cognition. In general, personality traits contribute to stressful life experiences and circumstances via people’s thoughts, feelings, beliefs, and behaviors, which should be considered jointly for their predictive power for development and life outcomes (Hampson, 2012; Karney & Bradbury, 1995).

Path E: Alcohol use to stressful life events. As discussed earlier, crisis theory informs that adaptive behaviors in response to SLEs can affect the possibility of subsequent SLEs (McCubbin & Patterson, 1982). Good adaptation may alleviate SLEs whereas maladaptation may exacerbate them and/or cause additional SLEs. Alcohol use falls into the category of maladaptation not only because of the potential negative consequences associated with it, but also its deficits in problem-focused coping (Kuntsche et al., 2017). In other words, using alcohol to cope with SLEs is not considered a problem-solving approach. Consuming alcohol (especially excessive amount) when encountering stressful situations usually generates a vicious circle where alcohol and negative emotions feed off each other (Stewart & Conrod, 2008). This reciprocal relationship between alcohol and stress has been suggested in many studies (e.g., Cole et al., 1990; Kuntsche et al., 2017). Specifically, alcohol appears to serve as a short-term anodyne of the unpleasant effects of SLEs, which in turn reinforces the use of alcohol as a coping strategy and contributes to future SLEs. In addition, common drinkers tend to experience SLEs more often as well as perceive more life stress in general than people who don't drink (or quit drinking) alcohol and problem drinkers are likely to experience more of both SLEs and daily life stress than common drinkers (Cole et al., 1990). These results are consistent with the model that crisis theory has designed, which allows for (mal)adaptive processes and stressful events to interact reciprocally (Hill, 1949; McCubbin & Patterson, 1982). Taken together, a potential vicious circle has been proposed, whereby (a) SLEs cause alcohol drinking as a maladaptive behavior, (b) which leads to worsening of SLEs, (c) which in turn challenge and maybe overwhelm one's ability to adapt and therefore result in more maladaptation, and so forth.

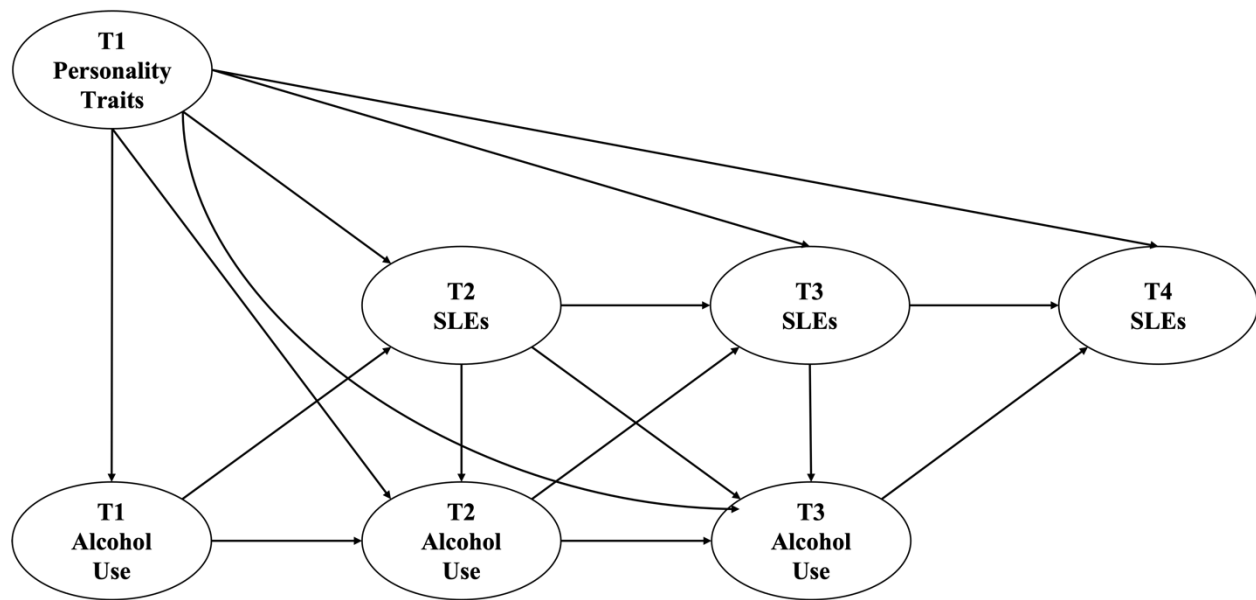
About This Dissertation

Research Overview

Building on emerging adulthood theory and the VSA framework, this dissertation research aims to test the relevant elements of the VSA model to identify important predictors of the developmental course of alcohol use in emerging adulthood. To be specific, this dissertation aims to examine personality traits and SLEs as predictors of emerging adults' alcohol use trajectories. Moreover, personality traits and alcohol use are explored as predictors of SLEs. The conceptual model is shown in Figure 2. Consistent with the VSA model and Figure 1, four kinds of pathways are specified in the conceptual model: (A) SLEs → alcohol use; (B) personality traits → alcohol use; (C) personality traits → SLEs; and (E) alcohol use → SLEs. Based on previous discussions, hypotheses are proposed regarding each path.

Figure 2

The Conceptual Model



Note. SLEs = Stressful Life Events, T1=Time 1, T2=Time 2, T3=Time 3, and T4=Time 4.

Personality traits were evaluated at T1. SLEs were assessed at T2, T3, and T4 while alcohol use was assessed at T1, T2, and T3. In accord with the Actor-Partner Interdependence Model

(APIM), paths are estimated separately and simultaneously for wives and husbands; within and across spouses (i.e., actor and partner effects).

Hypotheses

Path A: SLEs → alcohol use. SLEs in this dissertation are commonly reported as stressful and require change in ongoing life adjustment. Participants were asked to indicate which SLEs had occurred in their life *in the past 6 months*, including but not limited to the areas of family, finance, work/school, and health. In addition, participants were asked to rate the degree of perceived stressfulness and positivity/negativity regarding each event they endorsed. As discussed earlier, one's perception of an event plays a more important role than the event itself. The following hypotheses are proposed. It is also of interest whether particular SLEs have salient impacts on subsequent alcohol use, although no specific predictions have been made.

Hypothesis 1 SLEs are associated with alcohol use in emerging adults.

Hypothesis 1a Higher levels of perceived stressfulness regarding SLEs are associated with higher levels of alcohol use.

Hypothesis 1b Higher levels of perceived positivity regarding SLEs are associated with lower levels of alcohol use.

Path B: Personality traits → alcohol use. Personality traits investigated for this dissertation included kindness, sociability, anxiety, conscientiousness, flexibility, immaturity, and depression, the items of which map well onto the classic Big Five personality dimensions (Draper & Holman, 2005; Goldberg, 1992). Based on previous research on personality dimensions and taking the nature of each trait into consideration, hypotheses on certain traits and alcohol use are made below.

Hypothesis 2 Personality traits are associated with alcohol use in emerging adults.

Hypothesis 2a Higher levels of sociability, anxiety, immaturity, and depression are associated with higher levels of alcohol use.

Hypothesis 2b Higher levels of kindness, conscientiousness, and flexibility are associated with lower levels of alcohol use.

Path C: Personality traits → SLEs. Personality traits affect both people's experiences and perceptions of SLEs, which in turn contribute to subsequent SLEs. In particular, traits that involve deficits in emotional and behavioral control are likely to lead to more stress and people exhibit such traits tend to experience more SLEs and/or experience SLEs as more stressful (Langer et al., 2008; Marco & Suls, 1993). Given the nature of each personality trait identified in this dissertation, the following hypotheses are made.

Hypothesis 3 Personality traits are associated with SLEs in emerging adults.

Hypothesis 3a Higher levels of sociability, anxiety, immaturity, and depression are associated with more exposures to SLEs (i.e., number of SLEs experienced), higher levels of perceived stressfulness, and lower levels of perceived positivity regarding SLEs.

Hypothesis 3b Higher levels of kindness, conscientiousness, and flexibility are associated with less exposures to SLEs, lower levels of perceived stressfulness, and higher levels of perceived positivity regarding SLEs.

Path E: Alcohol use → SLEs. Most studies on stress and alcohol use examined the effects of the former on the latter, rather than the opposite direction. Although the reciprocal relationship between alcohol and stress has been suggested in previous research (e.g., Cole et al., 1990; Stewart & Conrod, 2008), few studies have explored SLEs as a consequence of alcohol use. Therefore, the inclusion of this path is exploratory. In addition, this dissertation is also

interested in whether the effects of SLEs on alcohol use surpass the effects of alcohol use on SLEs. The following hypotheses are proposed.

Hypothesis 4 Higher levels of alcohol use are associated with more exposures to SLEs and higher levels of perceived stressfulness regarding SLEs.

Hypothesis 5 The effects of SLEs on alcohol use are stronger than the effects of alcohol use on SLEs.

Collectively, this dissertation aims to investigate the interconnections among personality traits, SLEs, and alcohol use in emerging adulthood under the guidance of a VSA framework. Results will (a) shed light on the explanatory factors in the developmental course of emerging adults' alcohol use, (b) facilitate understanding of the mutual effect between alcohol and stress, and (c) inspire positive coping in the face of SLEs.

Chapter 3 – Method

Participants and Procedures

Participants for this dissertation were respondents in the Couple Relationships and Transition Experiences (CREATE) project, which is a nationally representative survey of newly married (i.e., marriages within 2 years) young couples. The CREATE study was designed to examine predictors of the development of relationship qualities in the early years of marriage while taking into consideration minor transitions (e.g., change in jobs, change in residence); it also sought to pinpoint how couples prepare for transitions in marriage and relationship consequences.

With approval of all appropriate IRB bodies, the recruiting process employed a two-stage cluster stratification sample design. The first stage involved a sample of counties, which were selected using a probability proportion to size (PPS) design and based on county population size, rates of marriage, divorce, and poverty, and the racial-ethnic distribution of the county. The second stage involved a sample of newlywed couples within the selected counties, ranging from 40 to 280 couples per county. Besides being married, respondents had to (a) have at least one partner be within the age range of 18-36 at the beginning of the study, (b) have at least one partner be in their first marriage, and (c) be living in the United States to be recruited into the sample. A \$50.00 gift card was given to each participating spouse upon completion of the survey. Final sample included 2,187 newlywed couples, the majority of which were married during 2014 (90%) while the remainder were in 2013 (4%) and 2015 (6%). Data collection at Time 1 took place from October 2015 to October 2016. Four-annual-wave data have been collected to date and are used in this dissertation (T1/2/3/4 for Time 1/2/3/4 hereafter).

To be included in this dissertation, the criterion for emerging adulthood had to be met (i.e., within the age range of 18-29). In other words, only couples in which both partners were under age 30 at the time of recruitment were eligible for this dissertation. Additionally, same-sex couples were excluded due to the small number (i.e., 18 couples, 1.8%), resulting in a final sample of 963 couples (see Table 1 for detailed sample description). It is noteworthy that women who were pregnant (or attempting to get pregnant) at each wave of data collection were included in the sample. Although they were not expected to consume alcohol, significant proportions of them (e.g., 56.2% of pregnant women at T2) reported alcohol drinking. Moreover, pregnancy was assessed as one of the SLEs in this dissertation, allowing the examination of its impacts on alcohol use.

Table 1

Description of the Final Sample (N = 963 couples)

	Couples	
Marital History		
First Marriage for Both Partners	93.9%	
Remarriage for Wives	3.0%	
Remarriage for Husbands	3.1%	
Parental Status		
Neither Having Child nor Pregnant	47.8%	
No Child but Pregnant	12.8%	
One Child	25.1%	
Two or More Children	14.1%	
	Wives	Husbands
Age	$M = 24.35$ ($SD = 2.59$) years	$M = 25.47$ ($SD = 2.47$) years
Race/Ethnicity		
White	68.5%	68.7%
Latino	16.0%	15.3%
Asian	3.5%	3.3%
African American	7.5%	8.9%
Native American	2.5%	2.2%
Other	2.0%	1.6%
Religion		
Protestant	50.6%	49.9%
Catholic	18.8%	18.5%

Other	12.7%	14.6%
None	17.9%	17.0%
Education Level	<i>Median</i> = Associates	<i>Median</i> = Some College
Monthly Household Income	<i>Median</i> = \$40,000-\$49,000	<i>Median</i> = \$40,000-\$49,000
Weekly Working Hours	<i>M</i> = 28.21 (<i>SD</i> = 18.66) hours	<i>M</i> = 40.97 (<i>SD</i> = 15.84) hours

Measures

Personality Traits

Seven personality traits were assessed in this dissertation, including kindness, sociability, anxiety, conscientiousness, flexibility, immaturity, and depression. A 20-item scale was developed as measurement, which initially came from Goldberg's work on univocal markers for main personality dimensions (Goldberg, 1992). These items have been demonstrated mapping well onto the well-known Big Five personality dimensions (Draper & Holman, 2005). Validity and reliability of these items have been extensively evaluated in studies (Busby et al., 2001; Busby et al., 2011; Draper & Holman, 2005). Participants rated how much specific words or phrases describe themselves on a 5-point Likert scale from 1 (*never*) to 5 (*always*). Sample item for each trait was "considerate" (kindness, 4 items), "outgoing" (sociability, 4 items), "tense" (anxiety, 2 items), "organized" (conscientiousness, 2 items), "adaptable" (flexibility, 4 items), "easily irritated or mad" (immaturity, 2 items), and "sad and blue" (depression, 2 items). Higher scores indicated higher levels of the personality trait. Cronbach's alphas for wives/husbands were .82/.85 for kindness, .80/.80 for sociability, .73/.70 for anxiety, .72/.67 for conscientiousness, .87/.85 for flexibility, .79/.84 for immaturity, and .86/.88 for depression.

Stressful Life Events (SLEs)

The Social Readjustment Rating Scale (SRRS) (Holmes & Rahe, 1967) is one of the most widely used measurement instruments to assess life stress, which consists of 43 life events derived from clinical psychological experiences. The SLEs in this dissertation included several

items from the SRRS, along with additional stressors in a total of 50 events, covering areas of family, finance, health, work/school, and others. Sample item from each domain was “death of close family member” (family), “had a foreclosure of mortgage or loan” (finance), “personal injury or illness” (health), “begin or end school/college” (work/school), and “change in residence” (other). Participants endorsed the SLEs they had experienced *in the past 6 months* and then were asked a series of follow-up questions regarding each event, including whether and to what extent the event was stressful for them, was negative for them, and affected their marriage positively or negatively. Responses ranged from 0 (*not at all*) to 100 (*a great deal*) for each follow-up item.

Alcohol Use

Alcohol use was assessed by the Adolescent Alcohol and Drug Involvement Scale (AADIS), which is a revised combination of the Adolescent Alcohol Involvement Scale (AAIS) (Mayer & Filstead, 1979) and the Adolescent Drug Involvement Scale (ADIS) (Moberg & Hahn, 1991). The AADIS assesses substance use/abuse based on the type of substance (e.g., alcohol, marijuana) and the frequency of use. Participants rated themselves on a 7-point Likert scale ranging from 1 (*never used*) to 7 (*several times a day*). Higher scores indicated higher frequency of the substance use. This dissertation also included a question on binge drinking, which is a popular behavior in emerging adults that the AADIS does not address. Research has shown high degrees of validity and reliability for this measure (e.g., Moberg & Hahn, 1991). Descriptive statistics of the key study constructs are displayed in Table 2.

Table 2*Descriptive Statistics of Key Study Constructs*

	Wives			Husbands		
	<i>Mean</i>	<i>SD</i>	<i>Range</i>	<i>Mean</i>	<i>SD</i>	<i>Range</i>
Personality Traits						
Kindness (T1)	17.15	2.67	4-20	15.07	5.54	4-20
Sociability (T1)	13.43	3.33	4-20	12.40	5.14	4-20
Anxiety (T1)	5.30	1.76	2-10	4.38	2.14	2-10
Conscientiousness (T1)	7.26	1.91	2-10	5.98	2.62	2-10
Flexibility (T1)	15.73	3.21	4-20	14.36	5.47	4-20
Immaturity (T1)	4.35	1.79	2-10	3.91	2.20	2-10
Depression (T1)	4.12	1.81	2-10	3.29	1.96	2-10
Stressful Life Events						
Family Events (T2)	1.98	1.79	0-16	1.77	1.69	0-16
Financial Events (T2)	.78	.73	0-6	.76	.72	0-6
Work/School Events (T2)	1.25	1.31	0-10	1.41	1.34	0-10
Health Events (T2)	1.38	1.28	0-6	1.13	1.15	0-6
Other Events (T2)	1.43	1.27	0-12	1.39	1.27	0-12
Family Events (T3)	1.58	1.59	0-16	1.31	1.42	0-16
Financial Events (T3)	.64	.68	0-6	.57	.63	0-6
Work/School Events (T3)	1.05	1.19	0-10	1.15	1.23	0-10
Health Events (T3)	1.15	1.19	0-6	.95	1.09	0-6
Other Events (T3)	1.28	1.25	0-12	1.23	1.24	0-12
Family Events (T4)	1.41	1.70	0-16	1.16	1.57	0-16
Financial Events (T4)	.44	.68	0-6	.36	.65	0-6
Work/School Events (T4)	.83	1.22	0-10	.91	1.28	0-10
Health Events (T4)	.86	1.23	0-6	.66	1.09	0-6
Other Events (T4)	.95	1.16	0-12	.85	1.18	0-12
Alcohol Use						
Alcohol Use (T1)	2.64	1.40	1-7	3.02	1.57	1-7
Binge Drinking (T1)	1.48	.68	1-5	1.73	.86	1-5
Alcohol Use (T2)	2.57	1.41	1-7	3.02	1.56	1-7
Binge Drinking (T2)	1.47	.70	1-5	1.78	.90	1-5
Alcohol Use (T3)	2.58	1.40	1-7	2.97	1.58	1-7
Binge Drinking (T3)	1.51	.76	1-5	1.82	.90	1-5

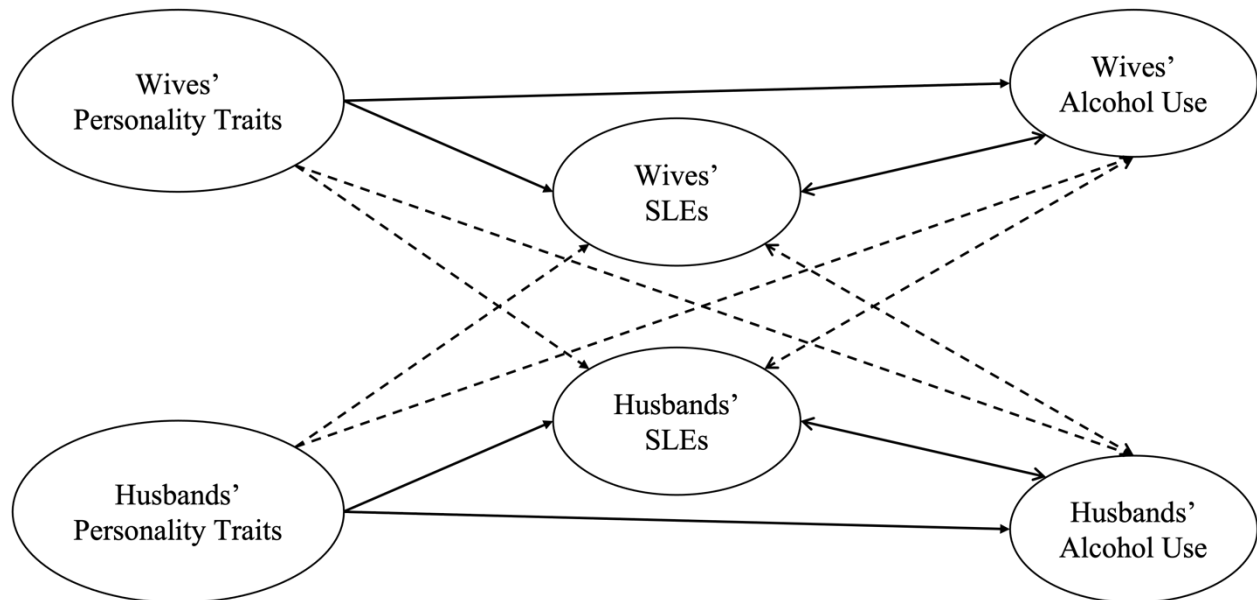
Data Analyses***APIM***

This dissertation employed the Actor-Partner Interdependence Model (APIM; Kenny et al., 2006) to account for the interpersonal relationships between spouses. In an APIM, there are

two dyad members (i.e., actor and partner) and at least two variables (i.e., a predictor variable and an outcome variable) for each member. There are potentially two actor effects when dyad members are distinguishable (as is the case in the current sample of heterosexual newlywed couples): the effect of the wife’s predictor on the wife’s outcome and the effect of the husband’s predictor on the husband’s outcome. There are also two potential partner effects: the effect of the wife’s predictor on the husband’s outcome and the effect of the husband’s predictor on the wife’s outcome. An APIM simultaneously estimates the actor effects and the partner effects (see Figure 3). In addition to the actor and partner effects, an APIM includes at least two correlations: the potential correlation between the wife’s and the husband’s predictors and the nonindependence in their outcomes. The latter is partially explained by the combination of the actor and partner effects.

Figure 3

Actor-Partner Interdependence Model (APIM)



Note. SLEs = Stressful Life Events. Paths representing actor effects (i.e., wives → wives and husbands → husbands) are denoted by solid lines. Paths representing partner effects (i.e., wives → husbands and husbands → wives) are denoted by dashed lines.

SEM

To test the hypothesized model, Structural Equation Modeling (SEM) techniques were used with maximum likelihood estimation. There are several merits of using SEM. First, it provides a mechanism to compare theoretical models to observed data. Second, it corrects for measurement error while examining the associations. Last but not the least, it allows the simultaneous modeling of multiple predictor and outcome variables, therefore the APIM could be used. As shown in Figure 2, the conceptual model applies a lagged design that allows time for the effects to take place (T2 SLEs → T2 alcohol use and T3 SLEs → T3 alcohol use are specified as well because the SLEs were events that occurred *in the past 6 months*, which means there was already a time interval between SLEs and alcohol use assessed at the same time point). Such lagged design helps rule out the over-time stability in outcome variables as well as supports stronger inference about the direction of effects than models with cross-sectional data (Roth & MacKinnon, 2012; Selig & Preacher, 2009). In each Confirmatory Factor Analysis (CFA) of the measurement models, the latent variances were set to 1 to interpret the loadings. Model fit indices reported in this dissertation include chi-square with degree of freedom and *p*-value, Comparative Fit Index (CFI), Root Mean Square Error of Approximation (RMSEA), and Standardized Root Mean Square Residual (SRMR). Parameter estimates can be interpreted once a model demonstrates adequate fit for the data.

Chapter 4 – Results

Gender differences were detected on the key study constructs by conducting Hotelling's T-squared tests for independent groups. Wives and husbands differed on personality traits, SLEs (perceived stressfulness and positivity), and alcohol use ($p < .01$ at all waves). Table 3 displays bivariate correlations among wives' and husbands' predictor and outcome variables. Interspousal correlations were small for personality traits, moderate for SLEs, and moderate to high for alcohol use as shown.

Measurement Models

Full Model

First, a measurement model including all variables of interest was tested. Wives' and husbands' personality traits and SLEs were specified, resulting in ten latent variables for each party (i.e., kindness, sociability, anxiety, conscientiousness, flexibility, immaturity, depression, exposures to SLEs, perceived stressfulness, and perceived positivity). Alcohol use and binge drinking were modeled as two observed variables. Both latent variables and observed variables were allowed to covary within and between spouses. The model fit the data properly: $\chi^2 (865, N = 963) = 4119.771, p < .001$; CFI = .932; RMSEA = .063; SRMR = .065.

Table 3

Bivariate Correlations Among Wives' and Husbands' Predictor and Outcome Variables

Wives' Variables	Husbands' Variables																		
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
Personality Traits																			
1. Kindness	.18*	.22*	-.12*	.15*	.51*	-.29*	-.18*	-.05	.19*	-.02	.09	.04	.10	-.03	-.02	-.02	-.06	.03	.04
2. Sociability	.30*	.03	-.21*	.00	.17*	.03	-.20*	.02	.10	-.06	.07	.04	.04	.10	.13*	.14*	.15*	.16*	.16*
3. Anxiety	-.01	-.12*	.11	-.11	-.21*	.41*	.55*	.14*	.00	.14*	-.03	.06	-.02	.04	.08	.03	.02	.01	.03
4. Conscientiousness	.29*	.21*	-.11*	.04	.11*	-.23*	-.20*	-.06	.05	-.07	-.01	-.11	-.05	-.09	-.12	-.05	-.08	-.07	-.11
5. Flexibility	.52*	.21*	-.15*	.21*	.07	-.30*	-.16*	.00	.24*	-.02	.14*	.03	.12*	.04	-.03	.05	-.02	.08	.01
6. Immaturity	-.19*	.01	.49*	-.10*	-.24*	.17*	.47*	.13*	-.09	.06	-.04	.06	-.05	.06	.17*	.06	.15*	.07	.13*
7. Depression	-.12*	-.13*	.48*	-.19*	-.14*	.50*	.24*	.19*	-.03	.15*	-.01	.11	-.04	-.03	.01	-.01	.03	-.05	-.02
Stressful Life Events																			
8. Stressfulness 2	-.04	-.02	.13*	-.08*	-.01	.09*	.18*	.47*	.34*	.50*	.24*	.25*	.08	.02	.01	.04	.08	.00	.04
9. Positivity 2	.08*	.07*	-.01	.02	.11*	-.01	-.04	.38*	.29*	.24*	.38*	.14*	.20*	-.03	-.06	.01	-.04	.02	.01
10. Stressfulness 3	-.01	.03	.14*	-.06	-.04	.08*	.15*	.43*	.15*	.38*	.46*	.38*	.18*	-.01	-.02	.01	-.01	.01	.04
11. Positivity 3	.05	.08*	.08*	.00	.04	.04	.04	.12*	.23*	.47*	.36*	.25*	.31*	-.05	-.04	-.04	-.03	.00	-.03
12. Stressfulness 4	.02	.02	.09*	-.07*	.01	.10*	.09*	.27*	.11*	.37*	.21*	.42*	.62*	.00	.03	.03	-.01	.04	.02
13. Positivity 4	.06	.04	.04	.01	.07*	.01	-.01	.08*	.15*	.22*	.32*	.61*	.38*	.00	-.01	.02	-.05	.01	-.03
Alcohol Use																			
14. Alcohol Use 1	-.13*	.08*	.01	.01	-.04	-.01	.00	.04	.04	.04	.03	.03	.07*	.60*	.65*	.70*	.48*	.66*	.51*
15. Binge Drinking 1	-.09*	.02	.06	.00	-.05	.09*	.06	.11*	.05	.06	.05	.04	.06	.57*	.50*	.53*	.59*	.47*	.59*
16. Alcohol Use 2	-.10*	.06	.02	.00	-.02	.05	.00	.06	.04	.09*	.07*	.06	.08*	.66*	.47*	.54*	.63*	.75*	.60*
17. Binge Drinking 2	-.06	.04	.03	.01	-.02	.08*	-.01	.07*	.04	.10*	.06	.06	.08*	.43*	.56*	.58*	.37*	.49*	.64*
18. Alcohol Use 3	-.08*	.04	.02	-.04	-.02	-.01	-.02	.00	-.02	.08*	.07	.05	.08*	.60*	.42*	.66*	.42*	.53*	.66*
19. Binge Drinking 3	-.10*	-.02	.03	-.03	-.03	.07	.04	.02	.01	.12*	.07*	.02	.06	.37*	.48*	.43*	.50*	.58*	.36*

Note. Interspousal correlations are along the diagonal and in bold; within-wife correlations are below the diagonal; within-husband correlations are above the diagonal. Number following the variable name indicates time/wave of data collection.

* $p < .05$, two-tailed.

SLEs to Alcohol Use and Alcohol Use to SLEs

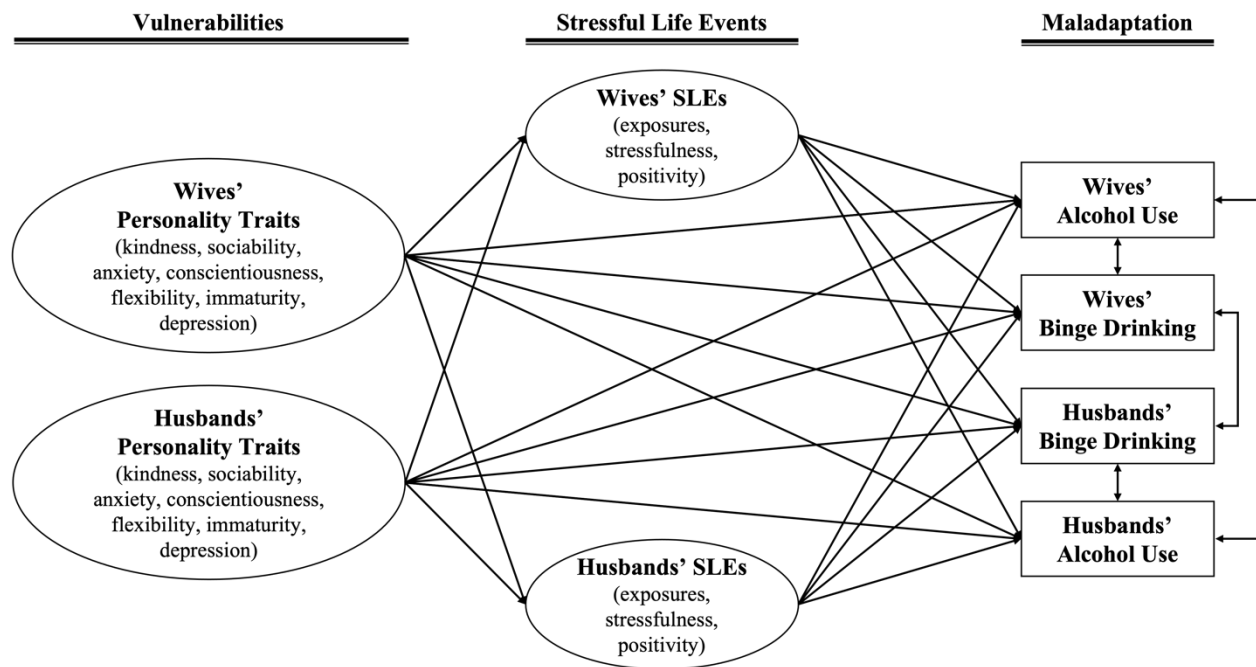
The original VSA model (Karney & Bradbury, 1995) is nonrecursive and thus under-identified in its entirety. As a result, to examine all the VSA paths in the conceptual model presented earlier, only one of Path A (SLEs to alcohol use) and Path E (alcohol use to SLEs) could be included. Two more models were created accordingly, one estimating Path A (Model A) and one estimating Path E (Model E). Comparing to the full measurement model above, in which SLEs and alcohol use were modeled as covariances instead of directional paths, Model A exhibited better overall model fit ($\chi^2 = 3987.741, p < .001$; CFI = .945; RMSEA = .050; SRMR = .051) than Model E ($\chi^2 = 2911.837, p < .001$; CFI = .888; RMSEA = .101; SRMR = .079). Furthermore, individual paths in Model A and Model E were analyzed (e.g., in Model A, wives' and husbands' perceived stressfulness predicting their alcohol use). Four paths were significant in Model A while none of the paths were significant in Model E. No supportive evidence was found for Hypothesis 4. In other words, the associations between SLEs and alcohol use were better represented by a model in which SLEs predicted alcohol use (Path A) rather than a model in which alcohol use predicted SLEs (Path E). Hypothesis 5 was supported.

Removing Path E from the original model, modification of the hypothesized model is shown in Figure 4, which also incorporates the actor and partner paths indicated by APIM. To note, time points are not specified in the modified model because (a) data on SLEs and alcohol were not symmetric in the CREATE study (SLEs was missing at T1 and alcohol use was missing at T4), with Path E being removed, only two time points of data on the key study constructs became meaningful (except for personality, which barely changes over time, explained earlier), and (b) to determine whether a lagged design was necessary (e.g., T2 SLEs \rightarrow T2 alcohol use or T2 SLEs \rightarrow T3 alcohol use) since SLEs were events that happened *in the past 6 months* and

there was already a time lapse for the effects to take place, separate analyses were run and the results favored a non-lagged design. Therefore, only associations between SLEs and alcohol use at the same time point were examined (i.e., T2 SLEs → T2 alcohol use and T3 SLEs → T3 alcohol use) and results will be reported separately for each time point.

Figure 4

Modified Final Model



Relevant Pathways in the VSA Model

Final structural model included three pathways in the original VSA model: Path A (stressful events to adaptive processes), Path B (enduring vulnerabilities to adaptive processes), and Path C (enduring vulnerabilities to stressful events). The model was an adequate fit for the data: $\chi^2 (876, N = 963) = 6599.444, p < .001; CFI = .923; RMSEA = .079; SRMR = .083$.

Path A: SLEs to Alcohol Use

No significant associations between SLEs and alcohol use were found for husbands. Neither perceived stressfulness nor positivity regarding SLEs predicted husbands' alcohol

drinking behaviors. Wives' perceived stressfulness regarding SLEs predicted alcohol use and binge drinking for both wives and husbands at T2 and for wives only at T3, controlling for the effects of personality traits. At T2, wives' perceived stressfulness positively predicted wives' alcohol use ($\beta = .01$, $SE = .01$, $p < .01$), wives' binge drinking ($\beta = .02$, $SE = .01$, $p < .05$), husbands' alcohol use ($\beta = .01$, $SE = .01$, $p < .01$), and husbands' binge drinking ($\beta = .05$, $SE = .02$, $p < .05$). At T3, wives' perceived stressfulness positively predicted wives' alcohol use and binge drinking ($\beta = .01$, $SE = .01$, and $\beta = .03$, $SE = .01$, respectively; $ps < .01$). Wives who perceived more stress from SLEs tended to engage in more drinking behaviors. Hypothesis 1a was partially supported. Perceived positivity of SLEs did not predict anything for wives either. Hypothesis 1b was not supported.

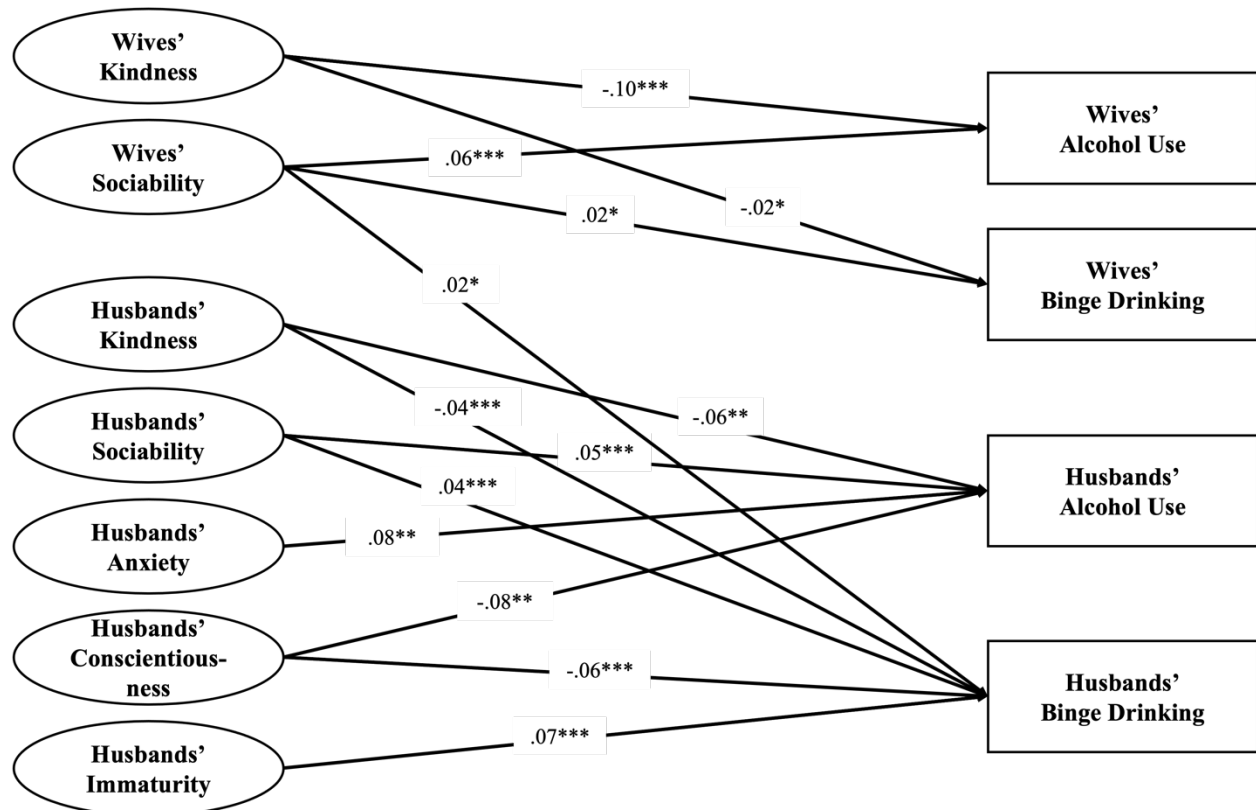
Path B: Personality Traits to Alcohol Use

Figure 5 presents all of the significant paths from wives' and husbands' personality traits to wives' and husbands' alcohol use. Traits that were predictive at both T2 and T3 are displayed. Kindness and sociability demonstrated strongest predictive power, both traits predicted alcohol use and binge drinking for both wives and husbands. Wives' sociability also predicted husbands' binge drinking behavior. Conscientiousness predicted alcohol use and binge drinking for husbands but not for wives. For Hypothesis 2a, sociability was positively associated with both alcohol use and binge drinking for wives and husbands, meaning that wives and husbands with more social personalities were more likely to engage in drinking behaviors as well as to binge drink. Husbands' binge drinking was also predicted by wives' sociability, to the extent that husbands with wives who were more social displayed more binge drinking behavior. Anxiety and immaturity were predictive for husbands only. Husbands' anxiety was positively associated with husbands' alcohol use and husbands' immaturity was positively associated with husbands'

binge drinking; husbands with more anxious and immature personalities were more likely to consume alcohol and to binge drink, respectively. No significant results were found for trait depression, surprisingly. Hypothesis 2a was partially supported. For Hypothesis 2b, kindness was negatively associated with both alcohol use and binge drinking for wives and husbands, indicating wives and husbands who had more kind personalities tended to engage in fewer drinking behaviors and were also less likely to binge drink. Conscientiousness was negatively associated with alcohol use and binge drinking for husbands; husbands who were more conscientious exhibited fewer drinking behaviors and less binge drinking pattern. Trait flexibility was predictive for neither wives nor husbands. Hypothesis 2b was partially supported.

Figure 5

Significant Paths from Personality Traits to Alcohol Use



Note. Paths that were statistically significant at both T2 and T3 are shown. Nonsignificant paths ($p > .05$) are not shown. Standardized coefficients at T2 are presented (T3 yielded similar results for the mutual significant paths). $*p < .05$, $**p < .01$, $***p < .001$ (two-tailed). Standardized coefficient for covariance was .58 ($p < .001$) between wives' alcohol use and wives' binge drinking; .65 ($p < .001$) between husbands' alcohol use and husbands' binge drinking; .54 ($p < .001$) between wives' alcohol use and husbands' alcohol use; and .39 ($p < .001$) between wives' binge drinking and husbands' binge drinking (T2).

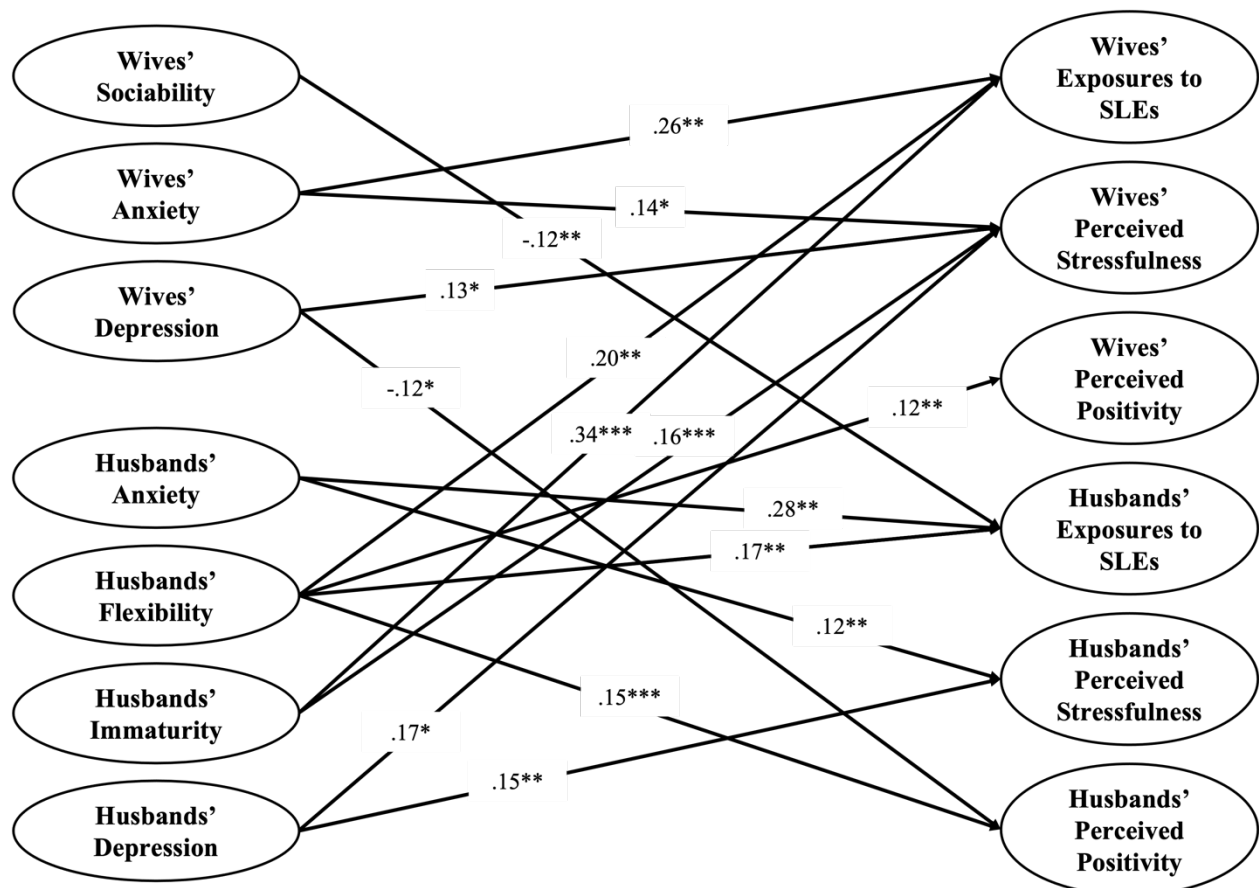
Path C: Personality Traits to SLEs

Figure 6 displays the significant paths from wives' and husbands' personality traits to wives' and husbands' experiences of SLEs. Paths that were significant at both T2 and T3 are presented. For Hypothesis 3a, wives' sociability negatively predicted husbands' exposures to SLEs; husbands with more social wives were likely to experience less SLEs. Trait anxiety exhibited great predictive power, positively predicting exposures to SLEs and perceived stressfulness of SLEs for both wives and husbands; wives and husbands with more anxious personalities tended to experience more SLEs as well as perceive SLEs as more stressful. Husbands' immaturity positively predicted wives' exposures to SLEs and perceived stressfulness, meaning that wives whose husbands had more immature personalities were more likely to experience SLEs and perceive SLEs as stressful. Trait depression was predictive for both wives and husbands. Wives' depression was positively associated with wives' perceived stressfulness and negatively associated with husbands' perceived positivity regarding SLEs; wives who had more depressive personalities perceived SLEs as more stressful and husbands with wives who were more depressive tended to perceive SLEs as less positive. Husbands' depression was positively associated with both wives' and husbands' perceived stressfulness

regarding SLEs; husbands with more depressive personalities were likely to perceive SLEs as more stressful and wives with more depressive husbands tended to perceive SLEs as more stressful as well. Hypothesis 3a was partially supported. For Hypothesis 3b, no significant results were found for trait kindness and conscientiousness. Husbands' flexibility demonstrated great predictive power though in an unexpected direction. Husbands' flexibility was positively associated with exposures to SLEs and perceived positivity regarding SLEs for both wives and husbands; husbands who were more flexible and wives with such husbands tended to experience more SLEs and perceive SLEs as more positive. Hypothesis 3b was not supported.

Figure 6

Significant Paths from Personality Traits to Stressful Life Events (SLEs)



Note. Paths that were statistically significant at both T2 and T3 are shown. Nonsignificant paths ($p > .05$) are not shown. Standardized coefficients at T2 are displayed. $*p < .05$, $**p < .01$, $***p < .001$ (two-tailed). Standardized coefficient for covariance was .37 ($p < .001$) between wives' perceived stressfulness and wives' perceived positivity; .33 ($p < .001$) between husbands' perceived stressfulness and husbands' perceived positivity; .47 ($p < .001$) between wives' perceived stressfulness and husbands' perceived stressfulness; and .29 ($p < .001$) between wives' perceived positivity and husbands' perceived positivity (T2).

Overall, personality traits demonstrated great explanatory power for both experiences in SLEs and alcohol drinking behaviors, especially for husbands. Wives' and husbands' personality traits displayed impacts on each other, though personality seemed to play a more important role in perceptions and behaviors for husbands than for wives. Only wives' perceptions of SLEs showed predictive power for alcohol drinking behaviors, within and between spouses. Figure 7 summarizes all the significant VSA paths in the final model.

Additional Findings

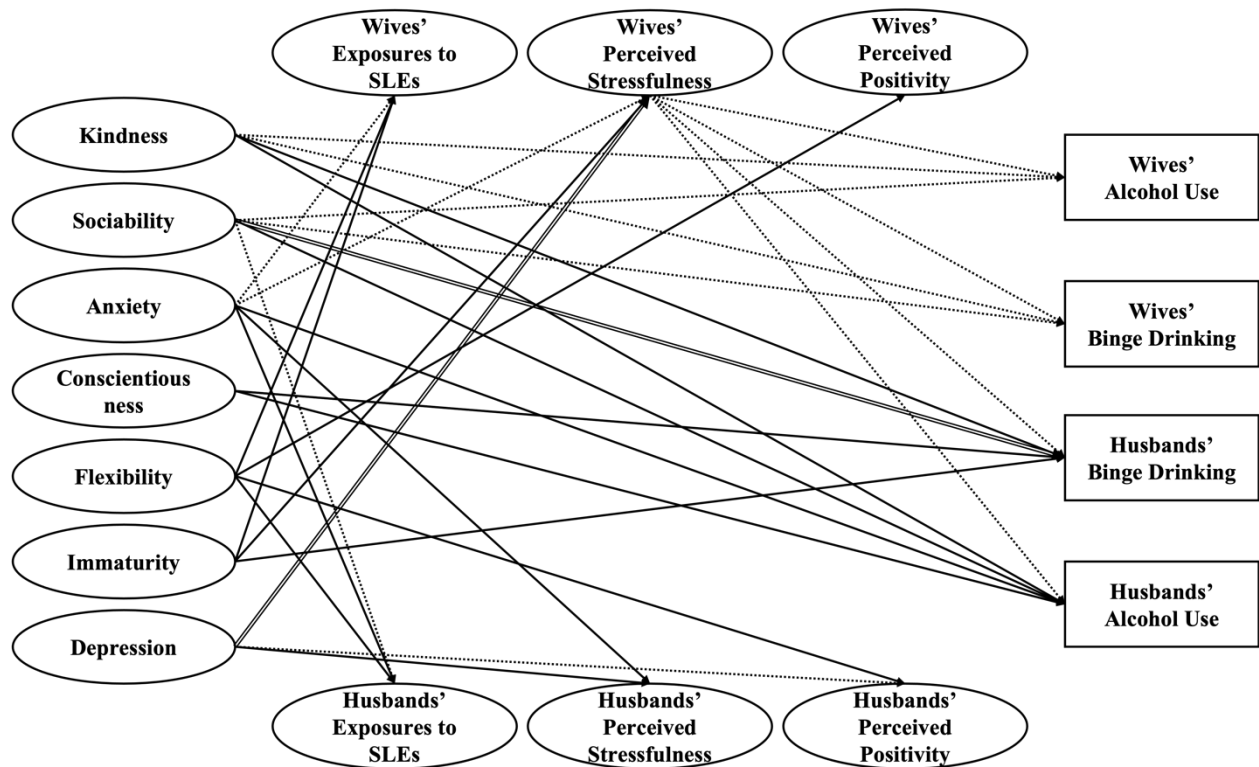
Popular SLEs in Emerging Adulthood

Among the 50 SLEs assessed in this dissertation, the top three reported events were “change in the amount of time spent with spouse”, 33.2% of wives and 29.6% of husbands endorsed this event at T2; “change in exercise routine”, with 32.1% of wives and 28.4% of husbands endorsing it at T2; and “change in the number of sexual interactions with spouse”, 30.8% of wives and 26.7% of husbands reported it at T2. Responses regarding these three events displayed similar patterns at T3 and T4. Some other popular events included “took on additional financial obligations”, “change in work hours or conditions”, and “change in eating habits”. As one of the most popular instability events in emerging adulthood (Arnett, 2000, 2014), “change

in residence” took place for 16.5% of wives and 15.4% of husbands at T2. Nine percent of wives and 5.3% of husbands reported “begin or end school/college” at T2. In general, wives and husbands showed similar response patterns in the areas of family and financial events; husbands experienced more work/school events and fewer health events than wives.

Figure 7

Visual Depiction of All Significant Paths in the Final Model



Note. SLEs = Stressful Life Events. Paths from wives’ personality traits are denoted by dotted lines; paths from husbands’ personality traits are denoted by solid lines; paths from both wives’ and husbands’ personality traits are denoted by double lines. All the paths from trait kindness and trait conscientiousness were negative associations; path from wives’ sociability to husbands’ exposures to SLEs was a negative association; path from wives’ depression to husbands’ perceived positivity was a negative association. All other paths were positive associations.

Pregnancy and Parenthood

As mentioned earlier, wives who were pregnant at the time of data collection were included in the current sample ($N = 89$). Although alcohol can have detrimental effects on pregnant women (Stone et al., 2012) and is not supposed to be consumed during pregnancy, sizable proportions of pregnant wives in the sample (56.2% at T2 and 51.8% at T3) reported alcohol drinking. Pregnancy was considered a positive event in general, for both wives and husbands. On a scale of 0 (*not at all*) to 100 (*a great deal*), perceived positivity towards pregnancy was 82.7 for wives and 79.2 for husbands, on average; average perceived stressfulness of pregnancy was 37.2 and 35.0 for wives and husbands, respectively. Additional analyses were conducted to examine the impacts of pregnancy on wives' drinking behaviors. First, differences in alcohol involvement between pregnant and nonpregnant women were tested by Hotelling's T-squared tests for independent groups. Wives who were pregnant and those who were not differed on alcohol use and binge drinking at all time points ($ps < .001$); nonpregnant wives reported higher levels of alcohol use and binge drinking. Husbands with pregnant wives, on the other side, were not different in drinking behaviors from husbands whose wives were not pregnant. Second, pathway analyses were run on wives to further investigate the influence of pregnancy on their alcohol involvement. Results indicated that nonpregnant wives were significantly higher in both alcohol use and binge drinking than pregnant wives ($ps < .001$), with other variables being controlled. Pregnancy significantly restricted women's alcohol consumption.

Due to the effects of pregnancy on alcohol use, analyses were repeated with pregnant couples being removed from the sample ($N = 89$ couples, 9.2%). The results, however, maintained the same patterns. All the significant VSA paths remained statistically significant (in the same directions) in the new sample, with very small changes in parameter estimates. A few

new significant paths from personality traits emerged at either T2 or T3, none of which were significant at both time points. The small percentage of wives who were pregnant could be responsible for the similar results.

The role of parenthood in alcohol involvement was examined as well. Among the sample, 39.5% of wives and 36.4% of husbands were parents (i.e., had at least one child). Parents were significantly lower in alcohol use than spouses who did not have children, for both wives and husbands ($p < .001$). There was no supportive evidence, however, for differences in binge drinking behaviors. Wives and husbands who were parents and those who were not did not differ on binge drinking. As mentioned in Chapter 1, parenthood usually marks the completion of transition to adulthood (Arnett, 2000; Nelson et al., 2007). Therefore, analyses were repeated on participants who were not parents in the sample ($N = 582$ couples, 60.4%). No significant differences occurred for Path A (SLEs to alcohol use); wives' perceived stressfulness was the only variable that displayed predictive power. Some different results were found for personality traits, mainly regarding Path C (personality traits to SLEs). Trait depression showed more powerful influences and was positively associated with exposures to SLEs for both wives and husbands, in addition to the previous significant paths; husbands' flexibility had great actor and partner effects, positively predicting exposures to SLEs, perceived stressfulness, and perceived positivity for wives and husbands; husbands' anxiety and immaturity were not predictive for any aspects of SLEs.

Chapter 5 – Discussion

Emerging adulthood is a special life stage with great instabilities and the highest rate of substance use/abuse and mental health issues (Arnett, 2005, 2014). Research (e.g., Allan & Cooke, 1985; Kuntsche et al., 2017) has suggested close connections between emerging adults' alcohol use behaviors and the instabilities in their life. Guided by Karney and Bradbury's (1995) VSA framework, this dissertation investigated emerging-adult newlywed couples' alcohol drinking pattern and their experiences of instability events as potential predictors. Relevant components of the VSA model were examined. The findings have implications for future research, theory, and the emerging adult population.

Summary and Interpretation of Results

Overall, the vicious circle of stressful events and (mal)adaptive processes proposed by the VSA framework was not supported in this dissertation. The maladaptive behaviors (i.e., alcohol drinking) did not predict experiences of SLEs in the sample. The relationship between alcohol use and SLEs was likely to be unidirectional with SLEs predicting alcohol use rather than reciprocal as the VSA model hypothesized. Wives' perceptions of SLEs revealed both actor and partner effects, predicting alcohol consumption for themselves as well as for their husbands. To be specific, wives who experienced more stress in SLEs tended to engage in more drinking behaviors and so did their husbands. This is consistent with the stress literature that the impacts of stress on alcohol involvement are especially critical for women (e.g., Peltier et al., 2019). Also consistent with the literature, personality traits exhibited great predictive power in the sample, predicting SLEs and alcohol drinking behaviors within and across spouses. However, traits that predicted SLEs and traits that predicted alcohol drinking did not overlap much, indicating that

experience with SLEs and alcohol use were associated with different personality traits.

Pregnancy and parenthood also had influences on alcohol involvement.

Hypotheses

A summary of the proposed hypotheses is as follows.

Hypothesis 1 SLEs are associated with alcohol use in emerging adults.

Hypothesis 1a Higher levels of perceived stressfulness regarding SLEs are associated with higher levels of alcohol use.

Partially supported. Wives' perceived stressfulness of SLEs was positively associated with both wives' and husbands' alcohol use and binge drinking. Husbands' perceived stressfulness of SLEs did not exhibit predictive power.

Hypothesis 1b Higher levels of perceived positivity regarding SLEs are associated with lower levels of alcohol use.

Not supported.

Hypothesis 2 Personality traits are associated with alcohol use in emerging adults.

Hypothesis 2a Higher levels of sociability, anxiety, immaturity, and depression are associated with higher levels of alcohol use.

Partially supported. Trait sociability positively predicted alcohol use and binge drinking for both wives and husbands; wives' sociability also had partner effects on husbands, with wives higher in trait sociability were more likely to have binge drinking husbands. Trait anxiety and trait immaturity displayed actor effects on husbands, positively predicting their alcohol use and binge drinking respectively. Trait depression was not predictive for wives or husbands.

Hypothesis 2b Higher levels of kindness, conscientiousness, and flexibility are associated with lower levels of alcohol use.

Partially supported. Trait kindness had actor effects on both wives and husbands; wives and husbands higher in trait kindness were less likely to consume alcohol and to binge drink. Trait conscientiousness showed actor effects for husbands, negatively predicting their alcohol use and binge drinking. Trait flexibility did not demonstrate predictive power for wives or husbands.

Hypothesis 3 Personality traits are associated with SLEs in emerging adults.

Hypothesis 3a Higher levels of sociability, anxiety, immaturity, and depression are associated with more exposures to SLEs (i.e., number of SLEs experienced), higher levels of perceived stressfulness, and lower levels of perceived positivity regarding SLEs.

Partially supported. Trait anxiety was predictive for both wives and husbands, increasing exposures to SLEs and the perceived stressfulness. Husbands' immaturity had partner effects on wives, positively predicting wives' exposures to SLEs as well as perceived stressfulness. Trait depression exhibited actor and partner effects for both wives and husbands. Wives' depression positively predicted wives' perceived stressfulness and negatively predicted husbands' perceived positivity of SLEs; husbands' depression positively predicted perceived stressfulness of SLEs for both themselves and their wives. Trait sociability displayed partner effects in an unexpected direction, with wives' sociability negatively predicting husbands' exposures to SLEs.

Hypothesis 3b Higher levels of kindness, conscientiousness, and flexibility are associated with less exposures to SLEs, lower levels of perceived stressfulness, and higher levels of perceived positivity regarding SLEs.

Not supported.

Hypothesis 4 Higher levels of alcohol use are associated with more exposures to SLEs and higher levels of perceived stressfulness regarding SLEs.

Not supported.

Hypothesis 5 The effects of SLEs on alcohol use are stronger than the effects of alcohol use on SLEs.

Supported. Alcohol use did not demonstrate explanatory power for SLEs. Wives' perceived stressfulness of SLEs had both actor and partner effects on alcohol use. The relationship between SLEs and alcohol use seemed to be unidirectional in this dissertation.

Stress and Alcohol Use

The relationship between stress and alcohol use has been extensively studied in research. This dissertation addressed one main source of stress: stressful life events. The most reported events in the present sample were mostly gradual events (e.g., change in eating habits) rather than acute ones (e.g., death of family member). Wives' perceptions of SLEs displayed both actor and partner effects, positively predicting alcohol use and binge drinking for themselves and their husbands. In other words, the more stressful wives feel about the SLEs taking place in their life, the more likely they are to engage in alcohol drinking; this may lead to more alcohol drinking for their husbands as well. However, little evidence supporting such associations was found for husbands. This is consistent with the literature on gender differences in the link between stress and drinking. Stress-related alcohol use has been more prevalent in females than males since adolescence and the relationship continues into adulthood (Aseltine & Gore, 2000; Brady & Sonne, 1999). Compared to men, women are more likely to drink alcohol for negative affect regulation and stress reactivity (i.e., negative reinforcement), which usually drive the onset and maintenance of alcohol use for them (Peltier et al., 2019). Although men also drink as an approach of coping with negative emotions, they are more likely to drink for positive reinforcement (e.g., social and physical pleasure) (Armeli et al., 2000; Peltier et al., 2019). The

findings of this dissertation add support for the gender differences in stress-induced drinking behaviors. In addition, the examination of partner effects of stress in this dissertation was exploratory. Wives' stress level not only affected their own drinking behavior but could also have an impact on their husbands'. Explanations for why husbands' own SLEs did not predict their alcohol use but their wives' did deserves further investigation.

Personality

Among the widely studied psychological factors in the initiation and development of alcohol use, personality is one of the most stable qualities (Caspi et al., 2005) and lays the basis for a broad range of externalizing and risky behaviors such as binge drinking (Ibáñez et al., 2008; Zuckerman & Kuhlman, 2000). Personality traits as vulnerabilities were assessed to predict both SLEs and alcohol use in this dissertation. A modified version of the classic Big Five personality dimensions was used for assessment. The results suggest that certain personality traits acted as vulnerabilities that increased the risk for people to experience SLEs as more stressful and to engage in more alcohol drinking behaviors. Two most influential traits for alcohol involvement were kindness and sociability, which predicted both alcohol use and binge drinking for both wives and husbands. Trait kindness was negatively associated with alcohol use and binge drinking; drinking behaviors were less popular in people with more kind personalities. This is consistent with the literature that binge drinking is negatively related to trait agreeableness (Adan et al., 2017; Kuntsche et al., 2017), given that trait kindness maps well onto trait agreeableness. Trait sociability positively predicted alcohol use and binge drinking for both spouses; people who were more social and outgoing tended to engage in more drinking behaviors, which is consistent with the existing literature since trait sociability maps well onto trait extraversion. Wives' sociability also displayed partner effects, positively predicting husbands' binge drinking

behaviors. It is reasonable to imagine that husbands with more social wives are likely to encounter more social events or situations, which increases their alcohol drinking. Another possible explanation would be that more social wives are more likely to binge drink (because of the positive association discussed above), leading to their husbands drinking together. Besides the partner effects of wives' sociability, little evidence was found for partner effects in other personality traits. In general, personality exhibited great actor effects but limited partner effects on alcohol use in this dissertation.

Drinking behaviors seemed to be associated with personality more closely for husbands than wives. In addition to kindness and sociability, another three traits that predicted husbands' alcohol involvement were anxiety, immaturity, and conscientiousness, all of which are consistent with the personality literature. Trait anxiety and trait immaturity were positively associated with husbands' alcohol use and binge drinking, respectively. Based on the nature of these two traits, individuals higher in trait anxiety and trait immaturity are those lower on neuroticism/emotional stability; therefore, the above associations are in accordance with the current literature (e.g., Adan et al., 2017; Martin et al., 2021). As one of the Big Five personality traits, higher levels of conscientiousness were associated with lower levels of alcohol use and binge drinking for husbands, which also corresponds with the existing findings (e.g., Kuntsche et al., 2017).

It is noteworthy that the personality traits predicted alcohol drinking behaviors in the present sample were almost separate from those predicting SLEs. In other words, one's drinking behaviors and experiences of SLEs were associated with different traits, which might offer some insights into the weak connections between SLEs and alcohol involvement in the current findings. Further exploration would be required. Overall, trait anxiety and trait depression displayed great predictive power for SLEs for both wives and husbands. Individuals higher in

trait anxiety tended to experience more SLEs and to experience SLEs as more stressful. Trait depression was positively associated with perceived stressfulness regarding SLEs as well; individuals with more depressive personalities were more likely to perceive SLEs as stressful. Moreover, depression had partner effects on spouses' perceptions of SLEs; wives with more depressive husbands were more susceptible to stressfulness of SLEs while husbands with more depressive wives tended to experience SLEs more negatively. Since high levels of anxiety and depression could be warning signs of chronic mental health issues (Schulenberg & Zarrett, 2006), future research on mental states as vulnerabilities would be helpful.

Husbands' flexibility yielded both actor and partner effects, positively predicting exposures to SLEs and perceived positivity of SLEs for both themselves and their wives. Trait flexibility was hypothesized to have a negative association with exposures to SLEs whereas the results indicate that husbands who had more flexible personalities tended to experience more SLEs and wives with more flexible husbands were more likely to go through SLEs as well. This is not necessarily contradicting the literature though, because flexibility involves adaptive capacity and higher levels of flexibility means better adaptive capacity. It is possible that individuals with better adaptive capacity are more likely to embrace changes in life and therefore allow more change events to happen. The relationship between husbands' flexibility and perceived positivity of SLEs was positive as hypothesized, for both spouses. Husbands who were more flexible as well as wives with such husbands tended to experience SLEs as more positive. Husbands' trait immaturity revealed partner effects but not actor effects; wives with more immature husbands were more likely to encounter SLEs and to perceive SLEs as stressful. Similar to the findings for Path B (personality traits to alcohol use), SLEs seemed to have a closer relationship with personality among husbands than wives.

VSA Model and APIM

To sum up, the results of this dissertation support some of the VSA paths but not the others. The predictive power of personality was more salient among husbands. Nevertheless, VSA paths from SLEs to alcohol use were only significant for wives. It might be reasonable to hypothesize that men are more affected by enduring vulnerabilities whereas women are more susceptible to the external circumstances, based on the present results. Compared to men, women are more likely to initiate and maintain alcohol use for the purpose of stress coping. Personality displayed meaningful partner effects on SLEs but little on alcohol drinking behaviors. Pregnancy and parenthood significantly restricted alcohol involvement in the sample.

Strengths and Limitations of This Dissertation

Strengths

There are several strengths of this dissertation. First, it addressed a unique developmental stage, the population of which are at greatest risk of alcohol use/abuse (Arnett, 2005). Second, it employed a well-established theoretical framework that incorporates individual characteristics (i.e., personality traits) and external circumstances (i.e., SLEs) into the examination of alcohol drinking behaviors; this framework also identifies a vicious feedback loop from alcohol use, the investigation of which was exploratory in nature. Third, the selection of SLEs was based on the level of change involved rather than social desirability (Holmes & Rahe, 1967), covering a variety of life domains. Next, longitudinal dyadic data were used for a more holistic picture of the study constructs and an APIM was integrated to account for the interpersonal relationships within couples. Last, hypotheses were tested using SEM techniques, which offered many merits as a statistical approach (discussed in detail in Chapter 2; see Olsen & Kenny, 2006).

Limitations

Several limitations of this dissertation are noteworthy. First, the present sample lacks representativeness of the emerging-adult population. Although the average age of the sample (wives: 24.35 years; husbands: 25.47 years) perfectly met the definition of emerging adulthood, a considerable proportion of it (wives: 39.5%; husbands: 36.4%) had entered parenthood. As a traditional marker of adulthood, parenthood is usually sufficient for one to feel being a full-fledged adult, although it is no longer considered a necessary criterion (Nelson et al., 2007). Despite the age, becoming a parent means taking on responsibilities of another person, which inevitably transfers the focus on the self to focus on others. The room for explorations in different areas of life significantly shrinks as a result. The self-focus feature of emerging adulthood is less likely to apply to parents, so is the feature of identity explorations. The results of this dissertation also demonstrate that parenthood largely reduced alcohol consumption for both wives and husbands, which could be attributed to the amount of responsibilities parenthood requires. However, an expected reduction in binge drinking behaviors was not detected among parents in the sample, making their status as emerging adults uncertain. Because binge drinking peaks in emerging adulthood (Arnett, 2005; SAMHSA, 2021), it would be reasonable to expect a decrease in binge drinking behaviors among individuals whose emerging adult status has ended. Failing to see such a change makes one question about the status of the parents in the sample. It is possible that they were new parents and still in the transition to adulthood; raising a child definitely had created additional challenges. In sum, further in-depth investigation is needed to understand to what extent parenthood accelerates the transition to adulthood and to get a clearer picture of the VSA paths among the population of emerging adults.

Another limitation regarding the sample is specific to their educational background, which was not considered a highly educated group. Only 38% of the sample had a college degree

or higher. Longer education had played an important role in the development of emerging adulthood, mainly through its contribution to later entries to marriage and parenthood (Arnett, 2000). Therefore, the education level and age at first marriage (younger than the median in the United States) in the current sample made one question more about their emerging-adult status.

Next limitation derives from the data, which were collected annually over past years (first four waves were available at the time this dissertation research being conducted). It would be a good approach to utilize latent growth modeling to estimate growth trajectories of SLEs and alcohol use (a minimum of repeated measurement at three time points would be required); however, the data were missing on the longitudinal variables at different time points (SLEs were missing at T1 while alcohol use missed at T4), leading to such an approach unavailable. Moreover, self-reported bias is considered an issue. The instrument used in the current sample was self-reported surveys, the responses to which could be biased due to social desirability and memory distortion. Employing other study designs (e.g., in-depth interviews) may compensate the potential biases of using self-reported data.

A final limitation is the measurement adopted to assess alcohol involvement in the sample; only frequencies of alcohol use and binge drinking were evaluated. Although the definition of binge drinking specifies the minimum consumption, it is probably insufficient to investigate one's true drinking habits without collecting additional information on their alcohol-related perceptions and behaviors. For example, alcohol expectancies play a significant role in one's drinking patterns, especially for men (Armeli et al., 2000; Cooper et al., 1992), accounting for alcohol expectancies may greatly enlighten the picture as a result. Taking into consideration other factors such as drinking motivation and emotional state can also be helpful to understand stress-induced drinking behaviors in the context of the VSA model.

Implications and Future Research Directions

This dissertation has both theoretical and practical implications, which future research and therapy might benefit from. For practical implications, the results of this dissertation imply that emerging-adult men are more affected by stable individual characteristics while emerging-adult women are more vulnerable to the external environments, which could be used in couple therapy. For example, two spouses might have arguments in the face of SLEs due to their different “vulnerabilities”. In such circumstance, therapists should first identify the issue and then help them realize where each other stands. Sometimes disagreements maintain between spouses is because both parties are trying to understand each other using their own logic without realizing the differences in their thinking mode and/or vulnerabilities. Additionally, findings on the connections between SLEs and alcohol use in this dissertation add support to attachment theory that perceptions of events/situations are more influential than the events/situations themselves (could be considered a theoretical implication as well), which can encourage insecure individuals to regain security.

Several theoretical implications for future research deserve attention. First potential direction is inspired by personality traits. Since trait anxiety and trait depression displayed great predictive power for SLEs, mental health states should be explored as enduring vulnerabilities in the context of the VSA model. Because anxiety and depression as personality traits could be considered as signs of chronic mental health issues (Arnett et al., 2014; Low et al., 2012). In other words, individuals with high levels of anxiety and depression are likely to live with long-term mental illness and/or to develop mental health problems, the effects of which could be profound and difficult to get rid of.

Another future direction inspired by personality is regarding its stability. Given the great predictive power of personality detected in this dissertation and the incredibly high stability of it (Caspi et al., 2005), examining the same associations in older populations may yield insightful results. Because personality has been documented to change minimally over time (e.g., Roberts & DelVecchio, 2000), one might expect that the effects of it stay consistent and can be found in older populations as well. However, since the effects of personality differed across gender in the present sample, it is also worth questioning whether its effects change across time, despite the high stability of personality itself. Therefore, conducting the same analyses on older populations would help make it clear whether personality remains the same level of powerfulness over time; if not, it would be interesting to see what other factors start to stand out as one ages.

Next few directions are specific to the emerging-adult sample. First, it might be reasonable to expect different results in younger emerging adults (18-25-year-olds) and older ones (26-29-year-olds). As mentioned in the beginning of this dissertation, young people aged 18 to 25 exhibited highest rates of alcohol (and other forms of substance) use/abuse, disorder, as well as mental illness and needs for treatment, following by people aged 26 or older (SAMHSA, 2021). However, data specific to the age group of 26 to 29 were not provided. Given the average age at marriage of the present sample (i.e., around mid-twenties), it would be interesting to see any possible changes after the age of 25. Therefore, comparing emerging adults aged 18 to 25 with those aged 26 to 29 might open new pathways for research. Second, unmarried samples of emerging adults are worth investigating. Although marriage and parenthood are no longer considered necessary criteria for adulthood (Arnett, 2000; Nelson et al., 2007), achieving them (or one of them) might affect one's status as an emerging adult. Some popular instability events in emerging adulthood are significantly less likely to happen among people who have entered

marriage and/or parenthood, such as relationship dissolution and change in residence. It is possible that the VSA paths examined in this dissertation look differently in the group of unmarried emerging adults. Exploring the potential differences would offer insights into the roles of marriage and parenthood in the developmental trajectories during emerging adult years.

Results on the partner effects of SLEs enlightened another research direction. Husbands' alcohol involvement was predicted by their wives' perceived stressfulness of SLEs but not themselves'. Although there is research evidence suggesting that perceptions of one's partner have greater explanatory power than perceptions of the self (e.g., Li et al., 2021), further examination is needed to clarify why wives' perceived stress levels of SLEs had more salient effects on husbands' drinking behaviors than husbands' own self-reported perceptions.

As addressed in the limitations, the measurement used to assess alcohol involvement in this dissertation might not be adequate. One psychological factor that has important predictive power for drinking behaviors is alcohol-outcome expectancies (Armeli et al., 2000; Cooper et al., 1992). Individuals who have more positive expectancies for the effects of consuming alcohol are more likely to engage in alcohol drinking. Thus, it would be helpful to account for alcohol expectancies in the examination of alcohol drinking trajectories. Future research should include alcohol expectancies in the context of the VSA model for a better understanding of the picture. Another future direction mentioned in the limitations is emerging-adult parents' binge drinking behaviors. Many questions are raised due to the fact that emerging-adult parents and nonparents differed on overall alcohol consumption but not binge drinking behaviors. What contributed to such results, to what extent they are generalizable to other samples, and the implications of binge drinking among parents all require further investigation.

One last suggestion for future research would be specifying internal characteristics and external circumstances in order to examine gender differences. Results of this dissertation implied that emerging-adult men tended to be influenced by stable individual traits while emerging-adult women were susceptible to challenging environment and situations. Exploring characteristics other than personality traits and circumstances other than stressful events would make the picture clearer and further benefit couple therapy.

Chapter 6 – Conclusion

In conclusion, this dissertation research investigated emerging adults' alcohol drinking behaviors under the guidance of the VSA model. Personality traits and SLEs were explored as predictors of alcohol involvement while alcohol involvement and personality traits were examined as predictors of SLEs. Results showed no supportive evidence for the vicious circle of SLEs and alcohol use suggested by the VSA model. The relationship between SLEs and alcohol use seemed to be unidirectional with the former predicting the latter rather than mutual. Personality traits displayed great predictive power; trait kindness and trait sociability were influential in alcohol involvement while trait anxiety and trait depression were closely associated with SLEs, for both emerging-adult men and women. Emerging-adult women's perceived stressfulness of SLEs exhibited both actor and partner effects, positively predicting alcohol involvement for themselves as well as for their emerging-adult husbands. The findings implied that emerging-adult men were more affected by enduring individual characteristics whereas emerging-adult women were more vulnerable to the external circumstances. Compared to men, women were more likely to initiate and maintain alcohol use for the purpose of stress coping. Parenthood significantly restricted alcohol involvement. However, whether and the extent to which parenthood affects one's status as emerging adults require further investigation. This dissertation has meaningful theoretical and clinical implications.

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