

2019

Relationships Between Vocational Identity, Substance Use and Criminal Thinking Among Emerging Adults

Eileen Marie Delzell
Walden University

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Walden University

College of Social and Behavioral Sciences

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Eileen Marie Delzell

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Walden University
2019

Abstract

Relationships Between Vocational Identity, Substance Use, and Criminal Thinking
Among Emerging Adults

by

Eileen Marie Delzell

MS, California State University Sacramento, 1994

BA, University of California at Davis, 1984

Dissertation Submitted in Partial Fulfillment
of the Requirements for the Degree of
Doctor of Psychology

Walden University

February 2019

Abstract

Successful formation of a self-chosen, purposeful identity in personal, social, educational and vocational areas is a primary task for emerging adults, with failure to do so often resulting in cycles of substance use, unemployment, and delinquent/criminal behavior. The purpose of this quantitative study was to examine relationships between vocational identity, substance use, and criminal thinking within the population of emerging adults. The expectancy value theory of motivation, which states that identity may be a motivational construct between self-efficacy and subjective self-values, provided the foundation for the study. The online inventory platform PsychData was used to garner data from a sample of 78 emerging adults measuring vocational identity (using the Vocational Identity Status Assessment [VISA]), substance use (using the CAGE-AID questionnaire), and criminal thinking (using the General Criminal Thinking-GCT scale of the Psychological Inventory of Criminal Thinking Styles). A bivariate correlational analysis using SPSS allowed for comparison of the 6 vocational identity statuses of Achieved, Searching Moratorium, Moratorium, Foreclosed, Diffused, and Undifferentiated, against the CAGE-AID scores and the GCT scores for possible relationships. The study did not result in significant correlations between variables; however, poststudy analysis revealed that the Diffused level of vocational identity, which is generally associated with the most negative life patterns, was strongly reflected in the responses of 25-year-old participants. Further research on the significance of vocational identity among older emerging adults may serve both the individual and society through encouraging successful transition to stable and healthy adult roles.

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Dedication

The achievement of this doctoral degree would not have been possible without the support of my loving husband, Thom, and encouragement of my children, Stephanie, Kyle and Berkeley. We have all grown a tremendous amount in these past 5 years, during which I became a grateful wife, empty-nester, proud mom, and Grammy GiGi (to my precious Clementine). A special shout-out to Bill Wilson, who gave me the courage and focus to grasp hold of life, connect with a Higher Power, and become the person I was always intended to be. I dedicate this achievement to you all.

Acknowledgments

I would like to acknowledge the support and guidance of my chair, Dr. Jana Price-Sharps, who sought me out when I needed guidance most, and encouraged me to tackle a quantitative study, even though the prospect terrified me. A special thanks also to my second committee member and statistics guru, Dr. Scott Gfeller, who saved me from hours of needless spinning, and helped me to accept that insignificant findings could be my greatest teacher, and inspiration for future research. Thank you both for being a part of my story.

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Chapter 1: Introduction to the Study

Introduction

Substance use is a critical issue among young adults in the criminal justice system (Bergman, Kelly, Nargiso, & McKowen, 2016; Gates, Corbin, & Fromme, 2016).

Developmentally, there are distinct differences between juveniles, young adults, and adults, with differences in both cognitive and emotional processes governing both thoughts and behaviors (Arnett, 2000). Hockenberry and Puzancheras (2018) stated in the *Report of Juvenile Statistics* (2015) that incarcerated young adults between the ages of 18 and 24 were in transition between youth and adulthood, and demonstrated more impulsive behaviors than older adults. They further reported that such young adults appeared unwilling or unable to consider future consequences and were, thereby, seemingly stalled in patterns of past behaviors, failing to move forward (Hockenberry & Puzancheras, 2018). The theoretical foundation of identity theory supports this conclusion, through its premise is that young adults between the ages of 18 and 25, termed *emerging adults*, have a primary task of successful formation of identity (Arnett, 2000).

Cognitive and emotional differences differentiating emerging adults from adults may create psychosocial conflict when successful transition to adulthood is delayed or absent. Failure to complete this transition has been found to increase risk factors for antisocial and delinquent behaviors (Hardy, Nadal, & Schwartz, 2017), greater occurrence of substance dependence (Gates et al., 2016), and negative psychosocial functioning, including work and career (Coetzee & Schreuder, 2016). These conclusions

are further clarified by the Council of State Government Justice Center's (2015) finding that 20% of incarcerated young people were between 18 and 20 years of age, had limited education, poor or absent work history, and significant issues with mental health and substance use disorders.

Substance use and criminal behaviors have a close relationship with poor or absent work history. Researchers have classified successful achievement of a self-chosen, purposeful work identity, known as vocational identity, as a key content area of the identity development process (Skorokov & Vondracek, 2011). Skorokov and Vondracek (2011) further reported that achievement of a self-chosen identity (vocational identity) was necessary for emerging adults to forge a sense of meaningfulness, reflected through self-efficacy in education, training, and employment. Employment, as a functional component of vocational identity, was found to have a negative correlation with criminal behavior (Dever, 2016). In another study, career-oriented and stable employment was found to positively desist crime, while employment of temporary, erratic, or low-paying status failed to desist crime (Sumner, Burrow, & Hill, 2015).

Employment history and initial and repeat arrests appear to be related. Researchers have found that substance use and dependence correlate with young adult incarceration and recidivism, with lack of employment compounding both initial arrest and repeat offenses (Denney & Connor, 2016). Full-time employment was additionally found to be a distinguishing factor between nonviolent incarcerated youth who were previously employed and violent incarcerated youth who were not previously employed (Denny & Conner, 2016). Youth of both types with a history of repeated arrests found it

difficult to access and maintain employment, leading to a cycle of offending to obtain substances, or the means to purchase substances (Denny & Conner, 2016).

In this chapter, I will discuss vocational identity as an influential factor for directing emerging adults' life trajectories away from substance use and criminal thinking, and toward a successful and productive identity generally associated with adult roles. This chapter provides an overview of the study, which includes the background, problem statement, purpose of the study, research questions and hypotheses, theoretical framework, and nature of the study. The chapter also includes concise definitions of study variables and conceptual terms and the assumptions, scope and delimitations, limitations, and significance of the study.

Background

The focus of this study was to examine the role of vocational identity, within the formation of overall identity among a sample population of emerging adults. Research into identity formation denotes four levels of identity status in emerging adult populations, with varying levels of vulnerability to substance use and criminal thinking. Using Marcia's (1966) model of identity development, Schwartz, Zamboanga, Luyckx, Meca, and Ritchie (2013) characterized these four identity statuses as the following:

- Diffusion, wherein the individual is uncommitted to identity;
- Foreclosure, wherein the individual commits to an identity without much thought or exploration;
- Moratorium, wherein exploration of options occurs, without decision; and

- Achievement, wherein the individual completes exploration and makes a commitment to an identity.

Of these four identity statuses, the Moratorium and Diffusion designations were found to significantly represent emerging adults afflicted with substance use and mental health crises of depression, aggression, poor self-esteem, and engagement in delinquent behaviors (Aydinli-Karakulak & Dimitrova, 2016; Beyers & Luyckx, 2016; Morsunbul, Crocetti, Cok, & Meeus, 2016).

Meca et al. (2016) found that the four identity statuses formulated by Marcia (1966), along with modified and expanded descriptions of identity statuses proposed by alternate researchers, distinctively reflect how crises of vocational identity are foundational among emerging adults in the Moratorium and Diffused identity statuses. Poor mental health and risky behaviors (defined as impaired driving, detrimental alcohol/drug use, and unsafe sexual practices) were found to result in four internalized and externalized profiles of synthesis and confusion, closely matching Marcia's Diffused identity status (Schwartz et al., 2015). Schwartz et al. (2015) described a normative developmental trajectory as successful achievement (synthesis) of education, work, and family, with confusion resulting from failed attempts at identity development. Other researchers later expanded these four-factor identity formation models to comprise statuses of Achievement, Foreclosure, Moratorium, Diffused Diffusion, Carefree Diffusion, and Undifferentiated (Zimmerman, Lannegrand-Willems, Safont-Mottay, & Cannard, 2015).

Zimmerman et al. (2015) divided the original Diffusion status into two separate statuses (Diffused Diffusion and Carefree Diffusion), to encompass alternate trajectories from which to grow. Researchers conducting empirical studies on emerging adults have found that individuals with statuses of Diffused Diffusion (low to very low commitment, low exploration, high rumination) and Carefree Diffusion (low commitment, low exploration, low rumination) reflected little interest in exploring options, with some individuals experiencing stress, and others seemingly uncaring (Zimmerman et al., 2015). Individuals at the Moratorium identity status reflected high engagement in exploration and low commitment, indicating that deciding upon a personal identity (including vocational identity) was something they were unwilling, or unable, to do (Zimmerman et al., 2015). Job insecurity, lack of employment, and poor employment prospects were listed as probable consequences of these three statuses (Zimmerman et al., 2015).

In another study, Sussman and Arnett (2014) cited lack of commitment to school and social and peer pressures relating to identity status, combined with alignment of a self-perceived identity as a substance user, as factors most prevalent among emerging adults at risk for problematic lifelong addictions. Bergman, Kelly, Nargiso and McKeowan (2016) concurred with this finding, reporting that emerging adults with substance use disorders (SUDs) comprised a “disproportionately large share of this societal burden” (p. 270). Denney and Conner (2016) cited the 2004 National Center on Addiction and Substance Abuse study at Columbia University, reporting that over three-quarters of young offenders in the juvenile justice system report substance use/abuse as a factor in their lawbreaking. Denney and Connor further found that these juveniles

experienced stunted identity formation while incarcerated, often leading to ongoing substance use and high recurrence of repeat offending. Employment or lack of employment was also found to correlate with severity of violence for incarcerated teens, suggesting that early identification of career goals may positively impact both substance use and criminal behavior (Denney & Connor, 2016).

Although vocational identity is described as a critical component of overall adult identity development, it is a missing piece in existing research literature connecting vocational identity, substance use, and criminal thinking in the population of emerging adults (Crocetti, Sica, Schwartz, Serafini, & Meeus, 2013). Crocetti et al. (2013) recommended that future research investigate connections between the functions of identity and psychosocial and health outcomes, to support the concept of identity formation as vital to emerging adults' transition to adulthood. I developed this study to further investigate these concepts, specifically how formation of vocational identity may influence psychosocial and health outcomes for emerging adults transitioning to adulthood.

Problem Statement

Identity development is a key developmental task for emerging adults (Arnett, 2000). Individuals failing to successfully transition to adult roles are at risk for maladaptive social behaviors including substance use and criminal behavior (Gates et al., 2016; Hardy et al., 2017). Employment and career (described in this study as vocational identity) have been found to influence both substance use and criminal behavior among emerging adult populations, with clear evidence on how previous work history

differentiated between violent versus nonviolent offenders (Coetzee & Schreuder, 2016; Hill, Blokland, & van der Geest, 2016).

Incomplete or absent overall identity formation among emerging adults has been linked to substance use and criminal behavior, while limited or absent education and/or training has been linked to criminal behavior and recidivism (Gates et al., 2015; Hardy et al., 2017; Hill et al., 2016). Given the classification of substance use as a common factor among juvenile offenders in the criminal justice system leading to elevated risk for reoffending (Denney & Connor, 2016), and the finding that a poor or absent work history was a common factor among both substance users and offenders (Hill et al., 2016), investigating the relationships between vocational identity, substance use, and criminal thinking presents the opportunity for closer examination of positive and negative transitions to adulthood. Furthermore, Schwartz et al. (2015) outlined the importance of ongoing identity research using emerging adults, especially considering context-specific areas of identity, including the influence of self-directed work and career.

Purpose of the Study

The purpose of this quantitative study was to examine relationships between vocational identity, substance use, and criminal thinking within the population of emerging adults. Although researchers studying criminality and health-endangering behaviors have established a connection with substance use in emerging adults (Dutmers, 2017), the role of a future-oriented vocational identity as an intervention for negative choices and behaviors is missing from the literature. Remaining in a status of career indecision has been found to result in lessened self-view, reduced or absent sense of self-

efficacy, and heightened view of barriers to career, education, and employment (Jaensch, Hirschi, & Freund, 2015). Inventory checklist instruments were selected to garner data to examine the relationships between the dependent variable of vocational identity and the independent variables of substance use and criminal thinking. Examining the relationships among these variables may inform professionals in the medical, correctional, and psychology/counseling fields regarding the value of vocational assessment, goal development, and intervention strategies for emerging adults at risk for substance use and criminal behaviors.

Research Questions and Hypotheses

Inventory checklist methods were used to collect data for this research study. The Vocational Identity Status Assessment (VISA; Porfeli, Vondracek, & Weigold, 2011) was selected to determine the status of vocational identity, the CAGE-AID (Cutting down, Annoyance, Guilt, Eye Opener – Altered to Include Drugs) questionnaire (Brown & Rounds, 1995) was selected to assess substance use and the General Criminal Thinking (GCT) scale of the Psychological Inventory of Criminal Thinking Styles–Layperson Edition–Short Form (PICTS-L-SF; Mitchell, Bartholomew, Morgan, & Cukrowicz, 2017) was selected to assess criminal thinking. Data generated from the inventories were analyzed for strength of relationship (both positive and/or negative) between variables, comparing vocational identity status with the factors of substance use and criminal thinking.

The research questions for this study were:

RQ1: Did substance use as measured by the CAGE-AID have a relationship with vocational identity as measured by the Vocational Identity Status Assessment (VISA) in the population of emerging adults?

H₀1. Substance use as measured by the CAGE-AID did not have a relationship with vocational identity as measured by the Vocational Identity Status Assessment (VISA) in the population of emerging adults.

H_a1. Substance use as measured by the CAGE-AID did have a relationship with vocational identity as measured by the Vocational Identity Status Assessment (VISA) in the population of emerging adults.

RQ2: Did criminal thinking as measured by the General Criminal Thinking scale (GCT) of the Psychological Inventory of Criminal Thinking Styles–Layperson Edition–Short Form (PICTS-L-SF) have a relationship with vocational identity as measured by the Vocational Identity Status Assessment (VISA) in the population of emerging adults?

H₀2. Criminal thinking as measured by the General Criminal Thinking (GCT) scale of the Psychological Inventory of Criminal Thinking Styles–Layperson Edition–Short Form (PICTS-L-SF) did not have a relationship with vocational identity as measured by the Vocational Identity Status Assessment (VISA) in the population of emerging adults.

H_a2. Criminal thinking as measured by the General Criminal Thinking (GCT) scale of the Psychological Inventory of Criminal Thinking Styles–Layperson Edition–Short Form (PICTS-L-SF) did have a relationship with vocational identity as measured

by the Vocational Identity Status Assessment (VISA) in the population of emerging adults.

Theoretical Framework

The theoretical framework of this study was the Expectancy Value Theory of Motivation (EVT), stating that identity may be a motivational construct between self-efficacy and subjective self-values (Eccles, 2009). A key component of this theory describes how motivation is a construct focusing on the why and how of behaviors and offers methods through which individuals may be compelled to behave in particular ways (Salkind, 2008). The Expectancy Value Theory of Motivation explains identity development as requiring enhancement of self-supporting individual beliefs regarding self-efficacy in school, recreation, career, and relationships (Eccles, 2009). Vocational Identity is proffered in this study as an extension of identity formation, for positively influencing beliefs regarding self-expectations, thereby motivating behavioral efforts leading to successful achievement of life goals. Establishment of vocational identity was singled out by this study as a crucial domain where application of self-efficacy and related behaviors could motivate emerging adults to move forward to successful markers of adulthood, and away from life trajectories involving substance use and criminality. Further discussion of the EVT approach is found in Chapter 2.

Nature of the Study

This quantitative study employed a non-experimental, correlational research design, to determine the extent of positive and negative relationships between the dependent variable of vocational identity, in relation to the independent variables of

substance use and criminal thinking. The decision to use a correlational design, as opposed to experimental, quasi-experimental, or longitudinal design, was made to focus on collecting data and examining relationships between the factors, rather than manipulating variables, or following a process over time.

Inventory checklist methods were administered using the online survey platform (PsychData), which generated data drawn from responses to online inventory instruments. PsychData was described as an online platform created specifically for use in research in psychology and social sciences and allowed for development of a personalized portal (website) for easy access to the doctoral study. The website created for this study could be found at www.careeridentities.com. Emerging adult participants could anonymously and confidentially sign onto the online platform through the website, affirm acceptance of the informed consent document, and then proceed to a demographic questionnaire, followed by the opportunity to take survey instruments. Instruments used to generate data were the Vocational Identity Status Assessment (VISA) for evaluation of vocational identity, the CAGE-AID for evaluation of substance use, and the General Criminal Thinking (GCT) scale of the Psychological Inventory of Criminal Thinking Styles–Layperson Edition-Short Form (PICTS-L-SF) to evaluate levels of criminal thinking. Response data sets from the inventory responses were to be downloaded directly into the SPSS statistical software, then analyzed using the bivariate correlations method for calculating Pearson Product Moment correlations denoting positive or negative relationship between variables.

Recruitment focused upon emerging adult populations within the Central Oregon area of the United States. Recruitment of participants was achieved using printed flyers posted to both college and community bulletin boards, and PDF copies of flyers emailed to psychology department chairs at local Universities. Social media was used to post the announcement on Face Book, directing potential emerging adult participants to the study website www.careeridentities.com that was specifically designed for the doctoral study. The website described the study, offered opportunity to connect with the researcher for clarification or questions, and contained a link to the PsychData program, for 100% confidential and voluntary participation in the doctoral study. A more thorough description of this process was noted to be found in Chapter 3.

Operational Definitions

Emerging adults: A developmental classification of young adults between the ages of 18 and 25, whose primary task is identity formation during the transition to adulthood (Arnett, 2000).

Expectancy value theory of motivation: A motivational theory of behavior premised on the notion that understanding the how and why of personal behaviors will positively influence identity and self-efficacy (Eccles, 2009).

Marcia model of identity development: An identity status model proposing that levels of exploration and commitment define the development of identity (Schwartz et al., 2011). Exploration and commitment defined how emerging adults approached vocational identity development, with variations of exploration and commitment resulting in four identity statuses (Schwartz et al., 2011).

The four identity statuses of the Marcia model of identity development are:

Diffusion: An identity status wherein the individual is uncommitted to the identity formation process (Marcia, 1966)

Foreclosure: An identity status wherein the individual commits to an identity without much thought or prior exploration of identity (Marcia, 1966).

Moratorium: An identity status wherein the individual explores options, but cannot, or will not make a commitment to an identity (Marcia, 1966).

Achievement: An identity status wherein the individual completes exploration and makes a commitment to an identity (Marcia, 1966).

Protective factor: The concept of how a process of engagement acts as a deterrent to negative behaviors (Wang & Fredricks, 2014).

Psychosocial outcomes: Positive results relating to adult functioning in personality and view of self, quality of relationships, and health and well-being (Morsunbul, Crocetti, Cok, & Meeus, 2016) .

Vocational identity: A specific construct of overall identity, involving exploration, pursuit, and attainment of education, work, and career (Skorokov & Vondracek, 2011).

Assumptions

A primary assumption of this study is that all participants were truthful in identifying as individuals between the ages of 18 and 25, and were authentically signing onto the PsychData online platform to personally take the inventory questionnaires. A further assumption of this study was that the sample population would have a wide range of characteristics regarding history of substance use and/or criminal thinking/behavior,

without skewed propensity within the population for substance use or criminal thinking characteristics. Consideration of greater differentiation in variables (e.g. gender, specific age category, specific identification of prior substance use or criminal behavior) were intentionally left out, due to acknowledgment that precursor variables, such as differing environments, peer groups, level of self-control, and family attachment could influence scores in some manner (Lee, Porfeli, & Hirschi, 2016). Qualification of such precursor values would have necessitated addition of factorial constructs outside the scope of the described study.

Scope and Delimitations

The specific scope of this study was to explore possible relationships between vocational identity and substance use, and vocational identity and criminal thinking, among a population of emerging adults. Vocational identity among emerging adults was selected as the measured dependent variable, to fill the gap in research examining the relationship between vocational identity, to the independent variables of criminal thinking and substance use. The measurement of vocational identity was defined as representing self-selection and interest in developing education, work, and career.

Many of the studies referenced in this paper specifically used terms including job, employment, and school within populations of emerging adults, rather than the distinct term *vocational identity*. Studies also used terms such as young adults, as compared with the term emerging adults. The decision for inclusion of studies not explicitly using the distinct terms *vocational identity* and *emerging adults* was made, due to relatedness of vocational identity with education, job and career, and relatedness of emerging adults

with young adults. This decision maximized utilization of literature, capturing aspects of emerging adults, substance use, and criminal thinking or behaviors that might otherwise be missed. Important information was present in such articles which directly improved comprehensiveness and relatedness of study results.

Limitations

Online studies were noted to have inherent limitations, specifically in the realm of possible fraudulent participants. Lefever, Dal, & Matthíasdóttir (2007) reported that in the realm of online research, there was the potential for participants to pose as another person, or fail to answer questions truthfully. There might also be internet access problems, failed submission, or lack of user technology to use some forms of computer access, such as tablets or cell phones (Lefever et al., 2007). Another identified limitation was the issue of limited response rates, or types of respondents. As data collection was managed online and anonymously, it was unknown how long it may take to reach the targeted sample population of 100 participants, or if re-postings on Face Book or other media might be deemed necessary. Types of respondents could not be anticipated, as research participants were recruited from select organizational contexts, such as colleges, youth groups, and organizations, or through peer referral. Use of these contexts to garner participants was noted to potentially overlook individuals disinterested in academic or social-group contexts and represented a missing breadth of the overall emerging adult population.

Significance of the Study

The interrelationship between substance use as predictive of anti-social and delinquent behaviors, and anti-social and delinquent behaviors as strongly related to substance use has been previously established by researchers (Denny & Conner, 2016; Gates et al., 2016; Hardy et al., 2017). Substance using emerging adults were described as facing significant potential for substance dependence and criminal behaviors if adult roles in relationships, work and career failed to be achieved (Gates et al., 2016; Hardy et al., 2017). The investigation of relationships between vocational identity, substance use, and criminal thinking in the population of emerging adults was thought to be unique, as it offered the potential for vocational identity development as a targeted intervention for diffused identity emerging adults whom might otherwise progress to negative life trajectories.

Lannegrand-Willems, Perchec, and Marchal (2016), stated that vocational identity was not only a key component of Erikson's (1968) developmental theory for movement from adolescence to adulthood; vocational identity held a necessary and leading role for successful achievement of other identity domains. Vocational identity formation was found to critically influence negative and positive psychosocial adjustment (Lannegrand-Willems et al., 2016). This concept directly related to the investigation of relationships between emerging adults, vocational identity, substance use, and criminal thinking, and the potential for informing professionals in the medical, correctional, and psychology/counseling fields regarding strategies for preventing and managing the substance use-criminal behavior association. Social justice is served through decreasing

societal debt for incarcerating and/or treating diffused-identity emerging adults and promoting career-oriented and living-wage employment.

Summary

This chapter was an overview of the doctoral research study, qualifying how identity formation among emerging adults, and specifically vocational identity formation, was a crucial and missing part of the literature among strategies to desist against substance use and criminal behavior. Online inventory instruments were used to measure variables for vocational identity, substance use, and criminal thinking, with the criminal thinking variable representing the construct of crime and criminal behaviors. The societal problem of substance use leading to criminal behaviors, and criminal behaviors leading to substance use, provided the foundation and rationale for investigating vocational identity as a potential intervention strategy. The theoretical construct of value-based motivation (the Expectancy Value Theory of Motivation) provided support that identification and synthesis of a future-self-identity may inspire individual expectation for positive change.

Chapter 2 will summarize relevant research literature regarding the origins of identity theory, classification of emerging adults as encompassing individuals aged 18 to 25, connections between substance use, criminal behavior and incarceration, and the role of education, work, and career as influential factors during emerging adults' transitions to adulthood. Categorical synthesis of literature will establish support for the importance and significance of vocational identity relating to substance use and criminal thinking.

Chapter 2: Literature Review

Introduction

Identity formation is a critical task for emerging adults, with negative psychosocial consequences for those failing to establish successful adult identity roles. Adult identity roles may be demonstrated by financial, occupational, and relational achievement, which serve as known markers of the transition from youth to adulthood (Sharon, 2015; Zupančič, Komidar, & Levpušček, 2014). Vocational identity is the context of a work identity, comprising success in choice of a future vocation supporting employment, independence, and successful relationships (Arnett, Žukauskiene, & Sugimura, 2014; Creed & Hennessy, 2016; Porfeli & Skorikov, 2010). Researchers studying the use of vocational training, transitional services from prisons, and focused job development have found that forward-moving relationships with successful work and employment positively influenced both substance use and crime (Luyckx, Teppers, Klimstra, & Rassart, 2014; Sherba, Coxe, Gersper, & Linley, 2018; Sussman & Arnett, 2014; Tagliabue, Lanz, & Beyers, 2014).

Unsuccessful synthesis of adult identity has been correlated independently, and together, with both substance use and crime (Denney & Connor, 2016; Schwartz et al., 2015). Existing literature clearly identifies delinquent and antisocial behaviors as associated with chronic substance use, and chronic substance use as symbiotically connected with early, and ongoing, delinquent and antisocial behaviors (Denney, Connor & Schwartz, 2016; Elonheimo et al., 2014; Hillege, 2017; Winkelman, Frank, Binswanger & Pinals, 2016). Delinquent and antisocial behaviors as well as chronic

substance use were further found to be independently correlated with poor educational success and work history (Hillege, 2017). This progression of movement through and between factors of identity, substance use, employment status, and crime suggest that positive work-related development (represented as vocational identity in this study) may have influential, or even act as a protective factor against, negative life trajectories. While a few researchers reported the correlation between work history and criminal behaviors (Sherpa et al., 2018), a specific reference to vocational identity was absent from the literature. Vocational identity, comprised of the importance of occupation in developing a future sense of self, is the missing component for examining successful versus unsuccessful transition to adulthood for emerging adults. This chapter includes a literature review of social-scientific research, theoretical concepts, and developmental versus learned experiences related to vocational identity, substance use, and criminal thinking in the population of emerging adults.

The following literature review is organized by topics and subtopics, covering the introduction of emerging adulthood, views and factors of identity development, evaluation and formation of vocational identity, diffused identity status, and influential factors driving negative versus positive forms of identity. Subheadings under influential factors include well-being and meaning-making, social identity and support, future identity, criminal identity, and substance user/addict identity. The societal impact of the study is then outlined, followed by a summary offering synthesis of the reviewed studies in relation to their scope, purpose, and impact.

Literature Search Strategies

The following databases were searched, available through the Walden University Library: Academic Research Complete, Thoreau, ProQuest Central, PsycARTICLES, PsycINFO, PsycTESTS, and Google Scholar. The primary keywords used in the literature search were *emerging adults*, *young adults*, *emerging adults + crime*, *emerging adults + substance use*, *identity*, *vocational identity*, *formation of identity*, *Arnett*, *Erikson*, *Marcia*, *criminal thinking*, *recidivism*, *transitional programs*, *substance use + crime*, *substance use + criminal thinking*, *substance use + identity*, *diffused identity*, and *transition to adulthood*. Parameters for the search specified publication years of 2012 to 2018, which is slightly broader than the Walden University recommended 5-year time frame for use of research. The rationale for the extended time frame was the plethora of articles written in 2012 offering critical information germane to the selected topic. An example of literature published prior to 2012 included the foundational theories of psychosocial development, identity formation, the developmental theory of emerging adulthood, and a few contrary views of these topics. Retrieved documents were verified for peer-reviewed status, and usable literature was sorted and uploaded to the Mendeley database reference management program.

A second strategy was to locate studies referenced in already-selected-articles using the article-search feature within the Walden Library and review them for suitability as sources. The Mendeley database software program also proffered related articles, based upon key words, topics, and genre of articles already loaded into the program. These articles, too, were perused for suitability, and added when appropriate. In some

cases, the selected keywords produced too broad of results and required use of additional filters to further sort and restrict generated articles. An example of this was the term *transitional programs*, which generated results on high school-to-college, prison-to-community, disabled access to work, and alcoholics'/addicts' transition to community. Sorting and filters within results helped to narrow down topics to more suitable and manageable results.

Theoretical Foundations

Ego-Identity

Developmental psychology was strongly influenced by the work of Erik Erikson (1968), who established that psychosocial development was comprised of both personal and social levels of ego status (Cieciuch & Topolewska, 2017). The ego levels consisted of eight ego-based stages, with each stage encountering a specific set of psychosocial crises, defined by age groups (ranging from birth to age 65+) and virtue-based outcomes (trust, autonomy, initiative, competence, fidelity, love, generativity, and ego integration (Eriksen, 1968). The fifth stage, Fidelity, tied the age range of adolescence (12-18 years) with a primary task of *Identity Formation* versus *Role Confusion* (Vogel-Scibilia et al., 2009).

Multiple authors disagreed with the movement between adolescence and adulthood, which became a source of contention (Arnett, 2000, 2014; Cieciuch & Topolewska, 2017; Waterman, 2015). In response to this disagreement, Arnett (2000) proposed a new category of development separating the class of individuals aged 18 to 25 into a distinct and expanded group, to better differentiate between juveniles and adults.

Arnett theorized that this new developmental group, termed *emerging adults*, reflected marked differences between adolescence and young adulthood, with noticeable cognitive and psychological variances. Arnett proposed that these variances strongly influenced identity development, with emerging adults *feeling in-between*; this, in turn, resulted in personal conflict defining the importance of successful adult identity (Arnett, 2000). Ongoing research has supported these initial findings (Arnett, 2014; Elonheimo et al., 2014; Shulman et al., 2014).

Expectancy Value Theory of Motivation (EVT)

The theoretical framework of this study was the expectancy value theory of motivation (EVT), which states that identity may be a motivational construct between self-efficacy and subjective self-values (Eccles, 2009). Eccles (2009) stated that motivation is a construct focusing on the why and how of behaviors, and methods through which individuals become compelled to behave ways (Salkind, 2008). EVT encourages identity development through identifying, and then supporting, individual beliefs regarding self-efficacy in school, recreation, career, and relationships (Eccles, 2009).

Eccles (2009) argued that motivation for enactment of a personal identity required

- a value component that captures the salience, centrality, and valence a person attaches to specific individual characteristics and collective groups of which one is a member;

- a content component that includes all of the beliefs the person has about which tasks, behaviors, mannerism, activities, and so on are associated with the successful enactment of various personal and collective identities; and
- an efficacy or expectancy component that includes the individual's beliefs about his or her ability to enact these various behaviors (p. 88).

These three components are interactive amongst one another, translating into “a wide range of experiences and interpretative processes over time to shape each other and thus to influence behavioral choices at any one point in time” (Eccles, 2009, p. 88).

EVT has been referenced in previous studies, predominantly in the realm of education. EVT theoretical foundations and perspectives were applied in studies of academic motivation and success; approach to test-taking; prediction of emotional and behavioral risk in schools; and social influences and school motivation (Ball, Huang, Cotten, Rikard, & Coleman, 2016; Dever, 2016; Xu, 2017). One study that applied EVT in a manner similar to this study theoretically assumed that expectancy of women scientists regarding perceived communal value would outweigh stereotypical threat to women entering science fields, thus motivating continued pursuit of scientific careers (Smith, Brown, Thoman, & Deemer, 2015). EVT was also used in a study of student identity within fields of science, technology, engineering and math (STEM), assuming that pursuit and achievement in STEM fields may be driven by expectancies related to cost perceptions in relation to personal and professional value (Perez, Cromley, & Kaplan, 2014). In each case, consideration and evaluation of self (identity and self-efficacy) were the foundation of hypothesized success.

This study proposed that vocational identity, as an extension of identity formation, may positively influence beliefs regarding self-expectations, thereby motivating behavioral efforts leading to successful achievement of life goals. Vocational Identity was described as a critical domain where application of self-efficacy and related behaviors may motivate emerging adults to move forward to successful markers of adulthood, and away from life trajectories involving substance use and criminal thinking/behavior. Research questions developed for this study examined the relationship between vocational identity and substance use, and between vocational identity and criminal thinking. Inventory checklists were to be used to obtain raw data on the dependent variable of vocational identity, and the 2 independent variables of substance use and criminal thinking. Eccles' theory of EVT offered support for vocational identity influencing positive beliefs and self-efficacy, which, in turn, assumed that rejection of null hypotheses would prove valuable for directed development of vocational identity in hopes of mitigating substance use and criminal thinking/behavior. This is in line with other researchers, who established future-oriented success (in education, choice of career, test-taking) as motivational in personal and professional efficacies (Eccles, 2009; Sestito & Sica, 2014; Sica, Crocetti, Ragozini, Aleni Sestito, & Serafini, 2016; Solomontos-Kountouri & Hatzitofi, 2016; Syed & McLean, 2016).

Literature Review Related to Key Variables and/or Constructs

Introduction to Emerging Adulthood

The task for successfully forming overall identity requires achievement in the areas of love, work, and views about life (Arnett et al., 2014; Arnett, 2000; Ranta,

Dietrich, & Salmela-Aro, 2014; Sica, Aleni Sestito, & Ragozini, 2014). Whereas exploration was reported as a normal and expected action during the identity formation process, research has concluded that extended exploration of identity without resolution may lead to negative life trajectories, including substance use and crime (Beyers & Luyckx, 2016; Gates et al., 2016; Sussman & Arnett, 2014). A clear difference between adolescents and young adults was described through the wide scope of variability in demographic characteristics such as living situations (living at home or independently); relationship status (married, single, or divorced); and school/work status (college, work, unemployed), whereby all actions may be considered exploratory and experimental (Arnett, 2000, 2014; McLean, Syed, & Shucard, 2016). This wide variability in demographic characteristics has been a rich source of academic research relating to the population of emerging adults.

The focus of this study accepted the psychosocial level of emerging adults as foundational. It was made known; however, critics of emerging adulthood also exist. Morsünbül (2013), for example, questioned whether emerging adulthood was reflective of all young adults transitioning to adulthood, or more reflective of emerging adults representing university students. University students were opined to have less internal investment to choose an occupational path, when compared with non-student groups, who seemed to forego schooling, pursuing wage-earning and self-support issues, perhaps driven by factors of economic survival (Morsünbül, 2013). Côté (2014) also challenged Arnett's concept of emerging adulthood, calling it a "metanarrative"; this was based upon failure to explain methodology protocol guidelines that were used to generate criteria, nor

consideration of pressures on young adults due to culture and social class (p. 178). Côté remained steadfast in his objection to Arnett having discovered “a new, universal life stage in the U.S.”, calling the Arnett formulation “a dangerous myth” (p. 179).

The view of whether Identity dimensions were helpful or harmful was also explored by (Ritchie et al., 2013), concluding that excessive identity exploration could lead to internalizing symptoms in some individuals, later leading to health risks, such as ruminative thinking and depression. This is contradictory to this study’s proposal that identity exploration and development would lessen health risks. Later research, however, acknowledged the detriment of ruminative thinking, yet attributed it to being factorial in the classified status of diffused identity, rather than a direct product of excessive identity exploration (Beyers & Luycks, 2016; Carlsson, Wängqvist, & Frisé, 2016; Schiller, Hammen, & Shahar, 2016; Syed & McLean, 2016).

An additional criticism of both the Erikson and Arnett age- and ego-status continuums was the ordering of stages, claiming that identity resolution must be achieved prior to engagement in love and intimacy (Anthis, 2014; Crocetti et al., 2013; Ranta et al., 2014). Among critics of the “strict developmental ordering”, Beyers and Seiffge-Krenke (2010) at first questioned this concept, during examination of identity achievement in relation to intimacy in romantic relationships (p. 387). Beyers and Seiffge-Krenke followed emerging adults over a ten-year longitudinal study, investigating movement through various contexts of identity development. Upon conclusion of the study, the researchers found that successful integration of self (knowledge, efficacy, acceptance) was clearly correlated with achievement of love and

intimacy. These findings changed the authors' opinions regarding developmental ordering, offering evidence from the longitudinal study as veracity for developmental ordering of identity development (Beyers & Seiffge-Krenke, 2012). Several other authors confirmed the necessity of completing one psychosocial stage prior to moving onto the next, further confirming the hierarchical progression of adult identity development (Hardy et al., 2017; Panagakis, 2015; Syed & McLean, 2016; van Dulmen, Claxton, Collins, & Simpson, 2014).

Ego-Identity

Developmental Psychology was strongly influenced by the works of Erik Erikson (1968) who established that psychosocial development was comprised of both personal, and social, levels of ego status (Cieciuch & Topolewska, 2017). The ego levels comprised eight ego-based stages, with each stage encountering a specific set of psychosocial crises, defined by age groups (ranging from birth to age 65+) and virtue-based outcomes (trust, autonomy, initiative, competence, fidelity, love, generativity, and ego integration). The 5th stage, Fidelity, tied the age range of adolescence (12-18 years), with a primary task of *Identity Formation* versus *Role Confusion* (Vogel-Scibilia et al., 2009). It was proposed that these variances strongly influenced identity development, with emerging adults *feeling in-between*; this, in turn, resulted in personal conflict defining the importance of successful adult identity (Arnett, 2000). Ongoing research has supported these initial findings (Arnett, 2014; Elonheimo et al., 2014; Shulman et al., 2014).

Views and Factors of Identity Development

It was overwhelmingly accepted that identity development was comprised of multiple contextual sub-identities (Aydinli-Karakulak & Dimitrova, 2016; Luyckx, Seiffge-Krenke, Schwartz, Crocetti, & Klimstra, 2014; Luyckx, Teppers, et al., 2014; Norton, Wisner, Krugh, & Penn, 2014; Wagner, Lüdtkke, Jonkmann, & Trautwein, 2013). Content domains encompassing “ideological content areas (occupation, values, politics, and religion) and interpersonal content areas (family, romance, friends, and sex roles)” were described as representative of roles and concerns for emerging adults (McLean, Syed & Shucard, 2016, p. 35). Similar ideological content areas (politics, religion, career choices) were described by Busseri, Costain, Campbell, Rose-Krasnor, and Evans (2011), yet suggested that ideological contents reflected personal, self-perceived crises of acceptance, whereas interpersonal contents (friendships, recreation, dating) reflected personal crises through engagement with others and the world. McLean et al. concurred, finding that research participants were more likely (and willing) to disclose information on some domains (employment, family) as compared to other domains (religion, sex roles). The content area of morality was reported to involve both personal and interpersonal contexts, creating a sort of conflict between past and future selves; successful synthesis of identity helped to overcome the conflict with positive results (Krettenauer & Mosleh, 2013). This concept furthers formation of vocational identity as promoting positive resolution of immoral conundrum, especially among emerging adults recovering from past criminal and addictive behaviors.

Several other contextual areas, such as vocational identity and occupational success, were found to contain both ideological and interpersonal factors, predicting movement toward positive or negative behaviors (Hatano, Sugimura, & Crocetti, 2016; Meca et al., 2015; Taber & Blankemeyer, 2015). All identity domains were reported to involve both psychological and cognitive aspects, reflecting parallel establishment of roles, while gaining autonomy from parental supervision and influence (Carlsson et al., 2016; Sharp & Coatsworth, 2012). Within this formation of identity, vocational identity was signified an important feature of the life cycle described by Erikson's (1956) theory of life-span development. Whereas Erikson did not specifically name vocational identity in his theory, Erikson did describe the psychosocial crisis of *Identity vs. Role Confusion*, demanding a developing sense of adult self in work, relationship, and love, to successfully transition to adulthood (Dimitrova, Hatano, Sugimura, & Ferrer-Wreder, 2018; Erikson, 1956). Marcia (1966) further explored this ego identity crisis, finding that occupational achievement met needs for independence as well as capacity for supporting oneself, thereby putting adult roles in place.

Martinussen and Marcia (2010) built upon Marcia's initial identity research, defining four levels of identity status, with each status representing varying levels of perseverance, self-concept, autonomy and efficacy. The highest status was entitled *Achieved (A)* – successful adult identity, followed by *Moratorium (M)* - exploring but not committed; *Foreclosure (F)* - choosing without exploring; and the lowest status representing *Diffusion (D)*- perceivably stalled, either unwilling or unable to work either exploration or commitment to occupational self (Martinussen & Marcia, 2010; Marcia,

1966). Outcomes of empirical studies using these four identity status levels documented a continuum-progression model reflecting an “optimal order” movement from the least solidified Identity of *Diffusion* (D - low exploration, low commitment), followed by *Foreclosure* (F - low exploration, high commitment; then *Moratorium* (M - high exploration, low commitment); to most solidified *Achieved* (A - high exploration, high commitment (Al-Owidha, Green, & Kroger, 2009; Klimstra, Hale, Raaijmakers, Branje, & Meeus, 2010). This analysis established that Diffused (D) was the least adaptive path of identity development often resulting in negative life trajectories, while Achieved (A) represented the most adaptive path of identity development (Al-Owidha et al., 2009).

Evaluation and Formation of Vocational Identity

Exploration was named a foundational activity in career and vocational development, with most all researchers agreeing that this process allowed for synthesis of internal and external experiences; construction and reconstruction of self, path, and commitment; and that completion of this process was an important marker for success (Cieciuch & Topolewska, 2017; Duffy, Douglass, Autin, & Allan, 2014; Praskova, Creed, & Hood, 2015; Sica et al., 2016). Formation of identity requires goal-oriented action, wherein successful identity formation was developed through simultaneous roles of parent-child relationships, friendships, and achievement in school and work (Wall et al., 2015). While creation of a clear identity was strongly linked to successful transition to adulthood, emerging adults either apathetic or struggling with identity development were found to be at risk for *ruminative exploration*, leading to depression, poor health development, and maladjusted beliefs and behaviors (Beyers & Luyckx, 2016; Crocetti,

Avanzi, Hawk, Fraccaroli, & Meeus, 2014; Dezutter et al., 2014). Ruminative exploration was described as constant brooding and worrying; these perceptions were termed the *dark side* of identity development (Beyers & Luyckx, 2016; Marttinen, Dietrich, & Salmela-Aro, 2016; Skhirtladze, Javakhishvili, Schwartz, Beyers, & Luyckx, 2016). Zimmermann et al., (2015) reported that rumination was primarily a feature of externally-based problem solving, poor reflection, and inability to intrinsically understand oneself. Exploration of vocational interests, including self-examination of interests, desires and future values was found to develop intuitive self-concept, moving young adults out of the ruminative state.

McLean and Pasupathi (2012) reported that two different research-based approaches were most commonly used to depict identity development. The status approach, developed by Marcia (1966), conceptualized components of exploration and commitment, with statuses of achievement, moratorium, foreclosure, and diffusion representing the quality and likelihood of successful identity synthesis (McLean & Pasupathi, 2012). The second approach used autobiographical reasoning, creating narrative through life story, considering details of past, present, and future viewpoints (McLean & Pasupathi, 2012). This study relied upon the status approach, yet examined the contextual role of vocational identity, utilizing features of the life-story paradigm, reflected through inventory data-gathering and self-evaluation of vocational identity status.

An alternative view of emerging adulthood proposed that the individuals themselves directed the process of transition to adulthood. Tagliabue et al., (2014)

investigated both variable-centered and person-centered perceptions by emerging adults, determining how self-views led to either positive or negative life pathways. It was found that differing groups emerged, one focused upon *composite adulthood*, and the other focused upon *stereotyped adulthood*. It was further found that perceptions leading to adoption of one versus the other had to do with clusters of “negative feelings, positive transition, self-focus, stall, lack of possibilities, and transitional time” (Tagliabue et al., 2015, p. 385). Tagliabue et al. agreed with Arnett (2000) that emerging adults *feeling in-between*, without sufficient exploration and future orientation, were much more likely to be pessimistic and powerless over potential for success.

Each of these views on emerging adulthood support the concept that successful achievement of vocational identity is correlated with positive psychosocial outcomes, whereas dysfunctional development in vocational identity has been correlated with negative psychosocial outcomes . Planned goal development has proven to successfully mediate high risk situations, such as suicidal ideation, survivors of domestic abuse, neglect, unstable mental health, and substance use (Bettmann, Russell, & Parry, 2013; Claes, Luyckx, & Bijttebier, 2014; Harris, Kimball, Casiraghi, & Maison, 2014; Wang & Fredricks, 2014). Among these, substance use and criminal behavior have prominently figured in the literature, further explained below in the sub-sections of substance use/addict identity and criminal identity.

Diffused Identity Status

Diffused Identity status has previously been defined as the least adaptive path of identity development, using Marcia’s theory of emerging adult identity clusters (Al-

Owidha et al., 2009). Multiple authors have documented how long-term diffusion has led to negative psychosocial consequences, including increased risk factors for anti-social and delinquent behaviors (Hardy et al., 2017); greater occurrence of substance dependence (Gates et al., 2016); and negative psychosocial functioning, including work and career (Coetzee & Schreuder, 2016). Meca et al. (2015) opined that tension between internal versus external self-views, with conflict between the two, created high propensity for negative identity formation and maladaptive behaviors. Lack of coherency in self-view and rumination on the shame and confusion of failing to establish adult roles is known to yield maladjusted life trajectories (Luyckx, Teppers, et al., 2014; Marttinen et al., 2016; Skhirtladze et al., 2016). An important distinction in this view, however, was careful consideration of whether the focus involved rumination, or reflection. LoSavio et al. (2011) reported that rumination may result from a disruption of individual core beliefs, while Luyckx et al. (2014) opined that personality traits were a better predictor of whether worry may encourage positive identity development, or result in longer-term, unresolved reconsideration of adult roles and identities.

Engagement of interventional strategy has been a historical method of preventing negative life development during teenage years. Early identification of behavior problems in school led to re-engagement strategies, including assessment of academic achievement, social/familial influence, and substance use, with some parents opting to remove their children to residential wilderness-based programs in hopes of changing negative circumstances (Bolt, 2016; Harris et al., 2014; Norton et al., 2014; Wang & Fredricks, 2014). Interventional techniques involving substance treatment within

delinquent/criminal populations (Denny & Connor, 2016;) and transitional/work training within correctional populations (Barrett, Katsiyannis, Zhang, & Zhang, 2014; Crocetti, Beyers, & Çok, 2016) have been found to positively impact recidivism.

Influential Factors for Negative and Positive Forms of Identity Development

Well-being and meaning-making. Psychological well-being is a predictable and necessary outcome of stable relationships, adequate shelter and care, sense of accomplishment, and clear sense of identity (Cakir, 2014; Sharon, 2015; Sica et al., 2014; Sumner, Burrow, & Hill, 2015). Oliveira, Mendonça, Coimbra, and Fontaine (2014) identified family support as a dominant influence in the transition to adulthood, with encouragement toward emotional and tangible autonomy functioning as “identity capital” for future success (p. 1449). Strong belief in oneself, and the ability to be successful, are known predictors of well-being (Creed et al., 2016; Mayseless & Keren, 2014).

This concept of self-efficacy is noticeably present in individuals successfully transitioning to adulthood, as evidenced by stable relationships, steady vocational activity, and balanced social involvement. Newcomb-Anjo, Barker, and Howard (2017) found that emotional and academic functioning in emerging adulthood were significant in predicting future life success. Duffy, Douglass, Autin and Allan (2014) described these predictors and outcomes as “a career calling”, whereby individuals developed understanding of self, interests, meaning, and drive for future success (p. 310). Career calling could be akin to a precursor to vocational identity achievement, as identification of a calling requires self-examination, exploration, and commitment. Self-designed exploration of options and possibilities was found to provide a sense of coherence and

commitment to positive life orientation (Coetzee & Shroeder, 2016, Maree & Twigg, 2016).

A contrasted view of career calling stated that too much pre-identification of job ideals may actually increase career distress, potentially due to perceptions of progress (or non-progress) (Praskova, Creed & Hood, 2015). In spite of this concern, the majority of literature concluded identity achievement could only result from identity crisis, followed by engagement in exploration and achievement of vocational identity (Hirschi & Herrmann, 2012; McLean et al., 2016; Sharp & Coatsworth, 2012).

Arnett (2000, 2014) proposed that the most important context for emerging adults was establishment of vocational identity, and that vocational identity served to direct other contexts of overall identity (Porfeli, Lee, Vondracek, & Weigold, 2011).

Vocational Identity theorists have varying perspectives on development of vocational identity. Ibarra and Barbulescu, (2010), for example, purported that a process of self-narrative, influenced by social identities created through perceptions by others, would modify, change, and grow along with the individual. Meaning-making is a related process, encouraging self-exploration and examination of unique needs and desires, spurring movement away from rumination, and toward healthy exploration and identity commitment (Sharon, 2016). Meaning-making was also asserted as a means for preventing self-concept pathology, encouraging stress reduction and connection with a moral self, and creating a necessary shift in relation to expectations of others. This, in turn, promoted creation of a more personally-developed life direction, rendering more positive results (Cannard, Lannegrad-Willems, Safont-Mottay & Zimmerman, 2015;

Carlsson, Wangvist, & Frisen , 2016; Krettenauer & Mosleh, 2013; McLean, Syed, & Shucard, 2016; Schiller, Hammen & Shahar, 2016).

This doctoral study endorses the view of self-narrative, noting that vocational identity development requires knowledge of self, through exploration and commitment. Self-narrative was purported to assist in that process by solidifying desire to create future roles of a positive nature, rather than remaining stalled and at risk for negative psychosocial consequences. It is the combination of self-analysis and consideration of past, present, and future, that guided this study's contemplation of vocational identity development as necessary in developing a positive self-narrative and future-identity process.

Social identity/support. Social support is strongly reflected in the literature as an influential component for successful transition to adulthood. Societal and peer expectations were found to shape self-esteem, with factors of socioeconomic and cultural identity determining *stagnation versus growth* in self-view, living status, and clarification of relationship, work, and love roles (Aydinli-Karakulak & Dimitrova, 2016; Luyckx, Seiffge-Krenke, et al., 2014; Mayselless & Keren, 2014; Sica et al., 2016). Dumas, Ellis, and Wolfe (2012) examined the relationships between peer group pressure, engagement in risk behaviors, and identity development, concluding that teens who developed and became committed to personal identity were less likely to engage in risk behaviors. It was further suggested that identity exploration and commitment may serve as a buffer to negative peer pressure and negative life trajectories, through offering a healthy frame of reference independent of peer group norms (Dumas et al., 2012). A similar influence

regarding the role of best friends among adolescents found that existence of best-friend interpersonal bonds acted as “balanced relatedness” supporting positive, versus problematic, educational reconsideration (van Doeselaar, Meeus, Koot, & Branje, 2016, p. 29). Peer influence was found to be exceptionally critical in promoting positive versus negative life choices, with positive peer group interactions acting as protective factors against risky behaviors (Cattelino et al., 2014; Mennis & Harris, 2011; Norton et al., 2014; Ragelienė, 2016).

Family support and modeling has coherent connection to academic, occupational, relational, and health factors within high-risk, identity-diffused, emerging adults (Fan, Cheung, Leong, & Cheung, 2014; Syed & McLean, 2016; Weymeis, 2016). A family history of substance use, especially with negative consequences or modeling of substance use for escape or entitlement, was found to be prominently reflected in diffused identity emerging adults (Powers, Berger, Fuhrmann, & Fendrich, 2017). Family support and dynamics, especially when combined with patterns of community involvement, predicted movement toward prosocial behaviors (Luengo Kanacri et al., 2014).

Drapkin, Eddie, Buffington and McCrady (2015) examined stressors and outcomes for youth and adults coming from alcoholic homes, noting that lack of engagement and withdrawal-type coping led to significant later substance use problems and negative psychosocial consequences among those failing to seek help. Examination into the social influences of family support, socioeconomic influence, peer attachment, and inter-parental conflict referenced within the four identity statuses of the Marcia model (Achieved, Foreclosed, Moratorium, and Diffused), concluded that peer-

attachment was a key factor among diffused identity emerging adults, clarifying the importance of social context in development of vocational identity (Song, Kim, & Lee, 2016). This pattern of disengagement and withdrawal parallels vocational theory for low or non-existent exploration; it seems that lack of forward movement may result in perpetuation of negative self-view, peer selection, and a dysfunctional life trajectory.

Future-orientation. Development of overall identity, and vocational identity, necessitates a future-oriented consideration of self. Setting future goals, exploring alternatives, and committing to developing adult roles were cited by Sica et al., 2016 as representing a “futuring” process which engaged time perspective in relation to identity formation. This futuring process encouraged movement from a past sense of self, to a newer and more productive sense of self (Sica, et al.). Activities, thoughts, and actions, in tandem with clarification of interests, values, and competencies, were identified as critical factors influencing movement toward negative versus positive life direction (Hardy et al., 2017; Sharp & Coatsworth, 2012). It was further postulated that an outlook toward the future motivated emerging adults to engage in exploration and commitment, increasing self-efficacy and agency beliefs regarding potential for personal success (Lee, Porfeli, & Hirschi, 2015; Sica et al., 2016; Taber & Blankenmeyer, 2014).

Future orientation was also explored by Solomontos-Kountouri and Hatzitofi, (2016), who noted how young inmates synthesized past and present identities, concluding that education and formation of future goals positively influenced success in transition out of prison. Goal-orientation as intervention in a population of diffused-identity young adults was found to positively influence mental health and emotional growth, while

decreasing risky behaviors such as substance use and criminal behavior (Luyckx & Robitschek, 2014; Norton et al., 2014; Schwartz et al., 2015). Vocational Identity, therefore, appears to mediate self-belief and self-efficacy for emerging adults transitioning to adulthood.

Criminal identity. Negative view of self has been linked to establishment of dysfunctional personal identity, and movement along a negative life trajectory (Jo, Ra, Lee, & Kim, 2016; Lane, 2015). Belmi, Barragan, Neale, and Cohen (2015) confirmed that threats to perceived social identity, specifically as it relates to societal-driven stereotypes, may result in ongoing deviant actions and behaviors resulting in development of a symbiotic person-group criminal identity. Early use of substances and engagement in delinquent behaviors have been established as precursors to future criminal behavior, beginning as early as elementary school (Wang & Fredricks, 2014).

Criminal behavior and substances as symbiotic influences among cohorts of youthful offenders was studied by Elonheimo et al. (2014), finding “robust associations between drunk driving and many other crime types”, later tied to correlations with maladaptive coping skills and poor self-control (p. 1277). Early life criminal and substance-associated crime behaviors were tied to aspects of academic achievement and emotional engagement with school and peers, finding “a bidirectional association between behavioral and emotional engagement in school, and youth problem behaviors over time” (Wang & Fredricks, 2014, p. 722). School dropout rates were heightened in populations of at-risk youth, resulting in less likelihood to build self-efficacy toward positive and successful adult roles (Arnett, 2016; Azmitia, Syed & Radmacher, 2013;

Ball, Huang, Cotton, Rikard & Coleman, 2016; Dever, 2016). Perception of self, and needing to belong, were found to be critical risk factors, especially among emerging adults with avoidant tendencies, and low social support (Bartel et al., 2017; Sica et al., 2016; Wagner, Ludtke, Jonkmann & Trautwein, 2013).

A natural conclusion to improving self-image was to encourage belief in self and recognizing one's personal potential for future success. This process of building self-efficacy, while generally leading to positive outcomes, at times was found to result in negative identity formation (Aydinli-Karakulak & Dimitrova, 2016; Beyers & Luyckx, 2016; Eccles, 2009). Brezina and Topalli (2012) discovered that the same aspects of personal-self-efficacy found in positive role development were evident within correctional and delinquent populations, in the form of negative identity formation. Criminal efficacy, leading toward formation of criminal identity, fueled by fear of rejection, ridicule, and failure, resulted in pursuit of monetary gain and acceptance at any cost (Brezina & Topalli, 2012). The resulting criminal identity, initially created during the personal drive for survival and acceptance, was found to be influenced by social and environmental factors to persevere in a negative manner. Mennis and Harris (2011) called this *deviant peer contagion*, within the context of juvenile delinquency and criminal recidivism. Peer contagion was felt to be strongly influenced by exposure to, and modeling of, prosocial versus antisocial behaviors, closely interrelated with cultural and racial ties.

Substance use/addict identity. Emerging adults with substance use problems were found to be significantly over-represented in the Diffused status of identity

development (Gates et al., 2016; Schwartz et al., 2013). Substance use disorders were described as a systemic and prolific health problem among emerging adults in the U.S., creating a “disproportionately large share of societal burden through treatment and progression to antisocial behaviors” (Bergman, Kelly, Nargeso & McKeowan, 2016, p. 270). Evaluation of post-addiction recovery has shown that changes in a person’s self-concept, self-efficacy, and social identity significantly influenced behaviors leading to transformation of personal identity (Bergman, Kelly, Nargiso & McKowen, 2016; Bettmann, Russell, & Parry, 2012; Harris, Kimball, Casiraghi & Maison, 2014; Koski-Jännes, 2002). Career readiness was reported as a leading factor in developing future plans, with reduced risk for violence and substance use behaviors (Lindstrom-Johnson, Jones, & Cheng, 2014).

Career adaptability, perceived career barriers, family influence, and time perspectives were also found to positively influence recovery from addiction, in addition to prevention of criminal behaviors and violence (Chan, Mai, Kuok and Kong, 2016; Fan et al., 2016; Urganaviciute, Prociute, Kairys, & Liniauskaite). Social connections, and especially engagement with peers, has been established as a significant factor in both substance use and crime (Luyckx, Seiffge-Krenke, Schwartz, Crocetti & Klimstra, 2013). Walters and DeLisi (2013) claimed that antisocial cognitive processes, identified as compelling and increasing thoughts and self-beliefs about criminality, may be mediated through evaluation and intervention of confounding variables such as social and peer relationships. This doctoral study incorporated the context of developing alternative

future identities as pivotal toward replacing negative self-views that could lead to ongoing criminal and/or recidivistic behaviors.

Selection of Instruments

Examination of identity status began with studies evaluating strength of ego-identity in relation to goal setting, self-definition, response to authority, and self-esteem (Marcia, 1966). There were several instruments developed to evaluate identity using Ego-Status formats (Adams, Shea & Fitch, 1979; Bennion & Adams, 1990, 1997). Later identity evaluations built upon Marcia's Identity Statuses, primarily using interview methods (Marcia, 1991; Marcia, 2002; Marcia, 2007). The interview approach elicited features important to vocational development, yet often focused upon situational values versus content-oriented and foundational values. The Expectancy Value Theory of Motivation (EVT; Eccles, 2009) upon which this study was based stated that both intrinsic and extrinsic motivations were strongly influenced by self-knowledge and self-efficacy. Dever (2016) connected expectancies and values to academic performance and achievement, highlighting and extending the importance of vocational processes in identity development.

Porfeli et al. (2011) researched existing psychometric instruments regarding career development, finding that a focus on commitment, as opposed to exploration of commitment, served as a precursor to actual commitment. Porfeli et al. therefore developed the Vocational Identity Status Assessment (VISA), built upon the Marcia statuses of commitment and exploration, with a focus on differentiating features of exploration in the process of vocational identity (2011). These extended statuses built

upon Marcia's work resulted in the VISA status categories of *Achieved* (high exploration/high commitment), *Searching Moratorium* (high on all areas of exploration, commitment, and doubt), *Moratorium* (high exploration/low commitment), *Foreclosed* (low exploration/high commitment), *Diffused* (low exploration/high self-doubt), and *Undifferentiated* (moderate scores without clear direction) (Lannegrand-Willems, Perchee & Marchal, 2015). Porfeli, et al. (2011) examined internal consistency among the six subscales, resulting in Cronbach alphas between .79 and .82. Doctoral learner Donlin (2014) examined vocational identity and well-being among college undergraduates using the VISA, finding Cronbach alpha scores similar to Porfeli et al. with values from .76 to .83. Based upon appropriateness of the VISA instrument to capture vocational identity, and the high reliability scores, this dissertation study determined that the VISA was an instrument to measure the dependent variable of vocational identity.

Two independent variables were established for use in this study. The variable of substance use was garnered using the CAGE-AID (Cutting down, Annoyance, Guilt, Eye Opener – Altered to Include Drugs) instrument (Brown & Rounds, 1995). The CAGE-AID instrument was developed by Brown and Rounds (1995), expanding the original CAGE instrument to include screening for drugs as well as alcohol. Couwenbergh, Van der Gaag, Koeter, De Ruiter and Van Den Brink (2009) examined the diagnostic accuracy of the CAGE-AID instrument with adolescents and their parents, finding high internal consistency (.77) in the adolescents' responses, as well as the parent responses (.86). Additional studies examining diagnostic accuracy were conducted by Leonardson

et al. (2005), finding an internal consistency reliability coefficient of .92. Mdege and Lang (2011) described the CAGE-AID as a quick screening tool (taking 5 minutes) with steady reports of high internal consistency. Based upon good validity and reliability scores, as well as appropriateness for capturing substance use among emerging adults, the CAGE-AID was felt to be an appropriate instrument for this study.

The second independent variable of this study was criminal thinking. The Psychological Inventory of Criminal Thinking Styles–Layperson Edition–Short Form (PICTS-L-SF; Mitchell, Bartholomew, Morgan, & Cukrowicz, 2017) was selected to evaluate criminal thinking among emerging adults. The original PICTS instrument (Walters, 2002) was developed to “assess crime-supporting cognitive patterns” among men and women offenders (p. 278) and had utilized a criminal justice population for establishment of norms. In response to this, Mitchell, Bartholomew, Morgan and Cukrowicz (2017) made modifications to the instrument, for use with non-correctional populations.

Rather than scoring and using all scales of the PICTS-L-SF instrument, Walters and Cohen (2016) reported that the General Criminal Thinking (GCT) score alone, which utilized over one-half of the inventory items, was valid as a standalone screening tool measuring criminal thinking with a reliability coefficient of .97. Mitchell, Bartholomew, Morgan and Cukrowicz (2017) further confirmed that cognitive factors as expressed by the General Criminal Thinking (GCT) score were a dynamic capable of predicting risk of recidivism, and that a change in GCT scores (positive or negative) could reliably identify progression or degradation in criminal behaviors. Based upon good reliability and

validity, the PICTS-L-SF was felt to be an appropriate and accurate instrument for this study. Chapter 3 will include greater detail about the use and application of these instruments, as well as the design and approach to the study.

Societal Impact of the Study

Cross-sectional analysis using the 2009 to 2014 National Survey on Drug Use and Health found that adolescents with any involvement with the criminal justice system had higher instances of substance use disorders, mood disorders, and sexually transmitted infections than adolescents who had never been justice-involved (Winkelman et al., 2017). Research on populations of juvenile offenders classifying sub-groups by demographic factors and offense found that 85% of the population were using substances prior to, or during, the offense (Hillege et al., 2017). Horn, Fagan, Hawkins and Oesterle (2014) reported that risk-seeking behaviors among young adults including delinquency and substance use significantly compromised health, poor school performance, and predictive risk toward ongoing long-term substance use and criminal behaviors. It was also opined that “the high financial costs of these problem behaviors are related to medical care, work loss, drug treatment programs, and correctional systems” (Horn et al., 2017, p. 188).

Employment (relatable to vocational identity within this study) has been negatively correlated with ongoing substance abuse. Sherba, Coxe, Gersper and Linley (2018) studied employment services and barriers among a group of 800 substance abuse treatment center consumers, finding that over half of the population (429 participants) were unemployed, and of those, 52% directly related their unemployment due to

substance use. Other barriers to employment among substance users included criminal history, probation/treatment program requirements, poor work history, lack of education/skills, lack of transportation, and continued substance use/relapse (Sherba et al., 2018). Sherba et al. concluded that focused understanding of employment services, individual needs, and exploration of options could positively impact successful management of substance addiction and recovery.

A strong relationship was therefore established between substance use leading to criminal behavior, criminal behavior leading to substance use, and employment issues related to both substance use and criminal behavior (Denny & Connor, 2016). Lack of employment has been tied to not only criminal behavior and substance use; lack of training, education, skills, and work history was also found to negatively influence employment access and retention (Denney & Connor, 2016; Luyckx, Seiffge-Krenke, Schwartz, Crocetti & Klimstra, 2013). This study suggested that focus upon vocational identity, offering a future-oriented sense of self and occupational achievement, could potentially impact negative consequences of ongoing substance use and criminal behavior.

Summary

This literature review provided an overview of this dissertation study, covering theoretical base, introduction of emerging adulthood, formation and development of emerging adult theory, components and considerations on identity development, and the importance of vocational identity as influencing positive life trajectories. Previous research was outlined, establishing a strong connection between substance use, substance

dependence, and criminal behaviors. Research was also reviewed that established how criminal behaviors influenced existing and ongoing substance use, which led to increased criminal recidivism among offenders (Denny & Conner, 2016; Gates et al., 2016; Hardy et al., 2017). The construct of criminal thinking was validated by Walters (2007), stating that specific thinking styles were more likely to result in a criminal lifestyle. The cycle of criminal thinking, criminal behavior, and substance use was therefore confirmed, along with indications that work history and employment may be influential factors toward helping correctional populations, as well as those suffering from substance use disorders (Lindstrom-Johnson, et. al, Jones, & Cheng, 2014; Ranta, Dietrich & Salmela-Aro, 2014). Young persons (referred to in this study as emerging adults) were thereby considered at-risk for developing negative psychosocial consequences (including substance use and criminal thinking/behavior) should the process of identity development be absent or delayed.

Vocational identity was introduced as a key developmental feature of overall identity development, with some researchers purporting that vocational identity preceded and directed other types of identity formation (Porfeli, Lee, Vondracek, & Weigold, 2011; Sica et al., 2016). Focus of this study was elucidated through discussion of various approaches to the crime-substance use-employment triad, concluding that vocational identity was a missing piece of the literature, and a potential mediating factor in decreasing or eliminating substance use and criminal thinking, indicative of negative life trajectories among emerging adults.

Chapter 3: Research Method

Introduction

The purpose of this study was to examine the relationship between vocational identity, substance use, and criminal thinking within the population of emerging adults. Three self-response inventories were used to obtain data. The dependent variable of vocational identity was measured by the Vocational Identity Status Assessment (VISA; Porfeli et al., 2011). The independent variable of substance use was measured by the CAGE-AID instrument (Brown & Rounds, 1995); and the independent variable of criminal thinking was measured by the General Criminal Thinking Scale of the PICTS instrument (Walters, 2002). This study aimed to assess whether the dependent variable of vocational identity had positive or negative relationships with the independent variables. This chapter provides an explanation of the research design and rationale for the study; identification of variables; qualification for, and descriptions of, selected instruments; an overview of the sample population and sampling procedures; and a detailed description of recruitment, participation, and data collection strategies for the study.

This chapter further document the analysis of the selected statistical tests, including operationalization of variables, how the results were interpreted, and what strategies were in place for handling possible threats to validity. In conclusion, potential ethical matters of the study pertaining to recruitment, confidentiality, protective measures, data storage and dissemination, and any possible conflicts of interest are

considered. A summary of the research methods used in the study concludes Chapter 3, followed by an introduction to Chapter 4, reporting analysis of study results.

Research Design and Rationale

This quantitative study employed a nonexperimental, correlational research design to determine the extent to which the dependent factor of vocational identity had a positive or negative relationship with the independent factors of substance use and criminal thinking. An online, confidential, self-administered inventory-response format was used in this study, which offered anonymity and confidentiality to study participants. Purposive sampling using parameters of the age category 18-25 (defined in the literature as emerging adults) created homogeneity in the sample, thereby generating data representative of the larger target population of emerging adults. The psychometric inventory-response instruments selected for the study were the Vocational Identity Status Assessment (VISA; Porfeli et al., 2011) to assess status of vocational identity, the CAGE-AID (Cutting down, Annoyance, Guilt, Eye Opener – Altered to Include Drugs) to assess substance use (Brown & Rounds, 1995), and the General Criminal Thinking (GCT) scale of the Psychological Inventory of Criminal Thinking Styles–Layperson Edition–Short Form (PICTS-L-SF; Mitchell et al., 2017) to assess criminal thinking.

Methodology

Population and Sampling Procedures

The designated target population for this study was 100 emerging adults, defined by Arnett (2000) as individuals between the ages of 18 and 25, whose primary

developmental focus is identity formation during transition to adulthood. Purposive sampling strategy was used in the study, which is characterized as a nonprobability technique for selecting participants based upon purpose of the study (Etikan, Musa, & Alkassim, 2016). Frankfort-Nachmias and Nachmias (2008) stated that purposive sampling compels the researcher to use subjective judgment to select participants who will reasonably represent a specific population, with the intention of generalizing to the larger population. Purposive sampling allows for creation of a homogeneous sample of participants ages 18 to 25, meeting inclusion criterion of emerging adult status. Etikan et al. (2016) stated that researchers using the purposive sampling strategy expect that the responses of each participant will bring unique data points for statistical comparison, allowing for data saturation. Etikan et al. further reported that data saturation increases the probability for rejecting the null hypothesis of the study questions and accepting the alternative hypothesis.

Sample size for this study was determined two different ways. First, I referenced the 2010 online census tables of the United States Census Bureau, finding a cumulative total population of 233,666 adults in the Central Oregon area, and a cumulative total of 11,216 individuals within the age range of 20 to 25. Although a true percentage of the overall stated population was not achievable, 1% of this number was calculated as 112; a goal of 100 participants was therefore proposed using census-based approach, as sufficient to reach data saturation

For alternate consideration, the G*Power program (Faul, Erdfelder, Lang, & Buchner, 2009) was used to calculate sample size. The selected format for the G*Power

calculation was Correlation: Bivariate Normal Model, based upon the intention to use Pearson r analysis for calculations. Bivariate calculations are deemed appropriate when the goal is to assess relationships among all pairs of variables in a study (Martin & Bridgmon, 2012). Parameters for calculation in G*Power were input for a two-tailed alpha (to allow for both negative and positive correlational scores); an alpha level of 0.05 (a moderately stringent parameter to reduce the chance of making a Type I error); statistical power of .9 (the likelihood that the study will produce an effect), and a medium effect size of .3 (using Cohen's strength of r effect sizes). Martin and Bridgmon (2012) stated that effect size can be small (.1), medium (.3), or large (.5), with each size category resulting in a need for greater number of participants. The calculated sample size using G*Power and these parameters was 125 participants. Considering calculation of sample size using two different approaches, the resulting sample sizes of 112 participants and 125 participants were rounded down, for a target sample size of 100 participants. It was concluded that this number of participants would provide sufficient data points through levels of data saturation.

Procedures for Recruitment, Participation, and Data Collection

Recruitment of participants focused on the Central Oregon area of the United States, with a targeted sample population of 100 participants. Announcement flyers were produced, describing the study, its purpose, the intended online survey process, confidentiality and privacy policy, anticipated time investment, and included contact information for the primary researcher. Recruitment flyers were distributed throughout Central Oregon, through posting on college bulletin boards, and community bulletin

boards in both public and private entities that offered public postings (e.g., public libraries and coffee shops). Recruitment flyers were also e-mailed to psychology department chairs at several universities for dispersion to interested potential participants, and social media was used to post the announcement flyer on Facebook. The printed announcement included web-link information, directing potential participants to the study portal (www.careeridentities.com). Potential participants were then offered the opportunity to participate, by reading and agreeing to consent documents (including the right to withdraw or cancel participation), prior to beginning the online inventory process.

Research participation. Research participants had to meet the inclusion criterion of the age range 18 and 25 years, to meet the definition of the target population of emerging adults. Potential participants were informed of the study using printed flyers, directing them to the study website, www.careeridentities.com. Face Book posting of the flyer, (and re-postings by others) announced the study, with a direct link to the study website. The website was developed to link directly to the PsychData online survey program, which described the scope and purpose of the study, the informed consent document, and instructions for proceeding with the study inventories.

Informed consent. The informed consent document was inserted immediately after participant sign-in through the PsychData online program (described below). The informed consent included description of the study, purpose of the study, why participants were being asked to participate, and what type of information was being gathered. Specific procedures for data collection were described in the document, including types of inventory-response tests that were to be administered, and the expected

timeframe for completing the testing session. Risks/benefits, confidentiality, voluntariness, and outcomes were also reviewed in detail, including that participants would be identified by coding, rather than specific names. The informed consent also covered voluntariness of participation, and the option to exit the online survey at any time. The participants were informed that data would be stored securely for a minimum of 5 years, and that data may be used as an archival resource in future studies.

Prior to agreeing to participate in the research study, participants were encouraged to contact the researcher with any questions or concerns. Participants were informed that a summary version of completed research would be listed on the study website once available. Specific researcher contact information was also included on the form, providing researcher phone number and Walden university email contact information. To assure conformance with informed consent process, the PsychData online program required confirmation of acceptance, through clicking on a confirmation button prior to directing the participant to the online survey.

Demographic questionnaire. The demographic form was inserted just prior to the first online inventory (see Appendix A). The demographic questionnaire gathered information on gender (Male/Female), selection for year of birth (1993 to 2000), and highest level of school completed. The requirement for selecting year of birth was used to validate inclusion in the study as meeting the parameter of emerging adults.

Data collection. Data collection was managed by the PsychData program, created specifically for use in research in psychology and social sciences. Dr. Locke, licensed psychologist, founded PsychData in 2001, described the PsychData mission as

"empowering researchers to conduct secure, accurate and reliable online research". The program was reported to be SPSS-compatible, offering 100% SSL encryption, and was designed to meet Institutional Review Board (IRB) standards (Locke & Keizer-Clark, n.d.). The PsychData program allowed the researcher to develop a user-friendly platform by linking to the website www.careeridentities.com, developed for use in this doctoral study. Working within the PsychData platform, it was possible to upload the VISA, CAGE-AID and PICTS-LS-SF instruments, with linkage between instruments so that participants may complete them seamlessly. Permission was garnered by authors of all three instruments for usage, uploading and administration through the PsychData online portal.

Once logging onto the study site www.careeridentities.com, participants could review purpose and intent of the study, clicking a link confirming intent to participate. After signing on with a "nickname" assuring confidentiality and anonymity, the informed consent document was listed first, with clicking the consent button leading participants to the online surveys. The PsychData program was designed to block participants from moving forward who failed to complete the informed consent process. As an exit strategy, participants were informed in the informed consent document that study results would be posted on the study website once available.

Instrumentation and Operationalization of Constructs

There were three psychometric instruments identified for use in the study, to gather targeted data for variables of vocational identity, substance use, and criminal thinking among emerging adults.

Vocational identity (dependent variable). The Vocational Identity Status Assessment (VISA) was the selected instrument to measure vocational identity. The VISA was formulated to clarify conceptual identity models examining career exploration and career commitment as necessary processes to achieve adult identity (Porfeli et al., 2011). Using the four-outcome identity status model (*Achieved, Moratorium, Foreclosed, and Diffused*) proposed by Marcia (1966), Porfeli et al. (2011) included two additional statuses: *Searching Moratorium* (vacillating between moratorium and achieved); and *Undifferentiated* (no active exploration, commitment, or reconsideration of decisions about career).

The Vocational Identity Status Assessment (VISA) presented as a thirty-item inventory, with two primary sections. The first section, career commitment and doubt scales, was operationalized by four sub-categories of career commitment, identification with career commitment, career commitment flexibility, and career self-doubt. The second section, career exploration scales, were operationalized by the two-sub categories of in-breadth career exploration (the consideration of many career options), and in-depth career exploration (consideration of options within a specific career path) (Porfeli, 2011). Each of the six subscales offered five possible answers, using a 1-5 Likert scale, with answers comprised of a) Strongly agree, b) Agree, c) Agree and disagree, d) Disagree, and e) Strongly disagree.

The first section of the VISA presented participants with items beginning with the statement, *To what extent do you agree with the following statements?* Sample questions in this section included “I know what kind of work is best for me”; My career choice will

permit me to have the kind of family life I wish to have”; “I may not be able to get the job I really want”; and “I will probably change my career goals”. Section two of the VISA presented participants with the statement *Right Now I am....* Sample questions in this section included “thinking about how I could fit into many different careers”; and “thinking about all the aspects of working that are most important to me.”

Scoring of the VISA was managed through summing, and then averaging, responses within each of the 6 vocational clusters. The averaged data was then analyzed using instructions in the VISA instrument, resulting in a single score representing the VISA status categories of *Achieved* (high exploration/high commitment); *Searching* *Moratorium* (high on all areas of exploration, commitment, and doubt); *Moratorium* (high exploration/low commitment); *Foreclosed* (low exploration/high commitment); *Diffused* (low exploration/high self-doubt); and *Undifferentiated* (moderate scores without clear direction) (Lannegrund-Willems, Perchee & Marchal, 2015). The VISA was developed and normed using two samples: one sample of 540 10th and 11th grade high school students, and the other sample using 402 university students. Porfeli, Lee, Vondracek and Weigold (2011) documented results of Chronbach’s alpha scores between .79 and .82 for each subscale; Cronbach's alpha is a measure of internal consistency (reliability), used to determine whether items on a scale are measuring the same underlying dimension (Salkind, 2008).

The VISA had been used in other Doctoral Studies using college-aged participants, finding reliability scores for the six sub-scales to be consistent with those scores found in the Porfeli et al. (2014) study. Donlin (2014) examined vocational

identity and well-being among college undergraduates, finding Cronbach's alpha scores between .74 and .83. Based upon similar reliability results from both researchers using the instrument, the VISA was determined to be a reliable resource in this study. A deciding factor for use of the VISA instrument was based upon the inherent suitability for the instrument to gather data specific to the construct of vocational identity. Dr. Porfeli, author of the VISA instrument, was contacted via email communication, and rendered permission to use the instrument. Follow up contact with Dr. Porfeli confirmed online use of the VISA for this study. Both a copy of the VISA instrument and permissions by Dr. Porfeli are found in Appendix B.

Substance use (independent variable). Substance use data was assessed using scores from the *CAGE-AID (Cutting down, Annoyance, Guilt, Eye Opener – Altered to Include Drugs)* instrument. The CAGE-AID instrument was developed by Brown and Rounds (1995), expanding the original CAGE instrument to include screening for drugs as well as alcohol. The CAGE-AID instrument had been validated in multiple studies over the past 15 years. Van der Gaag, de Ruiter, and Kunnen (2016) examined the diagnostic accuracy of the CAGE-AID instrument, using self-report screening methods with adolescents in substance use treatment, and their parents. Statistical analysis of data in that study using SPSS 14.0 confirmed high internal consistency (.77) in the adolescents' responses, as well as in the parent's responses (.86). To further determine whether the CAGE-AID instrument could discriminate whether individuals could be diagnosed with or without SUD, Couwenbergh et al. (2009) employed a *receiver operating characteristic* (ROC) that translates to an *area under the curve* (AUC) which

denotes diagnostic accuracy. The ROC of the CAGE-AID instrument generated an AUC of the data as 0.996, “indicating that the probability is 99.6% that someone with SUD will have a higher score on the CAGE-AID than someone without SUD (Couwenbergh et al., 2009, p. 827).

Leonardson et al. (2005) also examined the validity and reliability of the CAGE-AID instrument compared with the Alcohol Use Identification Test (AUDIT) in a population of Northern Plains American Indians, finding an internal consistency reliability coefficient of .92. Concurrent and divergent validity analysis among the drug and alcohol use data was assessed through correlation of scores between the AUDIT and CAGE-AID, documenting a “significant, positive correlation of .76 between scores on the AUDIT and CAGE-AID” (Leonardson et al., 2005, p. 164). A third validation of the CAGE-AID instrument was established through a systematic review of screening instruments completed by Mdege and Lang in 2011. Thirteen screening instruments were used in the study, with CAGE-AID found to be a quick screening tool (5 minutes) with steady reports of high internal consistency.

The CAGE-AID questionnaire was comprised of four questions: “Have you ever felt you ought to cut down on your drinking or drug use?” (C-cut down); “Have people annoyed you by criticizing your drinking or drug use?” (A-annoyed); “Have you felt bad or guilty about your drinking or drug use?” (G-guilt); and “Have you ever had a drink or used drugs first thing in the morning to steady your nerves or to get rid of a hangover (E-eye-opener)?”

Dr. Brown (1995) identified the scoring process as follows. Item responses on the CAGE questions were to be scored 0 for "no" and 1 for "yes" answers, with a higher score being an indication of alcohol problems. A total score of two or greater was considered clinically significant, with coefficient scores of two or more showing sensitivity of .70 and specificity of .85. Using the total score of one or more Yes responses showed a sensitivity ranking of .79, and specificity of .77. The normal cutoff for the CAGE was two positive answers, however, the Consensus Panel recommended that the primary care clinicians lower the threshold to one positive answer to cast a wider net and identify more patients who may have substance abuse disorders. The threshold used in this study used two or more answers as clinically significant.

The CAGE-AID instrument was determined to be an appropriate assessment tool for this study, as it could reliably screen for individuals at risk for substance use disorders. Having an instrument to adequately gauge the substance use criterion was central to adequately answer research question 2. It was further determined that the brevity of the four-question instrument allowed for completion in just a few minutes, increasing potential for participants to complete the survey. Both a copy of the CAGE-AID instrument and permissions by Dr. Brown are found in Appendix C.

Criminal thinking (independent variable). Criminal thinking was assessed using the *General Criminal Thinking scale (GCT)* of the *Psychological Inventory of Criminal Thinking Styles–Layperson Edition–Short Form (PICTS-L-SF)* (Mitchell, Bartholomew, Morgan, & Cukrowicz, 2017). The parent instrument, the *Psychological Inventory of Criminal Thinking Styles (PICTS)*, was developed by Walters (2001), and

later updated in 2006, 2010, and 2013. The PICTS instrument was specifically designed for use in the criminal justice system, to assess criminal thinking. The Professional PICTS manual provided by Dr. Glenn Walters described the hierarchical nature of criminal thinking, with the factor of General Criminal Thinking (GCT) established as the highest, and most general category.

Walters and Cohen (2016) described the PICTS-4 instrument as:

An 80-item measure comprised of three validity scales, eight thinking style scales (Mo = Mollification scale; Co = Cutoff scale; En = Entitlement scale; Po = Power Orientation scale; Sn = Sentimentality scale; So = Superoptimism scale; Ci = Cognitive Indolence scale; Ds = Discontinuity scale), four factor scales (PRB = Problem Avoidance scale; INF = Infrequency scale; AST = Self-Assertion/Deception scale; DNH = Denial of Harm scale), two general content scales (CUR = Current Criminal Thinking scale; HIS = Historical Criminal Thinking scale), two higher-order scales (P = Proactive Criminal Thinking scale; R = Reactive Criminal Thinking scale), a general criminal thinking score (GCT = General Criminal Thinking) and one special scale (FOC = Fear-of-Change scale) (p. 412).

The original PICTS instrument was found to be inappropriate for this study, due to wording that was geared toward criminal justice populations. Concerns over the ability to identify potential individuals at risk for criminal behavior without prior criminal justice involvement (laypersons) led to the development of a revised version of the instrument, the PICTS-Layperson Short-Form (PICTS-L-SF).

The PICTS-L-SF is an 80-item inventory, normed using college students with no history of involvement with criminal justice. Mitchell, Bartholomew, Morgan and Cukrowicz (2017) conducted validity and reliability testing with the PICTS-L-SF, using a sample of 619 college students. The self-report style inventory used a four-point ordinal response system, ranging from 1=disagree; 2=uncertain; 3=agree; 4=strongly agree. The PICTS was hand-scored, using a scoring key listed in an appendix of the PICTS manual. Mitchell et al. (2017) noted that the instrument was designed to evaluate thought patterns associated with criminality, concluding that the cognitive factors as expressed by the General Criminal Thinking (GCT) score was a dynamic capable of predicting risk of recidivism, and that a change in GCT scores (positive or negative) could reliably identify progression or degradation in criminal behaviors. Walters and Cohen (2016) reported that the GCT score alone, which utilized over one-half of the inventory items, could be used as a standalone score measuring criminal thinking. Sample questions on the GCT scale of the PICTS_L_SF included “It is unfair that I have been imprisoned for my crimes when bank presidents, lawyers, and politicians get away with all sorts of illegal and unethical behavior every day.”, and “Nobody tells me what to do and if they try I will respond with intimidation, threats, or I might even get physically aggressive”.

Dr. Walters was contacted via email, and after reviewing this researcher’s prospectus and confirming that a licensed psychologist (Dr. Jana Price-Sharps, Dissertation Committee Chair) was supervising the study. Dr. Walters provided a copy of the PICTS-L-SF instrument, and the PICTS manual, and confirmed that information contained in the PICTS manual was appropriate for all versions of the PICTS

instruments, including the PICTS-L-SF. Later contact with Dr. Walters provided approval for online use of the PICTS-L-SF instrument using the PsychData platform. Both a copy of the PICTS-L-SF instrument, and approvals by Dr. Walters is found in Appendix D.

Scoring and reliability/validity of the PICTS. The PICTS was hand-scored, using a scoring appendix in the PICTS manual. Dr. Walters provided information on interpretation:

For interpretive purposes the raw PICTS score is converted to a standard score.

The standard score employed by the PICTS is the T-score. A T-score is a standard score with a mean of 50 and standard deviation of 10. Accordingly, a T-score of 30 signifies a score two standard deviations below the average score attained by the respondent's normative or reference group and a T-score of 60 denotes a score one standard deviation above the mean for that particular normative group (PICTS Manual, p. 15).

Resulting summary scores of the GCT were then judged, using the score of 50 representing the cutoff for determining the category of criminal thinking. A ranking of scores greater than 50 suggested elevated criminal thinking associated with probable criminal behaviors, and scores ranked less than 50 suggested less criminal thinking associated with probable criminal behaviors. Mitchell et al. (2017) recorded the reliability of the GCT score within the PICTS-L-SF instrument as .97. Validity of the PICTS-L-SF was assessed using regression analysis with the PPES-IRB, an instrument for evaluating frequency of engagement in illegal or risky behaviors. A positive

correlation was found between the GCT scores and scores of the PPES-IRB, confirming that higher scales in criminal thinking correlated to engagement in illegal and risky behaviors (Mitchell et al., 2017). As this study was focused on measuring criminal thinking as it translated to criminal behavior, and that the PICTS-L-SF was normed on non-justice involved college students (comparable with emerging adults aged 18-25), the GCT score of the PICTS-L-SF was determined to be an appropriate instrument for this study.

Data Analysis Plan

The goal of this study was to determine whether a positive or negative relationship existed between the dependent variable of vocational identity, and the independent variables of substance use and criminal thinking. Data collected from each of the administered inventories was downloaded from the PsychData program into the Statistical Package for the Social Sciences (SPSS) statistical software, allowing for analysis using the Pearson-Product-Moment method to generate Pearson scores, designated as r (the italic lowercase letter r). It was noted that cleaning procedures may be necessary during analysis of data, to consider any missing responses between sets of data. It was stated that any participant data sets reflecting a percentage of questions remaining unanswered would need to be deleted and removed from consideration during correlational analysis. Alipour-Langouri, Zheng, Chiang, Golab and Szlichta (2018) described data cleaning as acknowledgement that “real datasets are rarely error-free”, and that errors may be caused by various types of improper data (p. 21). Alipour-Langouri et

al. (2018) described data cleaning as consisting of two steps: identifying values deemed incorrect and determining what action would be taken regarding those values.

The Laerd Statistics educational site described the Pearson test as follows:

The Pearson product-moment correlation, often times referred to as a Pearson's score, is used to determine the strength and direction of a linear relationship between two continuous variables. The resulting value can range from -1 for a perfect negative linear relationship, to +1 for a perfect positive linear relationship. A value of 0 (zero) indicates no relationship between two variables (Laerd.com, n.d.).

The intent for using the Pearson correlational method was to if there was a relationship (negative, positive, or no relationship) between vocational identity and substance use, and vocational identity and criminal thinking.

Research questions presented in this study were:

RQ1: Did substance use as measured by the CAGE-AID instrument have a relationship with vocational identity as measured by the Vocational Identity Status Assessment (VISA) in the population of emerging adults?

H₀ Substance use as measured by the CAGE-AID instrument did not have a relationship with vocational identity as measured by the Vocational Identity Status Assessment (VISA) in the population of emerging adults.

H₁ Substance use as measured by the CAGE-AID instrument did have a relationship with vocational identity as measured by the Vocational Identity Status Assessment (VISA) in the population of emerging adults.

RQ2: Did criminal thinking as measured by the General Criminal Thinking scale (GCT) of the Psychological Inventory of Criminal Thinking Styles–Layperson Edition–Short Form (PICTS-L-SF) have a relationship with vocational identity as measured by the Vocational Identity Status Assessment (VISA) in the population of emerging adults?

H₀ Criminal thinking as measured by the General Criminal Thinking (GCT) scale of the Psychological Inventory of Criminal Thinking Styles–Layperson Edition–Short Form (PICTS-L-SF) did not have a relationship with vocational identity as measured by the Vocational Identity Status Assessment (VISA) in the population of emerging adults.

H₂ Criminal thinking as measured by the General Criminal Thinking (GCT) scale of the Psychological Inventory of Criminal Thinking Styles–Layperson Edition–Short Form (PICTS-L-SF) did have a relationship with vocational identity as measured by the Vocational Identity Status Assessment (VISA) in the population of emerging adults.

To illustrate how the process of correlation may work in this study, the following was offered. The VISA inventory results in six outcome variables: Achieved, Searching Moratorium, Moratorium, Foreclosed, Diffused, and Undifferentiated. Each of the six VISA identity variables were individually compared, using the Pearson's method in SPSS software, against the single outcome variable of the CAGE-AID instrument (problem or no problem with substance use). Secondly, the six VISA identity variables were

individually compared using the Pearson's method in SPSS software, with the calculated numerical score representing the variable of the GCT within the PICTS-LP-SF instrument. This process allowed for examination of relationships between vocational identity, substance use, and criminal thinking, evaluating whether there was a relationship between vocational identity and substance use, and whether there was a relationship between vocational identity and criminal thinking, among the sample population of emerging adult participants. Results of these two analyses allowed for acceptance or rejection of each RQs null hypotheses.

Threats to Validity

This study used existing psychometric instruments, with published reliability and validity data described earlier in this chapter. No threats to external validity were therefore anticipated. There was no experimental protocol to this study, therefore no threats to internal validity such as maturation, instrumentation, experimental mortality, were anticipated. There were possible threats to internal validity identified, such as the process and content of the inventories (substance use and criminal thinking) which could potentially impact participants' willingness to take the instrument, or to answer questions truthfully. This internal threat to validity was managed through careful explanation in the informed consent documents, reminding participants of the privacy and anonymity factors of the study, including absence of any personal identifying data. Truthfulness in reporting was encouraged in the informed consent document, for preservation of study data validity and usefulness of results.

Ethical Considerations

The online consent form was drafted to meet guidelines published by the American Psychological Association - APA (2017) relating to codes of conduct in research. These codes of conduct relating to research are found in APA Code 8.02, requiring an informed consent process where participatory responsibilities and rights and confidentiality limits were explained, including potential risks, discomfort, or adverse effects. Code 8.03 further required that the informed consent include the detailed process for notification of where and how the data will be utilized and dispersed. These psychological principles were used to draft the participation agreement and consent documents.

Specific content embedded in the informed consent document outlined the following features. Individuals' participation was identified as voluntary and at personal discretion, including the right of withdrawal from the study at any time. Each step of the data collection was described in the document, including description of the testing instruments, what they were measuring, and time frame and time investment for completing the three inventories. It was clearly articulated in the consent document how data was being collected for the intent of Doctoral study, and that resulting research data would be published in the Proquest system, described as a database of doctoral studies. Regarding storage of data, the consent form articulated how data was to be stored, secured, and kept for a minimum period of 5 years.

Ethics for assuring confidentiality was managed through explanation in the consent form how personal identity was masked through use of codes rather than names,

and reminders about the voluntariness of participation, including the option of exiting out of the inventories at any time, or requesting removal of individual data from the study.

The target population of emerging adults was not identified as a typical vulnerable population. As a protective measure for participants who may be disturbed through unintentional triggering of shame, hurt, remorse, or fear of discovery by answering questions about the topics of substance use and criminal thinking, information was provided contacting the mental health crisis hotline.

Summary

This chapter described the proposed research method and procedures to answer the research questions examining possible relationships between variables of vocational identity and substance use, and vocational identity and criminal thinking, among a sample population of emerging adults. A non-experimental correlational design using three self-administered inventory-style instruments were used, to measure data in the areas of vocational identity (the VISA), substance use (the CAGE-AID), and criminal thinking (the GCT scale of the PICTS-L-SF). The sample population was identified as 100 emerging adults, recruited through local posting of announcement flyers, e-mails forwarded to psychology department heads at local colleges and schools. And online announcement using the Facebook platform. The online inventories were available to participants using the website www.careeridentities.com, created specifically for this doctoral study. Summarized results of the study, once completed, were to be posted on the website after study completion.

The three instruments in sum comprised 114 questions. Time to complete the study, when done in a single session, was gauged at approximately 30 minutes. Participants used a “nickname” and personal password to access the online surveys, and could stop, return to, or cancel participation at any time. The data, once gathered through the PsychData program, was downloaded to the SPSS program. The data was then scored, sorted, and analyzed using the Bivariate Pearson Product Moment process to produce two-tailed Pearson r scores for determination of positive or negative relationships. Graphic presentation and explanation of results are presented in Chapter 4.

Chapter 4 will cover research results, defining the purpose, research questions, and hypotheses of the research project, along with concise summarization of study results. Chapter 4 also provides details on the time frame for data collection, recruitment processes and response rates, discussion of sample representativeness, and demographic composition of the sample. Descriptive statistics of the study will present statistical analysis findings, and summarization of data in relation to specific research questions of this study.

Chapter 4: Results

Introduction

This study was designed to investigate whether relationships existed between vocational identity and substance use and between vocational identity and criminal thinking within a population of emerging adults. Emerging adults defined by Arnett (2000) as individuals between the ages of 18 and 25, whose primary developmental focus is identity formation during transition to adulthood. Individuals failing to successfully transition to adulthood are at risk for maladaptive social behaviors including substance use and criminal behavior (Gates et al.; Hardy et al., 2017). There is additional research identifying lack of education and poor or missing employment history as especially prevalent among juvenile offenders, along with substance use and failed social relationships (Denny & Conner, 2016; Schwartz et al., 2014).

The goal of this quantitative, nonexperimental correlational study was to assess the relationships between vocational identity, substance use, and criminal thinking among a population of emerging adults. Other researchers studying substance use and abuse have established a connection between criminality and health-endangering in emerging adults (Dutmers, 2017). In this study, I sought to examine how vocational identity, considered in relation to both substance use and crime, informed research regarding possible intervention, treatment, or support strategies. Investigation of the relationship between emerging adults, vocational identity, substance use, and criminal thinking may help to inform professionals in the medical, correctional, and psychology/counseling

fields regarding strategies for preventing and managing the substance use-criminal behavior connection among emerging adults.

This chapter will cover statistical findings of the study, summarizing the final demographics (for gender, year of birth, and highest level of education completed) of the sample population, the time frame for data collection, delineation of both recruitment and response, and the representativeness of the population sample to the population of emerging adults. This chapter will conclude with descriptive statistics and analytical findings of the study, including whether findings were statistically significant.

The research questions and hypotheses formulated for this study were

RQ1: Did substance use as measured by the CAGE-AID have a relationship with vocational identity as measured by the Vocational Identity Status Assessment (VISA) in the population of emerging adults?

H₀1. Substance use as measured by the CAGE-AID did not have a relationship with vocational identity as measured by the Vocational Identity Status Assessment (VISA) in the population of emerging adults.

H_a1. Substance use as measured by the CAGE-AID did have a relationship with vocational identity as measured by the Vocational Identity Status Assessment (VISA) in the population of emerging adults.

RQ2: Did criminal thinking as measured by the General Criminal Thinking scale (GCT) of the Psychological Inventory of Criminal Thinking Styles–Layperson–Short Form (PICTS-L-SF) have a relationship with vocational identity as measured by the Vocational Identity Status Assessment (VISA) in the population of emerging adults?

H₀2. Criminal thinking as measured by the General Criminal Thinking (GCT) scale of the Psychological Inventory of Criminal Thinking Styles–Layperson Edition–Short Form (PICTS-L-SF) did not have a relationship with vocational identity as measured by the Vocational Identity Status Assessment (VISA) in the population of emerging adults.

H_a2. Criminal thinking as measured by the General Criminal Thinking (GCT) scale of the Psychological Inventory of Criminal Thinking Styles–Layperson Edition–Short Form (PICTS-L-SF) did have a relationship with vocational identity as measured by the Vocational Identity Status Assessment (VISA) in the population of emerging adults.

Data Collection

Approval for collection of data was confirmed by the Walden University IRB (#1022-18-0471517) on October 21, 2018 (see appendix E). Formal recruitment of the target population was achieved through placing printed announcements on college and public bulletin boards, Facebook postings of the announcement flyer, and e-mails describing the study that were forwarded to local community colleges and four-year universities. The time frame for collection of data was slightly longer than anticipated. The initial estimate anticipated a four-week window to recruit a sufficient number of participants; however, the actual time for collection was 11 weeks. The reason for the extension of the time frame for collection of data was due to the occurrence of holidays and school breaks during the collection period of October 24, 2018, and January 6, 2019. Following receipt of the final 78 participants, it was determined that time and financial

constraints warranted discontinuance of recruitment, and confirmation of 78 participants.

The actual collection of data did not deviate from the plan outlined in Chapter 3.

Population and Demographic Analysis

A total of 78 emerging adults completed the online surveys. There were three demographic questions presented to participants immediately following the informed consent document querying gender, year of birth (to determine age), and highest level of education completed. Gender demographics showed a greater number of female participants in the population (53 female participants, 67.9%), compared to number of male participants (25 male participants, 32.1%). Year of birth, corresponding to age of participants, is shown in Table 1.

Table 1

Year of Birth Demographics, With Corresponding Age

Year of birth	Actual age	Frequency	Percentage of population
1993	25	11	14.1
1994	24	5	6.4
1995	23	6	7.7
1996	22	9	11.5
1997	21	8	10.3
1998	22	11	14.1
1999	23	13	16.7
2000	24	15	19.2
Total Percentage			100

Age demographics are the most central measure of this study, due to inclusion criteria for emerging adults between the ages of 18 and 25. The greatest number of participants taking the surveys were in the age category of 18 and 19. The second greatest age category was 25-year-old participants. These numbers represent clustering at the lowest and highest levels of the emerging adult age bracket of 18 to 25 years of age. Educational demographics reflected that a strong majority of participants had “some college” (43 participants, 55.1%), followed by “high school graduate” (11 participants, 14.1%), “four-year college degree” (10 participants, 12.8%), and “two-year college degree” (seven participants, 9.4%). The remaining categories were rated at less than 5%, with “some high school” (four participants, 4.4%) and “GED” (three participants, 3.3%).

The demographics of this study do appear representative of the target population, specific to an even distribution of both age categories and level of education. Gender statistics in this study revealed a larger number of females than males, which is not reflective of the overall population of emerging adults. The World Health Organization (n.d.) found that the natural sex ratio at birth reflected a more balanced female-male distribution, with slightly greater numbers of males (105) than females (100).

Results

Calculation of Study Data Points for the VISA Instrument

Data points from the VISA inventory data were downloaded into SPSS from the online portal of PsychData. The VISA instrument scores were calculated using a strategy as prescribed by Dr. Porfeli, author and creator of the VISA instrument. The VISA instrument is comprised of 30 questions covering areas of Career Commitment and Doubt

(with sub-sections of Career Commitment, Identification with Career Commitment, Career Commitment Flexibility, and Career Self-Doubt) and two scales assessing In-Breadth to In-Depth Career Exploration. Each of the six subscales has five questions, with selection of answers using a 1-5 Likert scale, comprised of a) Strongly agree, b) Agree, c) Agree and disagree, d) Disagree, and e) Strongly disagree. The five questions within each of the 6 subscales were summed and then averaged, to result in a single score, ranging from 1 to 5. The resulting six scores were arranged into categories of Commitment Making, Commitment Identification, Commitment Flexibility, Commitment Doubt, Explore Breadth, and Explore Depth.

Using instructions outlined by Dr. Porfeli, each of the resulting categories were then analyzed in SPSS to generate standardized scores for each variable. Standardized scores allowed for calculation of probability through reflection of scores occurring within a normal distribution. Resulting variables were created, using the same named categories with the precursor of “Z” (example: zcommitment_making). Instructions for scoring the VISA were to then apply a syntax calculation, provided by Dr. Porfeli, using zscores from his studies, resulting in a VISA Identity cluster (1-6) corresponding to six identity statuses (see Table 2).

Table 2

VISA Identity Clusters, by Original Category and Resulting Identity Status

Cluster number	Original category	Resulting identity status
1	Commitment Making	Achieved
2	Commitment Identification	Searching Moratorium
3	Explore Breadth	Moratorium
4	Explore Depth	Foreclosed
5	Commitment Flexibility	Diffused
6	Commitment Doubt	Undifferentiated

Descriptive statistics showing the frequency and percentage of the resulting identity status clusters are shown in Table 3.

Table 3

Descriptive Statistics of the VISA Data Points

Identity status	Frequency	Percentage
Achieved	14	17.9
Searching Moratorium	4	5.1
Moratorium	17	21.8
Foreclosed	12	15.4
Diffused	14	17.9
Undifferentiated	17	21.8

Reliability of Category Calculations

Chronbach's alpha was calculated for each of the identity categories. Cronbach's alpha is a measure of internal consistency (reliability), used to determine whether items on a scale are measuring the same underlying dimension (Salkind, 2008). Chronbach's alpha results comparing this study, Dr. Porfeli's results (2011), and Dr. Donlin's results (2014) are found in Table 4. As this study's scores were very close to both sets of reliability scores from other sources, data generated from participant responses was determined to be reliable.

Table 4

Comparison of Chronbach's Alpha Scores Between Studies

VISA career dimension	<u>Alpha scores</u>		
	This study	Dr. Porfeli	Dr. Donlin
Career Exploration In-Breadth	.83	.82	.83
Career Exploration In-Depth	.72	.79	.74
Career Commitment Making	.82	.82	.76
Identification With Career	.76	.79	.76
Commitment			
Career Flexibility	.85	.81	.83
Career Self-Doubt	.81	.81	.79

Results by Research Question

RQ1: Did substance use as measured by the CAGE-AID have a relationship with vocational identity as measured by the Vocational Identity Status Assessment (VISA) in the population of emerging adults?

H₀ Substance use as measured by the CAGE-AID did not have a relationship with vocational identity as measured by the Vocational Identity Status Assessment (VISA) in the population of emerging adults.

H₁ Substance use as measured by the CAGE-AID did have a relationship with vocational identity as measured by the Vocational Identity Status Assessment (VISA) in the population of emerging adults.

Outcome of RQ1: The CAGE -AID Instrument: Calculation of Study Data Points

A total number of 76 participants completed the CAGE-AID inventory. As the VISA inventory resulted in 78 participants, the two participants who took the VISA inventory, but not the CAGE-AID inventory, were deleted from RQ1 calculations. Using the scoring method described by author of the CAGE-AID, responses to 2 or more of the 4 screening questions reflected a probable problem with substance use (“problem”) and responding to only 1 of the 4 screening questions reflected an unlikely problem with substance use (“no-problem”). Total numbers of participants scoring in the “problem” category was 54 (71.1%), and those scoring in the “no-problem” category was 22 participants (28.9%).

A Pearson's product-moment correlation was run to assess the relationship between the VISA categories, and the ranking of substance use (CAGE-AID responses)

among the population sample of 76 emerging adult participants. There was no statistically significant correlation between the VISA Identity categories, and the CAGE-AID scoring of substance use, $r(76) = .092, p > .05$.

Conclusion: Fail to reject the null hypothesis for RQ1. The correlations using Pearson's Product Moment between the six VISA identity statuses and the CAGE-AID categorical scores did not show a significant relationship.

RQ2: Did criminal thinking as measured by the General Criminal Thinking scale (GCT) of the Psychological Inventory of Criminal Thinking Styles–Layperson Edition–Short Form (PICTS-L-SF) have a relationship with vocational identity as measured by the Vocational Identity Status Assessment (VISA) in the population of emerging adults?

H₀ Criminal thinking as measured by the General Criminal Thinking (GCT) scale of the Psychological Inventory of Criminal Thinking Styles–Layperson Edition–Short Form (PICTS-L-SF) did not have a relationship with vocational identity as measured by the Vocational Identity Status Assessment (VISA) in the population of emerging adults.

H₂ Criminal thinking as measured by the General Criminal Thinking (GCT) scale of the Psychological Inventory of Criminal Thinking Styles–Layperson Edition–Short Form (PICTS-L-SF) did have a relationship with vocational identity as measured by the Vocational Identity Status Assessment (VISA) in the population of emerging adults.

Outcome of RQ2: GCT of the PICTS-L-SF: Calculation of Study Data Points

A total of 68 participants completed the PICTS-L-SF inventory. This is ten less than the 78 participants registered through the PsychData Portal. To properly clean the data, those individuals completing the VISA instrument but not the PICTS instrument were removed from the study, leaving an equal number of PICTS-L-SF participants (68) and VISA participants (68). The General Criminal Thinking (GCT) values of the PICTS-L-SF were scored using the scoring protocol defined by Dr. Walters, author of the PICTS instrument. The GCT score was calculated by summing, then adding, items from the overall inventory. The result of summed sub-scales is a GCT raw score, which is then transformed into a Standard GCT score using the charts in the PICTS manual.

Consulting referencing guidelines from the PICTS manual, the summary standard scores were then judged, with a score of 50 representing the cutoff for evaluating level of severity in criminal thinking. A ranking of score greater than 50 suggested elevated criminal thinking indicative of probable criminal behaviors, and scores ranking less than 50 suggested less criminal thinking indicative of probable criminal behaviors. Results of the inventory ranked 36 participants (40%) as “less criminal thinking”, and 32 participants (35.6 %) ranked as “elevated criminal thinking”. These numbers are fairly even, with slightly more individuals ranking in the “less criminal thinking” than the “criminal thinking” categories.

A Pearson's product-moment correlation was run to assess the relationship between the VISA categories, and the ranking of General Criminal Thinking (GCT score of the PICTS-L-SF) among the population sample of 68 emerging adult participants.

There was no statistically significant correlation between the VISA Identity categories, and the GCT scale categories, $r(66) = .016, p > .05$

Conclusion: Fail to reject the null hypothesis for RQ2. The correlations using Pearson's Product Moment between the six VISA identity statuses and the PICTS-L-SF categorical scores did not show a significant relationship.

Summary

This chapter itemized results from the three online inventories evaluating vocational identity, substance use, and criminal thinking, within a sample population of emerging adults. The final sample population comprised 78 emerging adult participants, with further reductions to populations when analyzing relationships between variables. Two participants took the VISA inventory and not the CAGE inventory, reducing the population of comparison to 76 participants, and 10 participants took the VISA inventory and not the PICTS-L-SF inventory, reducing the population of comparison to 68 participants. These response sets were therefore modified through removal of data for the identified participants, as a cleaning procedure to ensure data accuracy.

The first research question (RQ1) stating "Did substance use as measured by the CAGE-AID have a relationship with vocational identity as measured by the Vocational Identity Status Assessment (VISA) in the population of emerging adults?" did not allow for rejection of the null hypothesis. The correlations using Pearson's Product Moment between the six VISA identity statuses and the CAGE-AID categorical scoring of substance were not statistically significant, $r(74) = .092, p > .05$.

The second research question (RQ2), stating “Did criminal thinking as measured by the General Criminal Thinking scale (GCT) of the Psychological Inventory of Criminal Thinking Styles–Layperson Edition–Short Form (PICTS-L-SF) have a relationship with vocational identity as measured by the Vocational Identity Status Assessment (VISA) in the population of emerging adults?” also did not allow for rejection of the null hypothesis. The correlations using Pearson’s Product Moment between the six VISA identity statuses and the GCT of the PICTS-L-SF were not statistically significant, $r(66) = .016, p > .05$.

Chapter 5 will summarize the purpose and key findings of this study and discuss in what ways the findings relate to peer reviewed literature in Chapter 2. Discussion of how the findings support or oppose existing research is outlined, with consideration of emerging ideas for ongoing research.

Chapter 5: Discussion, Conclusions, and Recommendations

Introduction

The purpose of this quantitative study was to examine the relationships between vocational identity, substance use, and criminal thinking within a sample population of emerging adults. Emerging adults, defined as individuals between the ages of 18 and 25, have a primary task of identity formation during transition to adulthood (Arnett, 2000). Individuals failing to successfully transition to adulthood are at risk for maladaptive social behaviors including substance use and criminal behavior, and often demonstrate poor or absent work history (Denny & Conner, 2016; Gates et al., 2016; Hardy et al., 2017).

For this quantitative study, a nonexperimental, correlational research design was used to determine the extent of positive and negative relationships between the dependent factor of vocational identity (as measured by the VISA instrument; (Porfeli et al., 2011), in relation to the independent factors of substance use (as measured by the CAGE-AID instrument (Brown & Rounds, 1995); and criminal thinking (as measured by the GCT scale of the PICTS-L-SF instrument; (Mitchell et al., 2017). Each of the independent factors were assessed against the dependent factor of vocational identity, in order to answer the stated research questions.

Study results did not support the alternate hypotheses of this study. I found no significant correlation between vocational identity and substance use, or between vocational identity and criminal thinking. The null hypotheses for each research question could not be rejected. There were, however, emerging hypotheses and ideas relating to

vocational identity within the population of emerging adults that supported the findings of other researchers discussed in Chapter 2. These findings are described later in this chapter.

Interpretation of the Findings

The purpose of this study was to investigate whether there was a relationship between vocational identity and substance use, and vocational identity and criminal thinking. Although the study did not generate statistics sufficient to reject the null hypothesis, there were data findings that correlate to the Chapter 2 literature review.

Analysis of population statistics revealed an unequal number of positive versus negative substance use responses among the 76 final participants in the analysis of VISA-CAGE-AID inventories. Descriptive statistics of the VISA-CAGE-AID analysis resulted in 22 participants (28.9%) being ranked as *unlikely* to have substance use problems, versus 54 participants (69.2%) being ranked as *likely* to have substance use problems. These results support research citing substance use disorders as disproportionately represented among emerging adults, potentially leading to increased delinquent and criminal behaviors (Bergman et al., 2016). Despite these apparent correlated findings, this study did not find significance between vocational identity and substance use, as measured by the VISA instrument and the CAGE-AID instrument, respectively.

Following additional research on the CAGE-AID instrument, concerns developed regarding its suitability to the methodology and design of this research study. Despite validity data and references in Chapter 3, Barbor et al. (2007) reported deficiencies in the wording of questions and length of the instrument suggesting a preponderance of false

positives. Use of a different instrument may have resulted in a different finding as to relationships between vocational identity and substance use. This is further discussed in the limitations portion of this chapter.

A second finding from this study was the number of emerging adult participants who ranked among the various vocational identity statuses. **Exploration and commitment were named** as foundational activities in vocational development (Cieciuch & Topolweska, 2017) and were found to serve as a buffer to negative peer pressures (Dumas, Ellis, & Wolfe, 2016). Researchers have noted that exploring a concept of future self may assist emerging adults to forge a positive self-narrative, leading to increased self-efficacy and beliefs about personal success (Lee, Porfeli & Hirschi, 2015; Sica et al., 2016). Lannegrand-Willems, Perchee, and Marchal (2015) categorized each of the six VISA status categories by level of exploration and achievement. These categories were labeled as *Achieved* (high exploration/high commitment), *Searching Moratorium* (high on all areas of exploration, commitment, and doubt), *Moratorium* (high exploration/low commitment), *Foreclosed* (low exploration/high commitment), *Diffused* (low exploration/high self-doubt), and *Undifferentiated* (moderate scores without clear direction) by Lannegrand-Willems et al. (2015).

A summary of identity category status among the sample population of emerging adults is depicted in Table 5. Achieved vocational identity status is considered the most synthesized toward successful transition to adulthood. The vocational identity statuses of Diffused and Undifferentiated have been linked to poor psychosocial outcomes and are

therefore considered high risk. Table 5 reports the frequency of each vocational identity status within the overall sample population.

Table 5

Frequency of Vocational Identity Categories Among the Population

VISA identity status	Frequency	Percentage
Achieved	14	17.9
Searching Moratorium	4	5.1
Moratorium	17	21.8
Foreclosed	12	15.4
Diffused	14	17.9
Undifferentiated	17	21.8

A further consideration of vocational identity status is the breakdown of the high-risk categories of Diffused and Undifferentiated by participant age. Coetzee and Schreuder (2016) proposed that, developmentally, emerging adults would progress through identity stages, eventually leading to the most synthesized identity status of Achieved. Coetzee and Schreuder further found that those demonstrating ongoing inability, or refusal to engage in, vocational exploration remained at elevated risk for negative psychosocial functioning. Martinen, Dietrich, and Salmela-Aro (2015) also found that ongoing Diffused identity was detrimental, with profiles of clinical depression, poor satisfaction with life, anxiety, and burnout strongly measured among emerging adults rated in this identity status. Table 6 reflects the sums of emerging adults at the Diffused and Undifferentiated Vocational Identity categories.

Table 6

VISA Identity Categories of Diffused and Undifferentiated by Age of Participant

Year of birth (age)	Diffused identity status (count)	Undifferentiated identity status (count)	Total count
1993 (25)	3	3	6
1994 (24)	0	0	0
1995 (23)	1	0	1
1996 (22)	1	3	4
1997 (21)	0	0	0
1998 (20)	0	0	0
1999 (19)	5	2	7
2000 (18)	4	9	13

The data in Table 6 reflect decreasing numbers of participants in the high-risk categories of Diffused and Undifferentiated as they move toward adulthood, with a sudden increase in these high-risk categories for those individuals aged 25. This observation (the number of 25-year-old emerging adults rating in the Diffused category of identity) is worthy of further research, to assess whether vocational development may guard against potential negative psychosocial consequences.

Theoretical Framework Considerations

The theoretical framework of this study was the Expectancy Value Theory of Motivation (EVT), stating that identity may be a motivational construct between self-efficacy and subjective self-values (Eccles, 2009). The finding that the Diffused Identity

status was prevalent among 25-year old emerging adults underlies the importance of progression in identity development. As the Diffused identity status embodies low exploration and low commitment, motivation did not seem to be in place regarding vocational identity development. Research notes that long term diffused status may result in negative psychosocial consequences, and the EVT theory suggests that intervention strategies for identity development may encourage individual beliefs regarding self-efficacy in school, recreation, career, and relationships (Eccles, 2009). Strong evidence remains that vocational identity development could be a vital consideration for assisting emerging adults successfully transition to adulthood.

Limitations

There were several limitations identified in this study. As outlined in Chapter 1, online studies may have inherent difficulties related to technological issues, such as failed submissions or limited internet access (Lefever et al., 2007). This limitation appeared to be present in study findings. The PsychData online portal used in this study anonymously tracks participants who register, defining participants who registered but did not begin; participants who took one or more of the inventories, and participants who took all of the inventories. Data profiles of the portal identified 17 participants who registered, but did not start, any of the surveys. This could have potentially increased the sample population to 95, significantly closer to the target population of 100. One possible reason is technological failure.

Another limitation is that 10 participants failed to complete the PICTS Inventory, and 1 participant failed to complete the CAGE-AID instrument. Disinterest, lack of time,

or technological issues each could have played a role, yet it is suspected that one reason for the 10 participants failing to complete the PICTS was the length of the survey, requiring answers to 80 questions. It would have been more efficient, and likely to encourage greater participation, with a shorter, and perhaps more valid, instrument.

Resulting data from the GCT scale calculated using the PICTS-L-SF may be faulty, based upon newly-found data regarding applicability of the PICTS-L-SF instrument to young adult populations. Tangney et al. (2012), examined the Criminogenic Cognitions Scale (CCS), along with reviewing other instruments gauging criminal thinking and behavior. The PICTS was one of the instruments reviewed, noting that the PICTS was found to be reasonably reliable using adult offender populations, yet failed to find significance in young adult offenders (Tangney et al., 2012). It was further noted that the PICTS evaluated criminal thinking in relation to criminal history, and therefore predictive value using younger-aged populations may be limited, due to less likelihood of extensive past criminal history. Outside of the length of the PICTS instrument, it now appears that the evaluative accuracy when administered to young adults may be questionable.

A better choice of instrument could have been the CCS, described by Tangney et al. (2012) as better aimed at general population inmates, “examining the link between moral emotions and criminal recidivism” (p. 4.). Comprised of just 25 items, questions cover Notions of Entitlement; Failure to Accept Responsibility; Short-term Orientation; Insensitivity to the Impact of Crime; and Negative Attitudes toward Authority (Tangney et al., 2012). The identified categories were found to adequately assess younger adults

criminogenic thinking patterns and could be completed in about five minutes. Reliability and validity information was also carefully documented.

Limitations were also found through use of the second instrument, assessing substance use (the CAGE-AID). Discovered after conclusion of the study, research by Babor et al. (2007) reported the CAGE-AID was an easy-to-use tool with just four questions, yet was unspecific, requiring further evaluation to assess potential dependence. Barbor et al. further stated that screening questions were worded using a lifetime approach (questions beginning with *Did you ever*), often resulting in high numbers of false positives. Based upon the numbers of this study showing 71.1% ranking positive endorsement of substance use, versus 28.9% ranking negative endorsement of substance use, it leaves question regarding possible numbers of false positives. Use of a more sensitive instrument less focused on the lifetime approach may generate more accurate results.

A final limitation is the use of the online inventory platform, without some form of support or encouragement for participation. Recruiting for this study included contacting psychology professors via email regarding the study, providing study flyers for possible distribution. Professors at two different schools were willing to offer extra credit to those students willing to participate, and one even offered to coordinate testing to entire classes. This could not be done due to IRB limitations, having not included this protocol as part of data collection strategies. In retrospect, completion of a participation agreement with entities such as local colleges may offer potential for greater number of

participants taking the inventories during a single setting, maximizing both number of participants, and shorter length of time to gather sufficient data.

Recommendations

As outlined in the Chapter 2 literature review, the study of vocational identity within populations of emerging adults continues to suggest that vocational identity development may have influence toward positive, versus negative, life trajectories. The consideration of substance use and criminal thinking in relation to vocational identity is well-supported in the literature, as to the influence of poor education and work history among emerging adults (Denney & Connor, 2016; Luyckx et al., 2013). Following analysis of study results, this research study may have been impacted through both choice of instruments and methodology for data collection, partially explaining the insignificant findings between variables. It is recommended that research using these factors be repeated, using different instruments, and perhaps modified data collection strategies. Shorter-length instruments, and carefully thought-out data collection strategies were two processes that could have improved the present study.

Emerging data regarding the prevalence of Diffused Identity status in older emerging adults (aged 25) supports additional research regarding long term diffused status leading to potentially negative psychosocial consequences. Future research may explore expanded factors among emerging adults aged 25, to discern alternative connections between long term diffused identity status, and possible methods for encouraging transition to achieved vocational and other adult roles.

Implications

Substance remains a critical issue among young adults in the criminal justice system (Bergman, Kelly, Nargiso, & McKowen, 2016; Gates et al., 2016). Due to differences in both cognitive and emotional processes for emerging adults transitioning to adulthood, there is increased risk for negative psychosocial consequences based upon social, familial, peer group, educational, relational, and employment factors (Coetzee & Schreuder, 2016; Gates et al., 2016; Hardy et al., 2017). A study analyzing cross-sectional data from the 2009 to 2014 National Survey on Drug Use and Health found that adolescents with any involvement with the criminal justice system had higher instances of substance use disorders, mood disorders, and sexually transmitted infections than adolescents who had never been justice-involved (Winkelman et al., 2017). The cost to society for failing to identify and resolve barriers regarding transition to adulthood may be extreme. Horn, Fagan, Hawkins and Oesterle (2014) reported that risk-seeking behaviors among young adults negatively influenced participation in work and school, leading to increased delinquency and substance use. It was opined that “the high financial costs of these problem behaviors are related to medical care, work loss, drug treatment programs, and correctional systems” (Horn et al., 2017, p. 188).

Vocational identity development remains an untapped resource for potential mitigation of negative life trajectories for emerging adults. Through assisting emerging adults to achieve success in adult roles for relationships, financial stability, independence of living and sustainable careers, society may be served on both an individual and community-wide level.

Conclusion

Emerging adults are the future of our society. Hockenberry and Puzzachera (2018) reported that 20% of incarcerated young people in the United States were in an age bracket between 18 and 20 years old, had limited education, a poor or absent work history, and significant issues with mental health and substance use disorders. Deceleration or even cessation of this trajectory is significant. Arnett (2000) established identity development and resolution to be crucial for successful transition to adulthood. Lannegrand-Willems et al. (2016) stated that vocational identity held a necessary and leading role in the successful achievement of other identity domains, and therefore played a critical role in influencing positive versus negative psychosocial adjustment. As shepherds of young people who represent the future of society, supporting and encouraging maximized personal potential is not only venerated; it is a responsible and worthwhile goal.

References

- Al-Owidha, A., Green, K. E., & Kroger, J. (2009). On the question of an identity status category order: Rasch model step and scale statistics used to identify category order. *International Journal of Behavioral Development, 33*, 88–96.
doi:10.1177/0165025408100110
- Anthis, K. (2014). Hope, will, purpose, competence, and fidelity: Ego strengths as predictors of career identity. *Identity, 14*, 153–162.
doi:10.1080/15283488.2014.892001
- Arnett, J. J. (2000). Emerging adulthood: A theory of development from the late teens through the twenties. *American Psychologist, 55*, 469–480. doi:10.1037/0003-066X.55.5.469
- Arnett, J. J., Žukauskiene, R., & Sugimura, K. (2014). The new life stage of emerging adulthood at ages 18-29 years: Implications for mental health. *The Lancet Psychiatry, 1*, 569-576. doi:10.1016/S2215-0366(14)00080-7
- Aydinli-Karakulak, A., & Dimitrova, R. (2016). Brief report: When does identity lead to negative affective experiences? A comparison of Turkish-Bulgarian and Turkish-German adolescents. *Journal of Adolescence, 47*, 125–130.
doi:10.1016/j.adolescence.2015.09.010
- Babor, T. F., McRee, B. G., Kassebaum, P. A., Grimaldi, P. L., Ahmed, K., & Bray, J. (2007). Screening, brief intervention, and referral to treatment (SBIRT): Toward a public health approach to the management of substance abuse. *Substance Abuse, 28*, 7-30. doi:10.1300/J465v28n03_03

Ball, C., Huang, K. T., Cotten, S. R., Rikard, R. V., & Coleman, L. T. O. (2016).

Invaluable values: An expectancy-value theory analysis of youths' academic motivations and intentions. *Information Communication and Society, 19*, 618–638. doi:10.1080/1369118X.2016.1139616

Barrett, D. E., Katsiyannis, A., Zhang, D. D., & Zhang, D. D. (2014). Delinquency and

recidivism: A multicohort, matched-control study of the role of early adverse experiences, mental health problems, and disabilities. *Journal of Emotional and Behavioral Disorders, 22*, 3–15. doi:10.1177/1063426612470514

Belmi, P., Barragan, R. C., Neale, M. A., & Cohen, G. L. (2015). Threats to social

identity can trigger social deviance. *Personality and Social Psychology Bulletin, 41*, 467–484. doi:10.1177/0146167215569493

Bergman, B. G., Kelly, J. F., Nargiso, J. E., & McKowen, J. W. (2016). “The age of

feeling in-between”: Addressing challenges in the treatment of emerging adults with substance use disorders. *Cognitive and Behavioral Practice, 23*, 270–288. doi:10.1016/j.cbpra.2015.09.008

Bettmann, J. E., Russell, K. C., & Parry, K. J. (2013). How substance abuse recovery

skills, readiness to change and symptom reduction impact change processes in wilderness therapy participants. *Journal of Child and Family Studies, 22*, 1039–1050. doi:10.1007/s10826-012-9665-2

Beyers, W., & Luyckx, K. (2016). Ruminative exploration and reconsideration of

commitment as risk factors for suboptimal identity development in adolescence

and emerging adulthood. *Journal of Adolescence*, *47*, 169–178.

doi:10.1016/j.adolescence.2015.10.018

Beyers, W., & Seiffge-Krenke, I. (2010). Does identity precede intimacy? Testing erikson's theory on romantic development in emerging adults of the 21st century.

Journal of Adolescent Research. *25*, 387–415. doi:10.1177/0743558410361370

Bolt, K. L. (2016). Descending from the summit: Aftercare planning for adolescents in wilderness therapy. *Contemporary Family Therapy*, *38*, 62–74.

doi:10.1007/s10591-016-9375-9

Brezina, T., & Topalli, V. (2012). Criminal self-efficacy: Exploring the correlates and consequences of a “successful criminal” identity. *Criminal Justice and Behavior*,

39, 1042–1062. doi:10.1177/0093854812438345

Brown, R. L., & Rounds, L. A. (1995). CAGE questions adapted to include drugs.

PsycTESTS Dataset. doi:10.1037/t17913-000

Busseri, M. A., Costain, K. A., Campbell, K. M., Rose-Krasnor, L., & Evans, J. (2011).

Brief report: Engagement in sport and identity status. *Journal of Adolescence*, *34*,

1087–1091. doi:10.1016/j.adolescence.2010.06.004

Cakir, S. G. (2014). Ego identity status and psychological well-being among turkish emerging adults. *Identity*, *14*, 230–239. doi:10.1080/15283488.2014.921169

Carlsson, J., Wängqvist, M., & Frisé, A. (2016). Life on hold: Staying in identity diffusion in the late twenties. *Journal of Adolescence*, *47*, 220–229.

doi:10.1016/j.adolescence.2015.10.023

- Cattelino, E., Glowacz, F., Born, M., Testa, S., Bina, M., & Calandri, E. (2014). Adolescent risk behaviours and protective factors against peer influence. *Journal of Adolescence*, *37*, 1353–1362. doi:10.1016/j.adolescence.2014.09.013
- Cieciuch, J., & Topolewska, E. (2017). Circumplex of identity formation modes: A proposal for the integration of identity constructs developed in the Erikson–Marcia tradition. *Self and Identity*, *16*. doi:10.1080/15298868.2016.1216008
- Claes, L., Luyckx, K., & Bijttebier, P. (2014). Non-suicidal self-injury in adolescents: Prevalence and associations with identity formation above and beyond depression. *Personality and Individual Differences*, *61–62*, 101–104. doi:10.1016/j.paid.2013.12.019
- Coetzee, M., & Schreuder, D. (2016). Psychological career resources identity and life orientation among young emerging adults in a Nigerian setting. *Journal of Psychology in Africa*, *26*, 517–521. doi:10.1080/14330237.2016.1250410
- Côté, J. E. (2014). The dangerous myth of emerging adulthood: An evidence-based critique of a flawed developmental theory. *Applied Developmental Science*, *18*, 177–188. doi:10.1080/10888691.2014.954451
- Creed, P. A., Hennessy, D. A., Claes, L., Luyckx, K., Bijttebier, P., Creed, P. A., ... Ritchie, R. A. (2016). Evaluation of a goal orientation model of vocational identity. *Career Development Quarterly*, *64*, 345–359. doi:10.1002/cdq.12070
- Crocetti, E., Avanzi, L., Hawk, S. T., Fraccaroli, F., & Meeus, W. (2014). Personal and social facets of job identity: A person-centered approach. *Journal of Business and Psychology*, *29*, 281–300. doi:10.1007/s10869-013-9313-x

- Crocetti, E., Beyers, W., & Çok, F. (2016). Shedding light on the dark side of identity: Introduction to the special issue. *Journal of Adolescence*, *47*, 104–108.
doi:10.1016/j.adolescence.2016.01.002
- Crocetti, E., Sica, L. S., Schwartz, S. J., Serafini, T., & Meeus, W. (2013). Identity styles, dimensions, statuses, and functions: Making connections among identity conceptualizations. *Revue Europeenne de Psychologie Appliquee*, *63*, 1–13.
doi:10.1016/j.erap.2012.09.001
- Denney, A. S., & Connor, D. P. (2016). Serious juvenile offenders who have experienced emerging adulthood: Substance use and recidivism. *Children and Youth Services Review*, *67*, 11–19. doi:10.1016/j.chilyouth.2016.05.014
- Dever, B. V. (2016). Using the expectancy-value theory of motivation to predict behavioral and emotional risk among high school students. *School Psychology Review*, *45*, 417–433. doi:10.17105/SPR45-4.417-433
- Dezutter, J., Waterman, A. S., Schwartz, S. J., Luyckx, K., Beyers, W., Meca, A., ... Caraway, S. J. (2014). Meaning in life in emerging adulthood: A person-oriented approach. *Journal of Personality*. doi:10.1111/jopy.12033
- Dimitrova, R., Hatano, K., Sugimura, K., & Ferrer-Wreder, L., (2018). The Erikson psychosocial stage inventory in adolescent samples from the United States and Japan. *European Journal of Psychological Assessment*, *1-5*. doi:10.1027/1015-5759/a000456
- Donlin, A. A. (2014). *Vocational identity and well-being among diverse, upper-division health science undergraduates in the united states* (Order No. 3584961).

Available from ProQuest Dissertations & Theses Global. (1551208225).

Retrieved from <https://ezp.waldenulibrary.org/login?url=https://search-proquest-com.ezp.waldenulibrary.org/docview/1551208225?accountid=14872>

- Duffy, R. D., Douglass, R. P., Autin, K. L., & Allan, B. A. (2014). Examining predictors and outcomes of a career calling among undergraduate students. *Journal of Vocational Behavior, 85*, 309–318. doi:10.1016/j.jvb.2014.08.009
- Dumas, T. M., Ellis, W. E., & Wolfe, D. A. (2012). Identity development as a buffer of adolescent risk behaviors in the context of peer group pressure and control. *Journal of Adolescence, 35*, 917–927. doi:10.1016/j.adolescence.2011.12.012
- Eccles, J. (2009). Who am i and what am i going to do with my life? Personal and collective identities as motivators of action. *Educational Psychologist, 44*, 78–89. doi:10.1080/00461520902832368
- Elonheimo, H., Gyllenberg, D., Huttunen, J., Ristkari, T., Sillanmäki, L., & Sourander, A. (2014). Criminal offending among males and females between ages 15 and 30 in a population-based nationwide 1981 birth cohort: Results from the FinnCrime Study. *Journal of Adolescence, 37*, 1269–1279. doi:10.1016/j.adolescence.2014.09.005
- Fan, W., Cheung, F. M., Leong, F. T. L., & Cheung, S. F. (2014). Contributions of family factors to career readiness : A cross-cultural comparison, *The Career Development Quarterly, 62*, 194–209. doi:10.1002/j.2161-0045.2014.00079.x
- Gates, J. R., Corbin, W. R., & Fromme, K. (2016). Emerging adult identity development, alcohol use, and alcohol-related problems during the transition out of college.

Psychology of Addictive Behaviors : Journal of the Society of Psychologists in Addictive Behaviors, 30, 345–355. doi:10.1037/adb0000179

Hardy, S. A., Nadal, A. R. C., & Schwartz, S. J. (2017). The integration of personal identity, religious identity, and moral identity in emerging adulthood. *Identity*, 17, 96–107. doi:10.1080/15283488.2017.1305905

Harris, K. S., Kimball, T. G., Casiraghi, A. M., & Maison, S. J. (2014). Collegiate recovery programs. *Peabody Journal of Education*, 89, 229–243. doi:10.1080/0161956X.2014.897095

Hatano, K., Sugimura, K., & Crocetti, E. (2016). Looking at the dark and bright sides of identity formation: New insights from adolescents and emerging adults in Japan. *Journal of Adolescence*, 47, 156–168. doi:10.1016/j.adolescence.2015.09.008

Hill, J. M., Blokland, A. A. J., & van der Geest, V. R. (2016). Desisting from crime in emerging adulthood. *Journal of Research in Crime & Delinquency*, 53, 506–535. doi:10.1177/0022427816628586

Hillege, S. (2017). Serious juvenile offenders: classification into subgroups based on static and dynamic characteristics. *Child and Adolescent Psychiatry and Mental Health*, 11. doi:10.1186/s13034-017-0201-444.

Hirschi, A., & Herrmann, A. (2012). Vocational identity achievement as a mediator of presence of calling and life satisfaction. *Journal of Career Assessment*, 20, 309–321. doi:10.1177/1069072711436158

Hockenberry, S. & Puzzanchera, C. (2018). *Juvenile Court Statistics 2015*. Retrieved from: <http://www.ncjj.org/pdf/jcsreports/jcs2015report.pdf>

- Ibarra, H., & Barbulescu, R. (2010). Identity as narrative: Prevalence, effectiveness, and consequences of narrative identity work in macro work role transitions. *Academy of Management Review*, *35*, 135–154. doi:10.5465/AMR.2010.45577925
- Jaensch, V. K., Hirschi, A., & Freund, P. A. (2015). Persistent career indecision over time: Links with personality, barriers, self-efficacy, and life satisfaction. *Journal of Vocational Behavior*, *91*, 122–133. doi:10.1016/j.jvb.2015.09.010
- Jo, H., Ra, Y. A., Lee, J., & Kim, W. H. (2016). Impact of dysfunctional career thoughts on career decision self-efficacy and vocational identity. *Career Development Quarterly*, *64*, 333–344. doi:10.1002/cdq.1206
- Johnson, S. L., Jones, V., & Cheng, T. (2014). Promoting successful transition to adulthood for urban youths: Are risk behaviors associated with career readiness? *Social Work Research*, *38*, 144–153. doi:10.1093/swr/svu020
- Klimstra, T. A., Hale, W. W., Raaijmakers, Q. A. W., Branje, S. J. T., & Meeus, W. H. J. (2010). Identity formation in adolescence: Change or stability? *Journal of Youth and Adolescence*, *39*, 150–162. doi:10.1007/s10964-009-9401-4
- Koski-Jännes, A. (2002). Social and personal identity projects in the recovery from addictive behaviours. *Addiction Research and Theory*, *10*, 183–202. doi:10.1080/16066350290017266
- Krettenauer, T., & Mosleh, M. (2013). Remembering your (im)moral past: Autobiographical reasoning and moral identity development. *Identity*, *13*, 140–158. doi:10.1080/15283488.2013.776497
- Laerd Statistics (n.d.). Retrieved from: <https://statistics.laerd.com/premium/index.php>

- Lane, J. A. (2015). The imposter phenomenon among emerging adults transitioning into professional life: Developing a grounded theory. *Adulthood Journal, 14*, 114–128. doi:10.1002/adsp.12009
- Lannegrand-Willems, L., Perchee, C., & Marchal, C. (2016). Vocational identity and psychological adjustment: A study in French adolescents and emerging adults. *Journal of Adolescence, 47*, 210–219. doi:10.1016/j.adolescence.2015.10.005
- Lee, B., Porfeli, E. J., & Hirschi, A. (2016). Between- and within-person level motivational precursors associated with career exploration. *Journal of Vocational Behavior, 92*, 125–134. doi:10.1016/j.jvb.2015.11.009
- Lefever, S., Dal, M., & Matthíasdóttir, Á. (2007). Online data collection in academic research: Advantages and limitations. *British Journal of Educational Technology, 38*, 574–582. doi:10.1111/j.1467-8535.2006.00638.x
- LoSavio, S. T., Cohen, L. H., Laurenceau, J.-P., Dasch, K. B., Parrish, B. P., & Park, C. L. (2011). Reports of stress-related growth from daily negative events. *Journal of Social and Clinical Psychology, 30*, 760–785. doi:10.1521/jscp.2011.30.7.760
- Luengo Kanacri, B. P., Pastorelli, C., Zuffianò, A., Eisenberg, N., Ceravolo, R., & Caprara, G. V. (2014). Trajectories of prosocial behaviors conducive to civic outcomes during the transition to adulthood: The predictive role of family dynamics. *Journal of Adolescence, 37*, 1529–1539. doi:10.1016/j.adolescence.2014.07.002
- Luyckx, K., & Robitschek, C. (2014). Personal growth initiative and identity formation in adolescence through young adulthood: Mediating processes on the pathway to

well-being. *Journal of Adolescence*, 37, 973–981.

doi:10.1016/j.adolescence.2014.07.009

Luyckx, K., Seiffge-Krenke, I., Schwartz, S. J., Crocetti, E., & Klimstra, T. A. (2014).

Identity configurations across love and work in emerging adults in romantic relationships. *Journal of Applied Developmental Psychology*, 35, 192–203.

doi:10.1016/j.appdev.2014.03.007

Luyckx, K., Teppers, E., Klimstra, T. A., & Rassart, J. (2014). Identity processes and

personality traits and types in adolescence: Directionality of effects and developmental trajectories. *Developmental Psychology*, 50, 2144–2153.

doi:10.1037/a0037256

Marcia, J. E. (1966). Development and validation of ego-identity status. *Journal of*

Personality and Social Psychology, 3, 551–558. doi:10.1037/h0023281

Marttinen, E., Dietrich, J., & Salmela-Aro, K. (2016). Dark shadows of rumination:

Finnish young adults' identity profiles, personal goals and concerns. *Journal of Adolescence*, 47, 185–196. doi:10.1016/j.adolescence.2015.10.024

Mayseless, O., & Keren, E. (2014). Finding a meaningful life as a developmental task in

emerging adulthood: The domains of love and work across cultures. *Emerging Adulthood*, 2, 63–73. doi:10.1177/2167696813515446

McLean, K. C., & Pasupathi, M. (2012). Processes of identity development: Where I am

and how I got there. *Identity*, 12, 8–28. doi:10.1080/15283488.2011.632363

- McLean, K. C., Syed, M., & Shucard, H. (2016). Bringing identity content to the fore: Links to identity development processes. *Emerging Adulthood, 4*, 356–364. doi:10.1177/2167696815626820
- Meca, A., Ritchie, R. A., Beyers, W., Schwartz, S. J., Picariello, S., Zamboanga, B. L., ... Benitez, C. G. (2015). Identity centrality and psychosocial functioning: A person-centered approach. *Emerging Adulthood, 3*, 327–339. doi:10.1177/2167696815593183
- Mennis, J., & Harris, P. (2011). Contagion and repeat offending among urban juvenile delinquents. *Journal of Adolescence, 34*, 951–963. doi:10.1016/j.adolescence.2010.12.001
- Mitchell, S. M., Bartholomew, N. R., Morgan, R. D., & Cukrowicz, K. C. (2017). A preliminary investigation of the Psychological Inventory of Criminal Thinking Styles–Layperson Edition–Short Form. *Criminal Justice and Behavior, 44*, 756–769. doi:10.1177/0093854816685591
- Morsünbül, Ü. (2013). Are they emerging adults or emerging adults who are university students? An investigation through risk taking and identity development. *Elementary Education Online İlköğretim Online, 12*, 873–885. Retrieved from <http://xn--ilkogretimonline-4e6i.org.tr>
- Morsünbül, Ü., Crocetti, E., Cok, F., & Meeus, W. (2016). Identity statuses and psychosocial functioning in Turkish youth: A person-centered approach. *Journal of Adolescence, 47*, 145–155. doi:10.1016/j.adolescence.2015.09.001

- Newcomb-Anjo, S. E., Barker, E. T., & Howard, A. L. (2017). A person-centered analysis of risk factors that compromise wellbeing in emerging adulthood. *Journal of Youth and Adolescence*, *46*, 867–883. doi:10.1007/s10964-016-0603-2
- Norton, C. L., Wisner, B. L., Krugh, M., & Penn, A. (2014). Helping youth transition into an alternative residential school setting: Exploring the effects of a wilderness orientation program on youth purpose and identity complexity. *Child and Adolescent Social Work Journal*, *31*, 475–493. doi:10.1007/s10560-014-0331-y
- Oliveira, J. E., Mendonça, M., Coimbra, S., & Fontaine, A. M. (2014). Family support in the transition to adulthood in Portugal - Its effects on identity capital development, uncertainty management and psychological well-being. *Journal of Adolescence*, *37*, 1449–1462. doi:10.1016/j.adolescence.2014.07.004
- Panagakis, C. (2015). Reconsidering adulthood: Relative constructions of adult identity during the transition to adulthood. *Advances in Life Course Research*, *23*, 1–13. doi:10.1016/j.alcr.2014.12.005
- Perez, T., Cromley, J. G., & Kaplan, A. (2014). The role of identity development, values, and costs in college STEM retention. *Journal of Educational Psychology*, *106*, 315–329. doi:10.1037/a0034027
- Porfeli, E. J., Lee, B., Vondracek, F. W., & Weigold, I. K. (2011). A multi-dimensional measure of vocational identity status. *Journal of Adolescence*, *34*, 853–871. doi:10.1016/j.adolescence.2011.02.001

- Porfeli, E. J., & Skorikov, V. B. (2010). Specific and diversive career exploration during late adolescence. *Journal of Career Assessment, 18*, 46–58.
doi:10.1177/1069072709340528
- Powers, G., Berger, L., Fuhrmann, D., & Fendrich, M. (2017). Family history density of substance use problems among undergraduate college students: Associations with heavy alcohol use and alcohol use disorder. *Addictive Behaviors, 71*, 1–6.
doi:10.1016/j.addbeh.2017.02.015
- Praskova, A., Creed, P. A., & Hood, M. (2015). Career identity and the complex mediating relationships between career preparatory actions and career progress markers. *Journal of Vocational Behavior, 87*, 145–153.
doi:10.1016/j.jvb.2015.01.001
- Ragelienė, T. (2016). Links of adolescents' identity development and relationship. *Journal of the Canadian Academy of Child and Adolescent Psychiatry, 25*, 97–106. Retrieved from: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4879949>.
- Ranta, M., Dietrich, J., & Salmela-Aro, K. (2014). Career and romantic relationship goals and concerns during emerging adulthood. *Emerging Adulthood, 2*, 17–26.
doi:10.1177/2167696813515852
- Ritchie, R. A., Meca, A., Madrazo, V. L., Schwartz, S. J., Hardy, S. A., Zamboanga, B. L., ... Lee, R. M. (2013). Identity dimensions and related processes in emerging adulthood: Helpful or harmful? *Journal of Clinical Psychology, 69*, 415–432. doi: 10.1002/jclp.219B0

- Schiller, M., Hammen, C. C., & Shahar, G. (2016). Links among the self, stress, and psychological distress during emerging adulthood: Comparing three theoretical models. *Self and Identity*, *15*, 302–326. doi:10.1080/15298868.2015.1131736
- Schwartz, S. J., Hardy, S. A., Zamboanga, B. L., Meca, A., Waterman, A. S., Picariello, S., ... Forthun, L. F. (2015). Identity in young adulthood: Links with mental health and risky behavior. *Journal of Applied Developmental Psychology*, *36*, 39–52. doi:10.1016/j.appdev.2014.10.001
- Schwartz, S. J., Zamboanga, B. L., Luyckx, K., Meca, A., & Ritchie, R. A. (2013). Identity in emerging adulthood: Reviewing the field and looking forward. *Emerging Adulthood*, *1*, 96–113. doi:10.1177/2167696813479781
- Sestito, L. A., & Sica, L. S. (2014). Identity formation of Italian emerging adults living with parents: A narrative study. *Journal of Adolescence*, *37*, 1435–1447. doi:10.1016/j.adolescence.2014.02.013
- Sharon, T. (2015). Constructing adulthood: Markers of adulthood and well-being among emerging adults. *Emerging Adulthood*, *4*, 161–167. doi:10.1177/2167696815579826
- Sharp, E. H., & Coatsworth, J. D. (2012). Adolescent future orientation: The role of identity discovery in self-defining activities and context in two rural samples. *Identity*, *12*, 129–156. doi:10.1080/15283488.2012.668731
- Sherba, R. T., Coxe, K. A., Gersper, B. E., & Linley, J. V. (2018). Employment services and substance abuse treatment. *Journal of Substance Abuse Treatment*, *87*, 70–78. doi:10.1016/j.jsat.2018.01.015

- Sica, L. S., Aleni Sestito, L., & Ragozini, G. (2014). Identity coping in the first years of university: Identity diffusion, adjustment and identity distress. *Journal of Adult Development, 21*, 159–172. doi:10.1007/s10804-014-9188-8
- Sica, L. S., Crocetti, E., Ragozini, G., Aleni Sestito, L., & Serafini, T. (2016). Future-oriented or present-focused? The role of social support and identity styles on “futuring” in Italian late adolescents and emerging adults. *Journal of Youth Studies, 19*, 183–203. doi:10.1080/13676261.2015.1059925
- Skhirtladze, N., Javakhishvili, N., Schwartz, S. J., Beyers, W., & Luyckx, K. (2016). Identity processes and statuses in post-soviet Georgia: Exploration processes operate differently. *Journal of Adolescence, 47*, 197–209. doi:10.1016/j.adolescence.2015.08.006
- Skorikov, V. B., & Vondracek, F. W. (2011). Occupational identity. In S. J. Schwartz, K. Luyckx, & V. L. Vignoles (Eds.), *Handbook of Identity Theory and Research* (pp. 693–714). New York, NY: Springer
- Smith, J. L., Brown, E. R., Thoman, D. B., & Deemer, E. D. (2015). Losing its expected communal value: How stereotype threat undermines women’s identity as research scientists. *Social Psychology of Education, 18*, 443–466. doi:10.1007/s11218-015-9296-8
- Solomontos-Kountouri, O., & Hatzitofi, P. (2016). Brief report: Past, present, emergent and future identities of young inmates. *Journal of Adolescence, 47*, 119–124. doi:10.1016/j.adolescence.2015.10.022

- Song, B., Kim, D. W., & Lee, K. H. (2016). Contextual influences on Korean college students' vocational identity development. *Asia Pacific Education Review, 17*, 175–184. doi:10.1007/s12564-016-9420-2
- Sumner, R., Burrow, A. L., & Hill, P. L. (2015). Identity and purpose as predictors of subjective well-being in emerging adulthood. *Emerging Adulthood, 3*, 46–54. doi:10.1177/2167696814532796
- Sussman, S., & Arnett, J. J. (2014). Emerging adulthood: Developmental period facilitative of the addictions. *Evaluation and the Health Professions, 37*, 147–155. doi:10.1177/0163278714521812
- Syed, M., & McLean, K. C. (2016). Understanding identity integration: Theoretical, methodological, and applied issues. *Journal of Adolescence, 47*, 109–118. doi:10.1016/j.adolescence.2015.09.005
- Taber, B. J., & Blankemeyer, M. S. (2015). Time perspective and vocational identity statuses of emerging adults. *Career Development Quarterly, 63*, 113–125. doi:10.1002/cdq.12008
- Tagliabue, S., Lanz, M., & Beyers, W. (2014). The transition to adulthood around the Mediterranean: Contributions of the special issue. *Journal of Adolescence, 37*, 1405–1408. doi:10.1016/j.adolescence.2014.09.001
- Tangney, J. P., Stuewig, J., Furukawa, E., Kopelovich, S., Meyer, P. J., & Cosby, B. (2012). Reliability, validity, and predictive utility of the 25-Item Criminogenic Cognitions Scale (CCS). *Criminal Justice and Behavior, 39*, 1340–1360. doi:10.1177/0093854812451092

- van der Gaag, M. A. E., de Ruiter, N. M. P., & Kunnen, E. S. (2016). Micro-level processes of identity development: Intra-individual relations between commitment and exploration. *Journal of Adolescence*, *47*, 38–47. doi:10.1016/j.adolescence.2015.11.007
- van Doeselaar, L., Meeus, W., Koot, H. M., & Branje, S. (2016). The role of best friends in educational identity formation in adolescence. *Journal of Adolescence*, *47*, 28–37. doi:10.1016/j.adolescence.2015.12.002
- van Dulmen, M. H. M., Claxton, S. E., Collins, W. A., & Simpson, J. A. (2014). Work and love among emerging adults: Current status and future directions. *Emerging Adulthood*, *2*, 59–62. doi:10.1177/2167696813516092
- Vogel-Scibilia, S. E., McNulty, K. C., Baxter, B., Miller, S., Dine, M., & Frese, F. J. (2009). The recovery process utilizing Erikson's stages of human development. *Community Mental Health Journal*, *45*, 405–414. doi:10.1007/s10597-009-9189-4
- Wagner, J., Lüdtke, O., Jonkmann, K., & Trautwein, U. (2013). Cherish yourself: Longitudinal patterns and conditions of self-esteem change in the transition to young adulthood. *Journal of Personality and Social Psychology*, *104*, 148–163. doi:10.1037/a0029680
- Wall, J. M., Law, A. K., Zhu, M., Munro, D., Parada, F., & Young, R. A. (2015). Understanding goal-directed action in emerging adulthood: Conceptualization and method. *Emerging Adulthood*, *4*, 30–39. doi:10.1177/2167696815610695

- Walters, G. D. (2002). The Psychological Inventory of Criminal Thinking Styles (PICTS). *Assessment, 9*, 278–291. doi:10.1177/1073191102009003007
- Walters, G. D. (2007). Measuring proactive and reactive criminal thinking with the PICTS. *Journal of Interpersonal Violence, 22*, 371–385.
doi:10.1177/0886260506296988
- Walters, G. D., & Cohen, T. H. (2016). Criminal thought process as a dynamic risk factor: Variable- and person-oriented approaches to recidivism prediction. *Law and Human Behavior, 40*, 411–419. doi:10.1037/lhb0000185
- Walters, G. D., & DeLisi, M. (2013). Antisocial cognition and crime continuity: Cognitive mediation of the past crime-future crime relationship. *Journal of Criminal Justice, 41*, 135–140. doi:10.1016/j.jcrimjus.2012.12.004
- Wang, M. Te, & Fredricks, J. A. (2014). The reciprocal links between school engagement, youth problem behaviors, and school dropout during adolescence. *Child Development, 85*, 722–737. doi:10.1111/cdev.12138
- Waterman, A. S. (2015). What does it mean to engage in identity exploration and to hold identity commitments? A methodological critique of multidimensional measures for the study of identity processes. *Identity 15*, 309–349.
doi:10.1080/15283488.2015.1089403
- Weymeis, H. (2016). Bringing light into the dark side of identity: Theoretical and clinical applications: A case study. *Journal of Adolescence, 47*, 230–234.
doi:10.1016/j.adolescence.2016.01.003

World Health Organization (n.d.). *Health situation and trend assessment: Sex*

ratio. Retrieved from:

www.searo.who.int/entity/health_situation_trends/data/chi/sex-ratio/en/

Xu, J. (2017). The mediating effect of listening metacognitive awareness between test-taking motivation and listening test score: An expectancy-value theory approach.

Frontiers in Psychology, 8, 1–10. doi:10.3389/fpsyg.2017.02201

Zimmermann, G., Lannegrand-Willems, L., Safont-Mottay, C., & Cannard, C. (2015).

Testing new identity models and processes in French-speaking adolescents and emerging adult students. *Journal of Youth and Adolescence*, 44, 127–141.

doi:10.1007/s10964-013-0005-7

Zupančič, M., Komidar, L., & Levpušček, M. P. (2014). Individuation in Slovene

emerging adults: Its associations with demographics, transitional markers,

achieved criteria for adulthood, and life satisfaction. *Journal of Adolescence*, 37,

1421–1433. doi:10.1016/j.adolescence.2014.03.014

Appendix A: Demographic Questionnaire

1. What is your gender?

Male Female

2) What is your year of birth?

1993

1994

1995

1996

1997

1998

1999

2000

3) What is your highest level of education?

Some high school

GED

High school Graduate

Some College

Two-year college Degree (Associate's)

Four-year college degree (Bachelors)

Appendix B: The VISA Instrument and Permission for Online Use

Permission for VISA Online Use by Dr. Porfeli

Eileen,

You have my permission to use the VISA for research purposes as reported in your dissertation proposal.

If you would like a few suggestions, you might refine the hypotheses to focus on the six constructs within the VISA. My prior research with colleagues suggests that VISA commitment and identification with commitment scales demonstrate the strongest associations with well-being and adjustment measures. While self-doubt demonstrates the reverse. At the level of identity statuses, the achieved and foreclosed status groups (high commitment statuses) demonstrated better well-being and adjustment and the diffused group demonstrated the reverse pattern. You might incorporate these findings into refined hypotheses devoted to vocational identity processes, substance use, and crime. Finally, you might also consider exploring the role of adaptability in your study. I copied two papers on adaptability that you might find useful.

Best,
Erik

From: Eileen Delzell <e-mail address redacted> Sent: Tuesday, July 24, 2018 10:11 AM
To: Porfeli, Erik J. <e-mail address redacted> Subject: Online permission

Hello, Dr. Porfeli.

Thank you for your last response. I apologize for again having to bother you. I am modifying my research strategy to use an online survey tool. Per the URR guidelines, I need to confirm that your permission to use the VISA instrument includes online survey use?

Thank you!
Eileen Delzell

RE: Online permission
Yes, that is how it is typically administered. ~Erik

The VISA Instrument

All questions are answered by selecting one of the five options:

- Strongly Agree
- Agree
- Agree and Disagree
- Disagree
- Strongly Disagree

Career Commitment and Doubt Scales

To what extent do you agree with the following statements?

Career Commitment

- 1) I know what kind of work is best for me.
- 2) No other career is as appealing to me as the one I expect to enter.
- 3) No one will change my mind about the career I have chosen.
- 4) I have known for a long-time what career is best for me.
- 5) I have invested a lot of energy into preparing for my chosen career.

Identification with Career Commitment

- 6) My career will help me satisfy deeply personal goals.
- 7) Becoming a worker in my chosen career will allow me to become the person I dream to be.
- 8) My family feels confident that I will enter my chosen career.
- 9) I chose a career that will allow me to remain true to my values.
- 10) My career choice will permit me to have the kind of family life I wish to have.

Career Commitment Flexibility

- 11) My work interests are likely to change in the future.
- 12) I will probably change my career goals.

- 13) What I look for in a job will change in the future.
- 14) My career choice might turn out to be different than I expect.
- 15) I need to learn a lot more before I can make a career choice.

Career Self-Doubt

- 16) Thinking about choosing a career makes me feel uneasy.
- 17) People who really know me seem doubtful when I share my career plans with them.
- 18) When I tell other people about my career plans, I feel like I am being a little dishonest.
- 19) I doubt I will find a career that suits me.
- 20) I may not be able to get the job I really want.

In-Breadth to In-Depth Career Exploration Scales

To what extent do you agree with the following statements?

All questions are answered by selecting one of the five options:

- Strongly Agree
- Agree
- Agree and Disagree
- Disagree
- Strongly Disagree

In-Breadth Career Exploration

Right Now I Am.....

- 21) casually learning about careers that are unfamiliar to me in order to find a few to explore further.
- 22) thinking about how I could fit into many different careers.
- 23) trying to have many different experiences so that I can find several jobs that might suit me.
- 24) learning about various jobs that I might like.

- 25) keeping my options open as I learn about many different careers.

In-Depth Career Exploration

Right Now I Am.....

- 26) identifying my strongest talents as I think about careers.
- 27) learning what I can do to improve my chances of getting into my chosen career.
- 28) learning as much as I can about the particular educational requirements of the career that interests me the most.
- 29) trying to find people that share my career interests.
- 30) thinking about all the aspects of working that are most important to me.

Appendix C: The CAGE-AID Instrument and Permission for Online Use

Permission for Online Use of the CAGE Instrument

From: Richard Brown <e-mail address redacted>
 Sent: Monday, July 23, 2018 7:08:31 AM
 To: Eileen Delzell
 Subject: Re: Permission to use the CAGE-AID

Eileen Here's some information:

<https://www.integration.samhsa.gov/images/res/CAGEAID.pdf> You have my permission to use the CAGE-AID for this purpose.

Richard L. Brown, MD, MPH

The CAGE-AID Instrument

This survey asks four questions, developed to assess attitudes toward use of alcohol and drugs.

Please be as truthful as possible in your answers, to ensure comprehensive research data.

All answers are confidential and anonymous.

Yes No

- 1) Have you ever felt you should cut down on your drinking or drug use?
- 2) Have people annoyed you by criticizing your drinking or drug use?
- 3) Have you felt guilty or bad about your drinking or drug use?
- 4) Have you ever had a drink or used drugs first thing in the morning to steady your nerves or to get rid of a hangover (eye-opener)?

Appendix D: The PICTS-L-SF Instrument and Permission for Online Use

Permission for Online Use of the PICTS-L-SF

To: Eileen Delzell

Re: Permission for online use

You have my permission to use the PICTS-L-SF tool in your doctoral dissertation, under guidance of licensed psychologist Dr Jana Price-Sharps, using the PsychData Internet software.

Glenn D. Walters, Ph.D.

The PICTS-L-SF Instrument

All questions are answered by selecting one of the four options:

Strongly Agree
Agree
Uncertain
Disagree

- 1) I will allow nothing to get in the way of me getting what I want...
- 2) I find myself blaming society and external circumstances for the problems I have had in life...
- 3) Change can be scary...
- 4) Even though I may start out with the best of intentions I have trouble remaining focused and staying "on track"...
- 5) There is nothing I can't do if I don't try hard enough...
- 6) When pressured by life's problems I have said "the hell with it" and followed this up by doing whatever I want to do...
- 7) It's unsettling not knowing what the future holds...
- 8) I find myself blaming people who are hurt when I behave badly by saying things like "they deserved what they got," or "they should have known better"...

- 9) One of the first things I consider in sizing up another person is whether they look strong or weak...
- 10) I occasionally think of things too horrible to talk about....
- 11) I am afraid of losing my mind...
- 12) The way I look at it, I've paid my dues in life just like anyone else, and am therefore justified in taking what I want...
- 13) The more I get away with in life, the more I think there's no way I will ever be caught...
- 14) I believe that breaking the law is no big deal as long as you don't physically hurt someone...
- 15) I would not hesitate to get money in any way (legally or illegally) if my friends or family needed help...
- 16) I am uncritical of any thoughts and ideas to the point that I ignore the problems and difficulties associated with these plans until it is too late...
- 17) It is unfair that bank presidents, lawyers and politicians get away with all sorts of illegal and unethical behavior every day and yet I could still be arrested for a much smaller crime...
- 18) I find myself arguing with others over relatively trivial matters...
- 19) I can honestly say that I think of everyone's welfare before engaging in potentially risky behavior...
- 20) When frustrated, I find myself saying "screw it" and then engaging in some irresponsible or irrational act...
- 21) New challenges and situations make me nervous...
- 22) If I was ever caught committing a crime, there's no way I'd be convicted or sent to prison...
- 23) I find myself taking shortcuts, even if I know these shortcuts will interfere with my ability to achieve certain long-term goals...
- 24) When not in control of a situation, I feel weak and helpless and experience a desire to exert power over others...

- 25) Despite any bad things I may have done, deep down I am basically a good person...
- 26) I will frequently start an activity, project, or job but then never finish it...
- 27) I regularly hear voices and see visions, which others do not hear or see...
- 28) When it's all said and done, society owes me...
- 29) I have said to myself more than once that if I didn't have to worry about anyone "snitching" on me I would be able to do what I want without getting caught...
- 30) I tend to let things go which should probably be attended to, based on my belief that they will work themselves out...
- 31) I have used alcohol or drugs to eliminate fear or apprehension before doing something risky...
- 32) I have made mistakes in life...
- 33) I sometimes think that I would be willing to do anything, even something illegal, in order to live the life I have coming...
- 34) I like to be on center stage in my relationships and conversations with others, controlling things as much as possible...
- 35) When questioned about my motives for making poor choices, I have justified my behavior by pointing out how hard my life has been...
- 36) I have trouble following through on good initial intentions...
- 37) I find myself expressing tender feelings toward animals or little children in order to make myself feel better after engaging in irresponsible behavior...
- 38) There have been times in my life when I felt I was above the law
- 39) It seems that I have trouble concentrating on the simplest of tasks
- 40) I tend to act impulsively under stress
- 41) I should not be made to appear worthless in front of friends and family when it is so easy to take from others ...

- 42) I have often not tried something out of fear that I might fail...
- 43) I tend to put off until tomorrow what should have been done today...
- 44) Although I have always realized that I might get caught for doing something, I would tell myself that there was "no way they would catch me this time"...
- 45) I could justify doing illegal activities such as selling drugs, burglarizing homes, or robbing banks by telling myself that if I didn't do it someone else would...
- 46) I find it difficult to commit myself to something I am not sure of because of fear...
- 47) People have difficulty understanding me because I tend to jump around from subject to subject when talking...
- 48) There is nothing more frightening than change...
- 49) Nobody tells me what to do and if they try, I will respond with intimidation, threats, or I might even get physically aggressive...
- 50) When I act irresponsibly, I will perform a "good deed" or do something nice for someone as a way of making up for the harm I have caused...
- 51) I have difficulty critically evaluating my thoughts, ideas, and plans...
- 52) Nobody before or after can do it better than me because I am stronger, smarter, or slicker than most people are...
- 53) I have rationalized my irresponsible actions with such statements as "everybody else is doing it so why shouldn't I"...
- 54) If challenged I will sometimes go along by saying, "yeah, you're right," even when I know the other person is wrong, because it's easier than arguing with them about it...
- 55) Fear of change has made it difficult for me to be successful in life...
- 56) The way I look at it, even if I've done bad things, it's okay, because I never intended to hurt anyone...
- 57) I still find myself saying, "the heck with working a regular job, I'll just take it"...
- 58) I sometimes wish I could take back certain things I have said or done ...

- 59) Looking back over my life, I can see now that I lacked direction and consistency of purpose...
- 60) Strange odors, for which there is no explanation, come to me for no apparent reason...
- 61) I think that I can use drugs and avoid the negative consequences (such as addiction) that I have observed in others...
- 62) I tend to be rather easily sidetracked so that I rarely finish what I start...
- 63) If there is a short cut or easy way around something, I will find it...
- 64) I have trouble controlling my angry feelings...
- 65) I believe that I am a special person and that my situation deserves special consideration...
- 66) There is nothing worse than being seen as weak or helpless...
- 67) I view the positive things I have done for others as making up for the negative things...
- 68) Even when I set goals I frequently do not obtain them because I am distracted by events going on around me...
- 69) There have been times when I tried to change but was prevented from doing so because of fear...
- 70) When frustrated I will throw rational thought to the wind with such statements as "screw it" or "the hell with it"...
- 71) I have told myself that with a better job, I would never have had to do irresponsible or questionable things...
- 72) I can see that my life would be more satisfying if I could learn to make better decisions...
- 73) There have been times when I have felt entitled to break the rules or behave poorly in order to pay for a vacation, new car, or expensive clothing that I told myself I needed ...
- 74) I rarely consider the consequences of my actions...

- 75) A significant portion of my life has been spent trying to control people and situations...
- 76) There are times when I have done bad things and not gotten caught, and sometimes I feel overconfident and feel like I could do just about anything and get away with it...
- 77) As I look back on it now, I was a pretty good person even if I've done irresponsible things...
- 78) There have been times when I have made plans to do something with my family and then cancelled these plans so that I could hang out with my friends, and behave irresponsibly
- 79) I tend to push problems to the side rather than dealing with them...
- 80) I have used good behavior or various situations to give myself permission to do things that may be irresponsible or dangerous...

Appendix E: IRB Approval

Dear Ms. Delzell,

This email is to notify you that the Institutional Review Board (IRB) has approved your application for the study entitled, "Relationships Between Vocational Identity, Substance Use, and Criminal Thinking in Emerging Adults."

Your approval # is 10-22-18-0471517. You will need to reference this number in your dissertation and in any future funding or publication submissions. Also attached to this e-mail is the IRB approved consent form. Please note, if this is already in an on-line format, you will need to update that consent document to include the IRB approval number and expiration date.

Your IRB approval expires on October 21, 2019. One month before this expiration date, you will be sent a Continuing Review Form, which must be submitted if you wish to collect data beyond the approval expiration date.

Your IRB approval is contingent upon your adherence to the exact procedures described in the final version of the IRB application document that has been submitted as of this date. This includes maintaining your current status with the university. Your IRB approval is only valid while you are an actively enrolled student at Walden University. If you need to take a leave of absence or are otherwise unable to remain actively enrolled, your IRB approval is suspended. Absolutely NO participant recruitment or data collection may occur while a student is not actively enrolled.

If you need to make any changes to your research staff or procedures, you must obtain IRB approval by submitting the IRB Request for Change in Procedures Form. You will receive confirmation with a status update of the request within 1 week of submitting the change request form and are not permitted to implement changes prior to receiving approval. Please note that Walden University does not accept responsibility or liability for research activities conducted without the IRB's approval, and the University will not accept or grant credit for student work that fails to comply with the policies and procedures related to ethical standards in research.

When you submitted your IRB application, you made a commitment to communicate both discrete adverse events and general problems to the IRB within 1 week of their occurrence/realization. Failure to do so may result in invalidation of data, loss of academic credit, and/or loss of legal protections otherwise available to the researcher.

Both the Adverse Event Reporting form and Request for Change in Procedures form can be obtained at the Documents & FAQs section of the Walden web site: <http://academicguides.waldenu.edu/researchcenter/orec>

Researchers are expected to keep detailed records of their research activities (i.e., participant log sheets, completed consent forms, etc.) for the same period of time they retain the original data. If, in the future, you require copies of the originally submitted IRB materials, you may request them from Institutional Review Board.

Sincerely,

Libby Munson
Research Ethics Support Specialist
Office of Research Ethics and Compliance

Walden University
100 Washington Avenue South, Suite 900
Minneapolis, MN 55401
Email: irb@mail.waldenu.edu