

2017

Relationship between College Student Identity Development and Readiness for Change

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<http://dx.doi.org/doi:10.21220/W4GM2N>

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**Relationship between College Student Identity Development and Readiness for
Change**

A Dissertation

Presented to

The Faculty of the School of Education

The College of William & Mary in Virginia

In Partial Fulfillment

Of the Requirements for the Degree

Doctor of Philosophy

by

Pamela Jo Kayanan

November 2016

**Relationship between College Student Identity Development and Readiness for
Change**

by

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Acknowledgements

My loving husband, Dr. Leslie Kayanan without whom I would not have been as persistent in this long journey to completion of the dissertation and to whom I am most grateful for being in my life. His support was unwavering, and his faith in me was most valuable to my completion of this degree. Christina and Juliet, my daughters who were there to cheer me on each step of the way, giving me courage to continue.

To my mentor, Dr. Charles Gressard, who encouraged me right from the interview process through the dissertation defense. He never doubted I would successfully complete this degree and for this, I am grateful. To the faculty at The College of William and Mary, especially Dr. McAdams, Dr. Foster, Dr. Ward, and Dr. Bracken, for teaching me what is important in counseling and research.

To Linda Schrock, the very definition of a true and best friend. You continued to support me and cheer me on, especially through the times when I got the most discouraged. Thank you for your support and for being my best friend.

There are others who have influenced my journey through this post-graduate degree especially my cohort, Derek Robertson, Ki Chae, Madison Reichel, and Dineen Miller. Additionally, I want to thank the support of a member of a cohort one year ahead of me, Chris Lawrence.

Abstract

This study examines the relationship between college students' developmental level of identity formation and their choice to make intentional changes in behavior. Specifically, it examines whether there is a relationship between the level of identity development of college students according to Chickering's model, measured by the Erwin Identity Scale (EIS), and the level of Readiness for Change concerning alcohol use following the Stages of Change Model by Prochaska and DiClemente. Correlational analyses in the form of multivariate regression is used to examine relationships between the various assessment measures. This helped answer the research questions: Is there a relationship between identity formation developmental levels and Readiness for Change, and do the subscales from the Stages of Change Readiness and Treatment Eagerness Scale (SOCRATES) relate individually to any of the subscales of the EIS? The results of the multiple regression analysis conducted with the Recognition subscale of the SOCRATES as the dependent variable and the three subscales of the EIS as the predictors indicated that two of the EIS subscales, Sexual Identity and Comfort about Body and Appearance had a significant relationship to Recognition. The EIS subscale of Confidence showed no significant relationship to Recognition. The possibilities of linking developmental level and issues around changing the drinking behavior of college students open up a way of evaluating college students', which could alter the counselors' approach to which interventions they would choose. Since the choice of intervention is imperative to the success of the counseling process, the college students' level of identity formation may be related to Readiness for Change, and that by identifying students' identity level and

matching the identity level with counseling approaches, counselors may be more effective in helping students make changes in potentially harmful drinking practices.

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Chapter One

Overview of the Problem

“A student from Dartmouth reflected, ‘It’s very sad to think that you became an alcoholic because you went to college.’” (Wechsler & Wuethrich, 2002, p. 174)

Introduction

This study considers the relationship between college students’ developmental level of identity formation and their readiness to make intentional changes in behavior. Specifically, it examines whether there is a relationship between Chickering’s Identity Development in college students and Prochaska and DiClemente’s Readiness for Change concerning alcohol use. This chapter will provide an overview of: (1) the problem of college student drinking; (2) drinking as a cultural phenomenon; (3) drinking trends; and (4) past approaches to this problem. As the theoretical framework for this study, the focus will be on the psychosocial theory of development, specifically using Chickering’s paradigm for identity development in college students. Prochaska and DiClemente’s Readiness for Change model and processes of change will also be discussed. Finally, the connection of identity development in college students and their Readiness for Change will be addressed. Chapter Two provides a brief literature review of the relevant studies, and Chapter Three describes the research design and methodology.

Statement of the Problem

College students are dying as a result of alcohol use and the subsequent risks they take while intoxicated (Wechsler & Wuethrich, 2002). Seventy-two percent of all fatalities among this population are due directly or indirectly to alcohol abuse (Cazzell, 2010). Sleep disruption, lack of focus on studies, and verbal, physical, and sexual violence are all frequent consequences. This behavior affects others on campus via secondhand consequences. These secondhand consequences include unintentional injuries specifically involving car accidents, noise disruptions, unwanted sexual advances, sexual assault, serious quarrels or arguments, humiliation or being insulted, and students feeling responsible to take care of the intoxicated student (Johnston, O'Malley, Bachman, & Schulenberg, 2011; Misch, 2010). To say that alcohol abuse is killing our young adults is not an exaggeration. No greater health hazard exists on American college campuses than alcohol drinking (Misch, 2010; Hingson, Heeren, Winter, & Wechsler, 2005). Despite the hazards of alcohol abuse, college students continue to drink. The attraction of drinking alcohol is stronger than the negative consequences that result. Recent studies suggest that the way college students think about and use alcohol is based, in part, on their perception of the alcohol use of others (Fournier, Hall, Ricke, & Storey 2013). Individuals overestimate the rate in which their peers drink, and they are more likely to drink more, believing that the attitudes about drinking on campus are more permissive than is really the case (Fournier et al., 2013). Alcohol use is everywhere on campus and includes students across social, economic, and academic lines. It is part of the culture of the college experience (Derby, 2011; Tan, 2012).

Drinking as a Cultural Phenomenon

Even though prevention programs have been in effect for decades, hazardous drinking by college students persists (Branscum & Sharma, 2010; Dimeff, Baer, Kivlahan, & Marlatt, 1999; Johnston et al., 2011). A growing body of research focuses on college drinking as a cultural phenomenon, which is seen as an expectation of students' transition from high school into college (Tan, 2012). People of age 12 to 20 years old constitute 11% of all alcohol consumers in the United States, and 90% of this percentage is consumed in the form of binge drinking (Fournier et al., 2013). Binge drinking is defined as consuming enough alcohol within two hours wherein the blood alcohol concentration (BAC) reaches 0.08 (four drinks for women and five drinks for men). Research suggests binge drinking is prevalent on many college campuses, that binge drinking peaks during adolescence and early adulthood, and is especially common among the 18- to 24-year-old college students (Hingson et al., 2005). This type of drinking is considered a health problem because individuals who engage in binge drinking tend to experience greater alcohol-related problems in the short-term (e.g. driving under the influence, and sexual assault), and are at greater risk for alcohol abuse and dependence in the long-term (Fournier et al., 2013). Recent studies suggest that one important factor in the way college students think about and use alcohol is their perception of the alcohol use of others. From this perspective, drinking becomes a means of establishing both, an individual identity and a group identity in college (Tan, 2012). College students are using alcohol to fit in, relax, relieve stress, be more sociable and as a major part of what they have come to expect from college life (Derby, 2011, Tan, 2012). Tan's study, describing drinking as an integral part of college life, labels it a cultural phenomenon. Further, such

attitudes about drinking are recognized as pervasive in the US culture in general. A student from the University of Wisconsin made this observation:

If you want to change the drinking culture, you're talking to the wrong people. Go talk to high school kids. Better yet, parents. People in Wisconsin drink like fish. It has less to do with UW and more to do with high school drinking and lack of discipline by parents. We're taught early on that drinking is an accepted part of life. (Tan, 2012, p. 127)

Drinking Trends

At least half of the student population drinks at harmful levels, and the majority of these students have negative experiences from alcohol use (Rickwood, George, Parker, & Mikhailovich, 2011). First-year male students from rural areas are most susceptible to hazardous alcohol use; perhaps the result of approval seeking from peers and the desire to fit in (Rickwood et al., 2011). Further, young adults at university are more likely to drink than their counterparts who are not at university; thus, supporting the acceptance of drinking as a part of the college experience (Hayes, Curry, Freedman, & Kuch, 2010).

Monitoring the Future (MTF), a research program conducted at the University of Michigan's Institute for Social Research under a series of grants from the National Institute on Drug Abuse (Johnson et al., 2011), has surveyed a national sample of adolescents and young adults since the 1970's. These surveys study the trends in drug and alcohol use among the population from mid-teens through mid-twenties. Results

indicate that alcohol use is ongoing. They also found that alcohol use would increase and decrease dependent on the attitudes of the students about the risks involved.

Alcohol consumption among adolescents and young adults has decreased considerably in the United States since the early 1980s, but similar declines have not been observed among college students, and the prevalence of heavy drinking in this group remains high. (Nelson, Toomey, Lenk, Erickson, & Winters, 2010, p. 1687)

Peer influence also affected drinking on campus. The approval or disapproval of drinking by the students indicated the need for peer acceptance, a part of the development of identity (Johnston et al., 2012; Fournier et al., 2013). Students have one primary developmental task during college years; and that is identity formation (Chickering, 1969; Chickering & Reisser, 1994; Chickering, McDowell, & Campagna, 1969). They achieve this by establishing themselves with a group, such as a Greek organization or an athletic team, and by establishing themselves as individuals based on what others say about them (Chickering et al., 1994). Identity developments achieved during the college years are based on the student's sense of self that evolves over time until the student is at home in his/her own body when there exists a sense of inner assuredness of an expected Recognition from those who count (Chickering et al., 1994). This adds up to a strong sense of self-esteem and self-efficacy. As indicated earlier, college students use alcohol to establish themselves as part of the group and to fit into the group identity. Being accepted by the group is an ongoing desire of students and will be pursued regardless of the consequences that alcohol use brings. Colleges are aware that alcohol causes more

“disruption, destruction and death than any other campus hazard,” (Misch, 2010, p. 232). Unintentional injury and death were reported as increasing between 1998 and 2005, from 1,440 per year to 1,825 per year among college students aged 18 to 24 years; however, the culture of alcohol abuse is highly resistant to change (Misch, 2010). Students continue to take risks in order to continue to use alcohol as a means of fitting into the group and establishing an identity. Among the risk-taking behaviors of college student drinking are the inability to focus on classes, forgetting assignments, and missing classes altogether (Hayes et al., 2010). This interference in the academic life of college students’ development will affect their ability to move into more complex thinking which allows them to increase their complex interpretation of the world, giving them the ability to integrate and act on a wide variety of diverse experiences (Dimeff et al., 1999; Hensley, 1997).

What has been done about this problem in the past?

Colleges’ responses in the past have included intervention strategies focused on: (a) peer education programs (Hingson, 1998); (b) skills based intervention (Nelson et al., 2010); and (c) environmental interventions such as raising the legal age for drinking, enforcement of the laws around underage drinking, raising the price of alcohol, and zero tolerance laws (Wechsler, Kelley, Weitzman, SanGiovanni, & Seibring, 2000, Wechsler et al., 2002; Wechsler, Seibring, Liu, & Ahl, 2004; Hingson et al., 2005; Nelson et al., 2010). These interventions have not had the desired results. Students see drinking as a normative developmental milestone, which makes treatment more complicated (Hayes et

al., 2010). Students will not give up the social assimilation and feeling of belonging, and will risk much to be accepted and identified with a group.

Past interventions, such as Alcoholics Anonymous (AA), were greeted with resistance that may be due to the dualistic thinking of AA. In AA, it is believed that once an alcoholic always an alcoholic, and there is no middle ground; either you are or you aren't. Students have learned that life is not about black and white, or right and wrong but that there is a gray area to be considered; thus, evolving past the dualistic phase of cognitive development. Further, the requirement by AA of lifelong abstinence, the inconvenience of daily meetings, and surrendering to a higher power makes participation in AA objectionable to some individuals (Cornett, 1997; Hayes et al., 2010). In 2002, a report was issued by the National Institute on Alcohol Abuse and Alcoholism (NIAAA), specifically addressing college drinking. The report made recommendations to the colleges as to which strategies have shown promise and which programs were based on empirical evidence. The recommended strategies supported programs that included individual counseling and non-judgmental techniques, such as motivational interviewing (Nelson et. al., 2010). However, many of the colleges did not apply the recommendations but instead supported lowering the drinking age from 21 to 18, which the colleges deemed a good strategy to stop the drinking problems on campus (Nelson et al.; Wechsler et al., 2000, 2004). Those colleges that did implement the recommendations of NIAAA did see an improvement in the effectiveness of the prevention programs on campus (Nelson et al.).

Many of the previous studies support brief interventions (Hingson et al., 2005) and motivational approaches for this population (Juhnke & Reel, 1999). These types of interventions attempt to take advantage of the student's need to think critically about the problem behavior and situation (Hayes et al., 2010). Additionally, these interventions value choice on the part of the students, at a time when, developmentally, they show their independence and demonstrate their individuality. These characteristics correlate with the identity formation identified by Chickering as the number one task of college student development (Chickering et al., 1994) and the self-efficacy identified by Prochaska, Norcross, and DiClemente (2002) in their book on stages of change.

The trends in college alcohol use and the cultural importance of alcohol use have contributed to deaths of college students as well as the secondary consequences that plague college campuses. Further, the resistance to changing this behavior has confounded attempts at interventions and preventions programs supported by the colleges. As depicted in the aforementioned studies, identity development is of utmost importance during the college years, and the student's need to develop who he is, based on his associations, makes it difficult to fit him into a "one size fits all" program like the traditional 12-step programs. It is proposed that college students' level of identity formation may be related to their Readiness for Change (Prochaska, Norcross, & DiClemente, 2002) and that, by identifying the students' identity level and matching the identity level with counseling approaches that are consistent with that identity level, counselors may be more effective in helping students make changes in potentially harmful drinking practices.

Theoretical Framework

Most of the research in the area of college student identity development has been influenced by the psychosocial theory; primarily through the seminal work of Erik Erikson (1968). Erikson developed eight stages of development, and saw stages beyond childhood putting more emphasis on social context. He was one of the first to recognize the identity development taking place during adolescence and young adulthood.

Erikson's emphasis on social context informed the need for establishing identity through the connection with peers and organizations, such as Greek organizations and athletic teams. Chickering (1969), built his integrative theory of college student development within the framework of Erikson's psychosocial theory. Chickering's model of student development indicates that identity is a developmental construct that changes and evolves over a four-year period of time while the student is in college. During that four-year period, the student moves from uncertainty about who they are to autonomy and self-efficacy, an integral part of identity formation as shown in Chickering's Psychosocial Model and further mentioned in Prochaska and DiClemente's Transtheoretical Model of Stages of Change (Prochaska et al.; Lawson, Lambert, & Gressard, 2011).

Students with higher developmental levels can best determine what direction their lives will take, making decisions based on personally derived belief systems. Further, students with higher developmental levels will be able to make choices based on an array of experience which gives them a greater sense of internal control in deciding who they are and what they will do (Chickering & Reisser, 1993; Hensley, 1997).

Students progress from low self-concept to a sense of self in social, historical and cultural context as well as self-acceptance and higher self-esteem (Chickering & Reisser, 1993).

Chickering’s Theory of Student Development

Chickering’s Theory of Student Development, proposed in 1969, originally suggested seven vectors of development for the typical college student (Chickering, 1969; Thieke, 1994, Hensley, 1997). The Chickering framework was the first to concentrate exclusively on development during the college years (Chickering, 1969). Not all students change along all seven vectors, nor do the environmental conditions operate with equal force for all students at all institutions, but such changes do occur for some students.

The purpose of the seven vectors was to illustrate the effect of college environment on the student’s emotional, social, physical, and intellectual development especially, as it applies to identity (Thieke, 1994). The seven vectors are delineated in Table 1.1 The area focused on in this study is vector 5, identity formation.

Table 1.1

The Seven Vectors: General Developmental Directions

From	To
<p><i>Developing Competence</i> Low level of competence. (intellectual, physical, interpersonal) Lack of confidence in one’s abilities.</p>	<p>High level of competence in each area. Strong sense of competence.</p>
<p><i>Managing Emotions</i> Little control over disruptive emotions (fear and anxiety, anger leading to aggression, depression, guilt, and shame, and</p>	<p>Flexible control and appropriate expression.</p>

<p>dysfunctional sexual or romantic attraction) Little awareness of feelings. Inability to integrate feelings with actions.</p>	<p>Increasing awareness and acceptance of emotions. Ability to integrate feelings with responsible action.</p>
<p><i>Moving Through Autonomy Toward Interdependence</i> Emotional dependence. Poor self-direction or ability to solve problems; little freedom or confidence to be mobile. Independence – like being an island.</p>	<p>Freedom from continual and pressing needs for reassurance. Instrumental independence (inner direction, persistence, and mobility). Recognition and acceptance of the importance of interdependence.</p>
<p><i>Developing Mature Interpersonal Relationships</i> Lack of awareness of differences; intolerance of differences. Nonexistent, short-term, or unhealthy intimate relationships.</p>	<p>Tolerance and appreciation of differences. Capacity for intimacy which is enduring and nurturing.</p>
<p><i>Establishing Identity</i> Discomfort with body and appearance. Discomfort with gender and sexual orientation. Lack of clarity about heritage and social/cultural roots of identity. Confusion about “who I am” and experimentation with roles and lifestyles. Lack of clarity about others’ evaluation. Dissatisfaction with self. Unstable, fragmented personality.</p>	<p>Comfort with body and appearance. Comfort with gender and sexual orientation. Sense of self in a social, historical, and cultural context. Clarification of self-concept through roles and lifestyles. Sense of self in response to feedback from valued others. Self-acceptance and self-esteem Personal stability and integration.</p>
<p><i>Developing Purpose</i> Unclear vocational goals. Shallow, scattered personal interests.</p>	<p>Clear vocational goals. More sustained, focused,</p>

<p>Few meaningful interpersonal commitments.</p>	<p>rewarding activities. Strong interpersonal and family commitments.</p>
<p><i>Developing Integrity</i> Dualistic thinking and rigid beliefs. Unclear or untested personal values and beliefs. Self-interest. Discrepancies between values and actions.</p>	<p>Humanizing values. Personalizing (clarifying and affirming) values while respecting others' beliefs. Social responsibility. Congruence and authenticity.</p>

Adapted from Chickering and Reisser (1993), pp. 38–39.

Chickering put identity at vector five out of the seven, moving *Developing Mature Interpersonal Relationships* before *Establishing Identity*. He did this to recognize how important impact interpersonal relationships are to the core sense of self (Chickering & Reisser, 1993). He described the two major components of identity development as a clear idea of physical characteristics and personal appearance, and the clarification of sex roles, feelings, and behaviors. In 1977, Erwin (1982) added a third factor of identity development to Chickering's model, personal confidence, which he felt was implied: “Chickering, citing Erikson's phrases of "inner capital," "the person one feels oneself to be," and "accrued confidence," implied that self-assuredness was a necessary component of identity,” (p. 163). This was further studied using the Erwin Identity Scale (EIS) and these three areas, (physical and personal appearance, acceptance of sexual feelings, and self-confidence) were used as the subscales of Erwin's instrument to measure identity development in college students. The sense of identity is an ongoing process; constantly changing the feeling of being lost and regained, and ultimately finding a favorable proportion so that when there is a setback, one has

a store of skill and knowledge that tides one over until there is a rebound.

However, to classify identity as the predominant category to development would make its application difficult when considering the concrete decisions needed to be made around student services, curriculum, student-faculty relationships, and education policy and practice. Further, it would also be difficult to recognize smaller components of identity because of the enormity of what identity covers. For this reason, the other vectors remain as developmental tasks for more discrete treatment, with subcategories to further chunk down each vector into manageable pieces for treatment (Chickering & Reisser, 1993).

Subgroups of Identity

In her book, *Finding Herself: Pathways to Identity Development in Women*, Josselson (1987) defines identity as:

The stable, consistent, and reliable sense of who one is and what one stands for in the world. It integrates one's meaning to oneself and one's meaning to others; it provides a match between what one regards as central to oneself and how one is viewed by significant others in one's life (p. 10).

Chickering's sub-categories for identity reflect Josselson's definition (Maier & Marietta, 2001). These subgroups include: (1) comfort with body appearance; (2) comfort with gender and sexual orientation; (3) a sense of self in a social, historical, and cultural awareness; (4) clarification of self concept through roles and lifestyles; (5) sense of self derived from feedback from valued others; (6)

acceptance of self and self-esteem; and (7) personal stability and integration.

Each subgroup is rated on a continuum from low to high. For example, if a student is at the low end of the subgroup *Self-concept Derived from Feedback from Others*, he may be overly concerned about how others perceive him. This might lead to finding a group with which to identify. It is this need that explains the numbers of students who seek out membership in the Greek organizations or compete for a place on sports teams. These memberships give the student a sense of individual identity and group identity.

In the low end of this development, students are confused about their identity and will experiment with roles and lifestyles as they search for what suits them. Over time, the student begins to recognize which roles and lifestyles fit them best. Those at the high end of this development, begin to understand that this self-identity is a journey that continues throughout their life. However, they do establish some clarification of self-concept through college. They will acquire a sense of self in a social, historical, and cultural context (Chickering & Reisser, 1993). Further, they value feedback from others but, unlike those at the lower end of development who may accept feedback regardless of where it comes from, those students at the high end of development get a sense of self in response to feedback from the valued others (Chickering & Reisser, 1993). Chickering's seven vectors can be seen in Table 1.1, along with the attitudes from those low on development and those high on development. In Table 1.1, Establishing Identity is the vector used for this research, which shows the particular attitudes between a low developmental level of identity formation and a high development in identity formation.

Thieke (1994), published a study to validate Chickering's seven vectors. One of the questions he posed was, "Does the resulting path model reflect the influences that Chickering deemed important in effecting affective student development?" (p. 5). Some of the results supported Chickering's original conclusions that the development of college students increased from freshman year to senior year, that this development did not regress, that men and women changed in about the same direction, and peer social experiences were found to be significantly related to gains in academic autonomy during the first year of college (Thieke, 1994; Chickering, McDowell, & Campagna, 1969). With so much at risk for our college students, finding a way to change the drinking behavior that has become so much a part of the culture becomes an imperative.

Just as college students are endeavoring to discover who they are, linking themselves to groups, such as in Greek organizations, helps to establish their identity and is a big part of the drinking culture in colleges. One conclusion to this discussion is that individual and group identity can be established through drinking on college campuses, but with dire consequences. It is during the college years that there is much development between the freshman year and the senior year (Chickering & Reisser, 1993). Pascarella and Terrenzini (2005), view development as changing over time toward a greater complex way of thinking and behaving. "Developmental change may be due to biological and psychological maturation, to individual experiences and the environment, or to the interaction of individual and environment" (Pascarella & Terrenzini, 2005, p. 18).

Students are influenced by the college environment as well as by other students, as evidenced by membership in clubs and organizations and the expectations of the

students when applying to universities and colleges. Some students look for the “party” schools in anticipation of enjoying the atmosphere of drinking and partying, as a way to establish freedom from their parents’ authority as well as to experiment with roles and lifestyles. This behavior is an attempt to accomplish the developmental task of identity formation as addressed in Chickering’s Psychosocial Model and further mentioned in Prochaska and DiClemente’s Transtheoretical Model of Stages of Change. Chickering discusses identity formation as the primary task of discovering the answer to the question “Who am I?” (Chickering & Reisser, 1993). Prochaska and DiClemente discuss self-efficacy “related to self-esteem and self-confidence, self-efficacy can be an aid to evaluating how you see yourself” (Prochaska et al., 2002, p. 214).

Stages of Change Model

Dimeff et al. (1999), discovered that binge drinking interfered with student development by affecting their ability to move into more complex thinking. Prochaska, Norcross and DiClemente noted in their book, *Changing for Good* (2002), that the developmental level of students, specifically self-efficacy in identity formation, directly affects and informs the counseling technique used. Mismatching the technique and the developmental level was contraindicated, putting developmental level at a high priority in counseling college students.

Prochaska et al. originally explained the Transtheoretical Model of Change, a theoretical model of behavior change in relationship to motivation of the client to change, referred to as readiness to change (Prochaska et al., 2002). The model addresses how people modify an unhealthy behavior with a healthier behavior. The Stages of Change

model is part of the overall Transtheoretical Model and focuses on motivation for intentional change. The definition of motivation, quoted from an article in 2011, is as follows: “In the classic definition of the role of motivation it suggests that counseling and psychotherapy involve mobilizing forces or energy within the client in the direction of healing or change” (Ryan, Lynch, Vansteenkiste, & Deci, 2011, p. 196).

Focusing on clients’ motivation and choice is an important issue in counseling. Some reasons for this include the fact that most clients begin counseling with uncertainty, a sense of hopelessness and/or fear. This can result in the client terminating before completing the program. Additionally, the effectiveness of any counseling technique is dependent on the clients’ motivation to participate not only in the technique but also in the direction of counseling. Finally, there is a lot of pressure put on counselors from agencies and third-party payers to keep the counseling brief, making the motivation of the client paramount to successfully completing the program (Ryan et al., 2011).

The Transtheoretical Model may help to explain the differences in persons’ success during counseling, for a range of psychological and physical health problems. This heuristic model proposes that people can be located along a continuum of stages regarding readiness or motivation for intentional behavior change. In other words, people are said to move from *precontemplation* (not considering change at all), to *contemplation* (weighing pros and cons, also identified as Ambivalence), to *preparation* (getting ready to make the change or Recognition of the problem), to *action* (making the change, also called Taking Steps), and finally to *maintenance* (consolidating positive change) (DiClemente et al., 1992; Prochaska et al., 2002). According to the Stages of Change

(SOC) framework, ideal motivation and change is best achieved by using techniques and strategies that match with the clients' particular stage (Prochaska & DiClemente, 1994). Although no one stage is more important than another, it was found in a study of 15 high risk behaviors that less than 20% of problem populations were prepared for the action stage while, at the same time, more than 90% of programs aimed at risky behavior focused on the action stage (Prochaska et al., 1994). The proposed techniques in each phase represent a broad collection of diverse techniques taken from various approaches, hence the term *transtheoretical*. The Transtheoretical Model (TTM) "is a framework for understanding when clients are ready to change (Stages of Change), how they weigh the pros and cons of their behavior change (decisional balance), and their beliefs about changing their behavior (temptations)" (Erol & Erdogan, 2008, pp. 42–43). Self-efficacy, the belief that one is capable of accomplishing the desired change, is a part of the Transtheoretical perspective. This belief, about self-worth or self-esteem varies, depending on the client's stage. In a study with smokers done by DiClemente et al. (1991), it was found that those in the later stages of change had a high rate of self-worth which resulted in their ability to see the value of quitting more so than those in the earlier stages of change. This indicates that high self-efficacy is related to the higher stage of change which is a connection to the autonomy discussed by Chickering as necessary to a higher developmental level regarding Identity Formation. Studies in a multitude of domains have shown the same pattern, providing evidence that the later stages of change reflect greater self-esteem (Ryan et al., 2011), a prerequisite for change. Both, Prochaska and DiClemente's Stages of Change model and Chickering's Identity Formation model require high self-efficacy and autonomy to succeed in moving from low developmental

level and stage of change to high developmental level and stage of change within the process.

Justification for Developmental Framework

Chickering's developmental framework was the first to concentrate exclusively on development during the college years (Chickering, 1969), specifically in identity formation. As mentioned previously, drinking on college campuses is a cultural phenomenon (Tan, 2012), and identity formation is the primary task of college students (Chickering & Reisser, 1993). Connection with individuals and organizations gives college students a sense of belonging and through this, both, a group identity and an individual identity (Rabow & Duncan-Schill, 1995; Treise, Wolburg, & Otnes, 1999; Workman, 2001; Alverson, 2005). Many of the opportunities to meet individuals are made easier with the use of alcohol to relax, fit in, relieve stress, and be more sociable when otherwise the student is shy, which means that identity formation and the culture of drinking coexist (Rabow & Duncan-Schill, 1995; Treise et al, 1999.; Workman, 2001; Alverson, 2005). As a result alcohol use has escalated over the years into the number one health hazard on college campuses (Misch, 2010).

College student development, specifically identity formation, is largely attributable to the work of psychosocial theorist Arthur Chickering (1969), as mentioned above. Chickering's research has had great impact on the subsequent research into college student identity formation and how the college responds to college students specifically regarding self-esteem, autonomy, and a sense of self through identity formation. Further, Prochaska and DiClemente (1994) have studied the connection

between the counselor's intervention and the student's stage of change, discovering that matching these is imperative to the success of the counseling technique used, which implies that knowing how the student views himself/herself is vital to the motivation of the student and subsequently successful counseling. Ryan et al. (2011), defined motivation as a self-determination paradigm. Autonomy plays a significant role in motivation. The more self-determined the client, the more motivated. Empirical evidence suggests that as clients report being in later versus earlier stages of change, they also report more autonomy or self-determination for change. Developmentally, those who are more autonomous will move toward intended change. Finally, indications are that development, as in Chickering's Identity Formation, impacts the level of stages of change regarding the way the student sees himself/herself (Chickering & Reisser, 1993; Prochaska et al., 2002). This proposal is based, in part, on their work. However, the relationship between the developmental level in identity formation of the college student and the level of Readiness for Change has not previously been researched.

Nevertheless, there are several research projects that focused on the stages of change and levels of self-efficacy and self-esteem when investigating other disorders and other populations. Berry, Naylor, and Warf-Higgins (2005), described a study on the Stages of Change, and exercising, in adolescents. The research looked at self-efficacy, decisional balance and reason for relapse in adolescent exercise behavior. The outcome of this research showed that self-efficacy, which is how the participant perceived his ability to succeed based on how he felt about himself, was the strongest predictor of the stage the participant occupied. Self-efficacy was measured by using the self-efficacy questionnaire from the work of Marcus, Selby, Niaura and Rossi using a 7-point Likert

scale, ranging from not at all confident (1) to very confident (7). The researchers found that participants in the contemplation stage had lower self-efficacy than those in the preparation or action stages. Self-efficacy was shown to be of utmost importance to the movement through the stages of change as well as the prevention of relapse.

In another study on development and validation of green eating behavior Stages of Change, decisional balance, and self-efficacy scales in college, the authors, Weller et al. (2014), sought to develop an instrument that would assess environmentally conscious eating behavior using the constructs mentioned above. In this research, again, the researchers linked self-efficacy – meaning sense of self and belief in oneself – with the stage of change in which the participant fell. The research goal was to develop an instrument to measure these constructs and explained it in this way: “Objective: To develop and validate an instrument to assess environmentally conscious eating (Green Eating [GE]) behavior (BEH) and GE Transtheoretical Model constructs including Stage of Change (SOC), Decisional Balance (DB), and Self-efficacy (SE)” (Weller et al., 2014, p. 324).

This pairing of self-efficacy, and the stage of change, allowed the researchers to tailor interventions to the individual. As mentioned above, this ability to tailor the interventions is of great importance to the effectiveness of the intervention. Mismatching the technique and the developmental level was contraindicated, putting developmental level at a high priority in counseling college students (Prochaska et al., 2002).

The studies cited above, indicate an important relationship between the stages of change with the participants’ sense of self-esteem and autonomy. None of the studies

used Chickering's developmental levels to estimate the level of self-esteem or autonomy, including the research on green eating, despite the fact that the participants were college students and Chickering's model is specifically designed for college students. Self-esteem and autonomy were measured using questionnaires employing Likert scales, such as the self-efficacy questionnaire in the research on adolescent exercise behavior (Berry et al., 2005) and the Likert scale developed to measure green eating among college students (Weller et al., 2014). As previously mentioned, the Chickering framework was the first to concentrate exclusively on development during the college years (Chickering, 1969). The seven vectors used to measure development included identity, which Chickering felt was the central vector of which all the others were a part (Chickering & Reisser, 1993). The identity vector measures the level of autonomy and self-esteem each student possesses. Despite this seemingly obvious connection, Prochaska and DiClemente's Stages of Change model with Chickering's Identity Formation with college students' alcohol use has yet to be examined. Though research has been done with other populations and with other issues, allowing counselors to inform their choice of techniques to use with the clients, none have paired Chickering's model with Prochaska and DiClemente's Stages of Change Model.

If research could demonstrate a relationship between Identity Formation and Stages of Change with college student alcohol use, the information may be useful by increasing the effectiveness of the counseling results with college students' drinking problems and, subsequently, help alleviate the secondary problems student drinking causes for colleges. Determining the level of identity formation (high or low) and how this would affect the stage of change in which the student occupies, would more

effectively inform the counselor about what technique would be most appropriate for the student's needs. For example: in a study with smokers done by DiClemente et al. (1991), it was found that those in the later stages of change had a high rate of self-worth, indicative of a higher level of identity formation, specifically in autonomy and self-efficacy.

On the basis of previous studies, smokers in these three stages (precontemplation, contemplation and preparation) will demonstrate a clear developmental sequence of movement toward smoking cessation. Significant differences across stages are hypothesized for smoking cessation change process activity and for the mediating variables of self-efficacy and decisional balance, as well as for the standard cessation outcome measures (DiClemente et al., 1991, p. 296).

This resulted in the students' ability to see the value of quitting more so than those in the earlier stages of change. A student in a lower stage of change, for instance contemplation, is only thinking about the issue as a possible problem. A technique focusing on the pros and cons of the problem behavior would be most effective. If, however, the counselor used a technique best reserved for a later stage, like the action stage, the student might feel pressured to change before he was ready and he would prematurely end counseling.

The following is a table showing a connection between Identity Formation (Establishing Identity) level and Stage of Change. In the low developmental level of Establishing Identity, the student has yet to discover who they are and accept themselves and their heritage and social roots. Further, students in this low level of development rely

heavily on what people think and say of them without regard to the significance of that person in their lives. This coincides with what is going on in the Precontemplation stage in Stages of Change where the student is more susceptible to the opinions of peers in their group who help them stay in denial. It is necessary for students to have some sense of autonomy before they can move into the Contemplation stage (DiClemente et al., 1991). In the subsequent stages of change (contemplation, preparation, action), the student needs more self-efficacy and autonomy, which is demonstrated when students are in higher developmental levels of identity formation as seen below in Table 1.2.

Table 1.2

Comparison of Chickering’s Identity Formation levels and Prochaska’s Norcross’ and DiClemente’s Stages of Change progress levels.

<p><i>Establishing Identity</i> <i>Low developmental level:</i> Discomfort with body and appearance Discomfort with gender and sexual orientation Lack of clarity about heritage and social/cultural roots of identity Confusion about “who I am” and experimentation with roles and lifestyles Lack of clarity about others’ evaluation Dissatisfaction with self Unstable, fragmented personality</p> <p><i>Establishing Identity</i> <i>High developmental level:</i> Comfort with body and appearance Comfort with gender and sexual orientation Sense of self in a social, historical, and cultural context</p>	<p><i>Stages of Change:</i></p> <p><i>Precontemplation:</i> not considering change at all; active resistance to change; movement from precontemplation to contemplation can be influenced by the need for autonomy which requires a sense of self.</p> <p><i>Contemplation:</i> weighing pros and cons; conflict between desire to change and resistance to change; movement from contemplation to preparation and action is influenced by awareness of lifestyle (problem behavior/solution).</p> <p><i>Preparation:</i> getting ready to make the change; movement in this stage requires commitment which requires faith in ability to succeed, self-esteem.</p>
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<p>Clarification of self-concept through roles and lifestyles</p>	<p><i>Action:</i> making the change; movement in this stage requires assertiveness and response to opinions of others.</p>
<p>Sense of self in response to feedback from valued others</p>	<p><i>Maintenance:</i> consolidating positive change.</p>
<p>Self-acceptance and self-esteem</p>	
<p>Personal stability and integration</p>	

Adapted from Chickering & Reisser (1993), pp. 38–39.

Adapted from Prochaska et al., 2002.

Purpose of the study

This study will look at the relationship between developmental level and the student’s readiness to make purposeful change. Specifically, it will examine the relationship between the college student developmental level and their Readiness for Change in alcohol use. The instrument being used for determining developmental level will be the Erwin Identity Scale (EIS), which measures Chickering’s Identity Formation level in college students. The instrument being used to determine the stage of Readiness for Change will be Prochaska and DiClemente’s Stages of Change Scale.

Research Questions

Research Questions

1. Is there a relationship between identity formation developmental levels and Readiness for Change?
2. Do the subscales from the SOCRATES relate individually to any of the subscales of the EIS?

Research hypotheses

Hypotheses

H1: A relationship exists between Confidence scores on the EIS and Recognition scores on the SOCRATES.

H2: A relationship exists between Sexual Identity scores on the EIS and Recognition scores on the SOCRATES.

H3: A relationship exists between Conceptions about Body and Appearance scores on the EIS and Recognition scores on the SOCRATES.

H4: A relationship exists between Confidence scores on the EIS and Ambivalence scores on the SOCRATES.

H5: A relationship exists between Sexual Identity scores on the EIS and Ambivalence scores on the SOCRATES.

H6: A relationship exists between Conceptions about Body and Appearance scores on the EIS and Ambivalence scores on the SOCRATES.

H7: A relationship exists between Confidence scores on the EIS and Taking Steps scores on the SOCRATES.

H8: A relationship exists between Sexual Identity scores on the EIS and Taking Steps scores on the SOCRATES.

H9: A relationship exists between Conceptions about Body and Appearance scores on the EIS and Taking Steps scores on the SOCRATES.

Chapter Two

Selective Review of the Literature

This study considers the relationship between college students' developmental level of identity formation and their readiness to make intentional changes in behavior. Specifically, this study examines whether there is a relationship between Chickering's Identity Formation Development in college students and Prochaska and DiClemente's Readiness for Change concerning alcohol use. Since many of the opportunities to meet individuals and/or organizations are made easier with the use of alcohol to relax, fit in, relieve stress, and be more sociable when otherwise the student is shy, identity formation and the culture of drinking coexist. This chapter reviews the literature that helps align studies, using both Chickering's Developmental Model and the Prochaska and DiClemente Stages of Change Model. The literature will explore the problem of student drinking faced by colleges. It will also review the research on Chickering's theory of identity formation as related to college students.

Given that this study identifies the problem of alcohol consumption on college campuses, it is fitting to reflect what research is saying about this issue. The findings of studies conducted on alcohol use on campus, suggest that alcohol use by college students is a national crisis; students are dying at higher rates each year (Hingson, Zha & Weizman, 2009; Wechsler et al., 2002; Grucza, Norberg, & Bierut, 2009). In addition to being prevalent, college students' alcohol use is resistant to change, because alcohol use plays heavily in the culture of the college experience.

College drinking is a culture... beliefs and customs entrenched in every level of college students' environments. Customs handed down through generations of college drinkers reinforce students' expectation that alcohol is a necessary ingredient for social success. These beliefs and the expectations they engender exert a powerful influence over students' behavior toward alcohol.... Students derive their expectations of alcohol from their environment and from each other, as they face the insecurity of establishing themselves in a new social milieu. Environmental and peer influences combine to create a culture of drinking. (NIAAA, 2002, pg. 1)

Connecting with individuals and organizations gives college students a sense of belonging and a sense of who they are in both, a group setting and an individual setting, which is the beginning of developing their identity (Rabow & Duncan-Schill, 1995; Treise, Wolburg, & Otnes, 1999; Workman, 2001; Alverson, 2005). Many of the opportunities to meet individuals are made easier with the use of alcohol to relax, fit in, relieve stress, and be more sociable when otherwise the student is shy, indicating that identity formation and the culture of drinking coexist (Rabow & Duncan-Schill; Treise et al.; Workman; Alverson). As a result, alcohol use has escalated over the years into the number one health hazard on college campuses (Misch, 2010).

The significant rate of effort put into attempts to solve this issue by various societal agents (e.g. law enforcement, institutions of higher learning, parenting organizations, etc.) indicates the importance of changing the culture of drinking. The

American Psychiatric Association recognizes alcohol abuse on college campuses as a public health problem that requires deliberate counseling intervention (NIAAA, 2002).

Chickering's Student Development Model (Identity Formation)

The Chickering framework was the first to concentrate exclusively on development during the college years (Chickering, 1969). Its primary aim was “to be of use to those concerned with higher education, its present forms and future potentials...” (Chickering, p. 5). In 1993, he revised and updated the theory along with Linda Reisser, who was then a Dean of Student Services at Rockland Community College. The 1993 edition includes the following vectors: (1) developing competence; (2) managing emotions; (3) moving through autonomy toward interdependence; (4) developing mature interpersonal relationships; (5) establishing identity; (6) developing purpose; and (7) developing integrity (Chickering & Reisser, 1993). The purpose of the seven vectors was to illustrate how a student's development in the college setting can affect him or her emotionally, socially, physically, and intellectually in a college environment, particularly in the formation of identity (Chickering et al., 1969). A primary aspect of Chickering's theory emphasizes that universities encourage the development of human potential. Further, his theory has increased the importance of theoretical and practical understanding of student development and student success (Chickering & Reisser).

The development of identity, vector five, encompasses the development made in the previous four vectors and includes the following: “(1) comfort with body and appearance, (2) comfort with gender and sexual orientation, (3) sense of self in a social, historical, and cultural context, (4) clarification of self-concept through roles and life-

style, (5) sense of self in response to feedback from valued others, (6) self-acceptance and self-esteem, and (7) personal stability and integration” (Chickering & Reisser, p. 49). Knowledge of the aspects of Chickering’s College Student Development enhances the effectiveness of educators in meeting the needs of the students.

In a study done by Thieke (1994) designed to validate Chickering’s theory of student development, entitled *Developmental Change in Freshman Students: Validating Chickering’s Theory of Student Development*, he examines the factors that Chickering felt were important to the development of the typical college student. The author points out that Chickering wanted to “make information accessible to college and university faculty members so that they would have ways of thinking about how their educational programs could be organized to encourage such development in more systematic and powerful ways,” (Thomas & Chickering, 1984, p. 393). He points out that Chickering’s Model is unique because it focuses entirely on development during the college years, unlike those models that focus on lifelong development. Chickering is quoted as saying:

...that not all students change along all seven vectors, nor that the environmental conditions operate with equal force for all students at all institutions, but that such changes do occur for some students and they can occur more frequently for others. Environmental conditions at some institutions do foster or inhibit such changes, and systematic modification can increase the frequency of valued development. (Chickering, 1969, p. 5).

Thieke explains that the purpose of his study is two-fold: (1) to directly test those environmental factors that Chickering pointed out were of importance in influencing

student development, and (2) to identify those factors that prove to have effective influence on student development.

The conclusions found in Thieke's study indicate, that several variables that were examined had significant effect on student development. For example, faculty interactions with students are one of the predominant influences on developmental changes among students. Interestingly, although students progressed in development, those who had frequent interaction with faculty in their freshman year scored low on academic autonomy than those who did not interact with faculty. This was possibly the transition from dependence on authority figures from high school to the same in college and the need for more help than their peers who do not seek interaction with faculty. The author offered several reasons for this unexpected result. First, those students who already have highly developed autonomy and confidence may not feel the need to be in touch with faculty outside the classroom. The second reason cited was that the possible overstimulation by faculty in the residence halls was seen as enough contact with faculty by students. Finally, it was also possible that because the study only covered one year the threshold level of contact with faculty to enhance development had not been reached.

This outcome might change if the study was over a four-year period (Thieke, 1994).

However, the study found that participation in extracurricular activities does influence developmental gains. Finally, peer social experiences had significant effects on the development of students. This seems to support the importance of peer influence on student development such as Identity Formation, which is the number one task of college students (Chickering et al., 1969). Embedded in Chickering's Identity Formation are such

tasks as: (1) comfort with body and appearance; (2) comfort with gender and sexual orientation; (3) sense of self in a social, historical, and cultural context; (4) clarification of self-concept through roles and life-style; (5) sense of self in response to feedback from valued others; (6) self-acceptance and self-esteem; and (7) personal stability and integration (Chickering et al., 1969).

Further, the findings indicate that statistically significant developmental changes occurred during the freshman year. This is consistent with Chickering's original predictions that development should proceed in a positive direction throughout the academic years. This study also examined Chickering's hypothesis on those aspects that influenced developmental progress. The outcome of the study confirmed Chickering's hypotheses on developmental influences, proving Chickering's ideas about the process of development as well as the causes of development. Looking at Chickering's Identity Formation vector and those tasks that need to be achieved this study, validates the influences on those tasks coinciding with the low and high developmental levels indicated by Chickering. These developmental levels are identified as peer influence, association with organizations on campus, sense of self as dependent or autonomous, and relationship with others.

A study done by Hensley (1997), had as its purpose to examine the relationship between college student development and college student alcohol consumption patterns. Hensley used the domains of psychosocial and cognitive developmental theory as frameworks for looking at this relationship. She states, "developmental theorists suggest there are certain distinctions between change and development. Change refers to any

condition that is altered from a previous condition. However, development implies a process of growth that enables an individual to become increasingly complex” (Hensley, p. 17). Within the concept of development is the premise that growth towards increasingly complex levels of development is to be valued and should be an aim of education (Pascarella & Terenzini, 1991; Brendel, Kolbert, & Foster, 2002).

Hensley delineates the six major areas Chickering and Reisser (1993) identified, in which college influences students in their development along the vectors. These include: (1) clarity of institutional objectives and internal consistency of policies, practices and activities; (2) institutional size; impact decreases if size restricts opportunities for student involvement; (3) curriculum, teaching, and evaluation, impacts the students through participation in learning, curricular flexibility and learning oriented evaluation; (4) residence hall arrangements; living arrangements can impact development in competence, purpose, integrity and freeing of interpersonal relationships by the diversity of backgrounds and attitudes among the residents. Opportunities for exchanges of ideas, and the sense of residence arrangement as a community also enhance development; (5) faculty and administration, frequent and quality interaction between students and faculty fosters growth; and (6) friends, groups, and student culture; either positively or negatively, can impact other influences on development. (Hensley, 1997; Chickering & Reisser, 1993).

In Hensley’s study on identity, intellectual, and moral development and alcohol use in college students she made the following observation:

Since students who are at higher levels of moral, identity, and intellectual development can feel a greater sense of internal control in determining the direction of their lives, they will question existing campus norms, reflect upon them, and consider alternative forms of social behavior. They can thereby make decisions based upon a personally derived belief and value system. This ability to make responsible decisions based upon a wide array of alternatives will also translate to students' decisions regarding alcohol consumption.

(Hensley, 1997, p. 5).

Students progress from low self-concept to a sense of self in social, historical and cultural context, as well as self-acceptance and higher self-esteem (Chickering & Ressler, 1993).

The author concluded the likelihood that “students who choose not to engage in binge drinking will be more likely to have made the transition to higher levels of development in the domains of moral, intellectual, and identity development” (Hensley, 1997, p. viii). This hypothesis supports the contention that there may be a developmental influence on the intentional choices made by college students regarding alcohol use, as well as the intentional choice to change the drinking behavior. Hensley focused her research on the patterns of drinking, emphasizing the impact this might have on the development of effective prevention programs. Her research supports the current study by stating that the drinking patterns are related to identity development. As Hensley focused on effective prevention of student drinking, this research is the logical next step in

examining the relationship between students' developmental level and their Readiness for Change in order to effectively help those students already involved in drinking in an attempt to increase the effectiveness of counseling techniques.

Stages of Change (SOC)

The Transtheoretical Model may help to explain differences in persons' success during counseling for a range of psychological and physical health problems. This heuristic model proposes that people can be located along a continuum of stages regarding readiness or motivation for intentional behavior change. In other words, people are said to move from *precontemplation* (not considering change at all), to *contemplation* (weighing pros and cons), to *preparation* (getting ready to make the change), to *action* (making the change), and finally to *maintenance* (consolidating positive change) (DiClemente, Prochaska, & Norcross, 1992; Prochaska, DiClemente, & Norcross, 2002). According to the Stages of Change (SOC) framework, ideal motivation and change are best achieved by using techniques and strategies that match with the clients' particular stage (Prochaska & DiClemente, 1983; Crouch, DiClemente, & Pitts, 2015). SOC-based interventions focus on the journey from using to quitting and beyond, which has proven to be more effective than traditional approaches as they target pre-contemplators and contemplators (Aveyard, Massey, Parson, Manaseki, & Griffin, 2009). In a study on smoking cessation done by DiClemente et al. (1991), success was based on the movement between stages; for example, moving from precontemplation to contemplation would be counted as a success. This is used as a measure of success as opposed to the dichotomous approach of being either a smoker or a nonsmoker. Cessation was viewed as

a process. The study's results supported the SOC model. The client would use 10 processes to achieve change. Five were cognitive processes as follows: consciousness raising; dramatic relief; environmental reevaluation; social liberation; and self-evaluation. The other five are behavioral in nature such as stimulus control; helping relationships; counterconditioning; contingency management; and self-liberation. The cognitive/experiential processes would be used by preference in the earlier, more motivation-oriented, stages of change; the behavioral processes would be applied by preference in the last, more action-oriented, stages of change. Table 3, below, depicts the ten processes to achieve change, along with their definitions and interventions. This table is adapted from Prochaska, Norcross, and DiClemente's book entitled, *Changing for good: A revolutionary six-stage program for overcoming bad habits and moving your life positively forward* (2002).

Table 2.1

Titles, Definitions, and Representative Interventions of the Processes of Change

Process Title	Definition: Interventions
Consciousness raising	Increasing information about self and problem: observations, confrontations, interpretations, bibliotherapy
Self-reevaluation	Assessing how one feels and thinks about oneself with respect to a problem: value clarification, imagery, corrective emotional experience
Self-liberation	Choosing and commitment to act or belief in ability to change: decision-making therapy, New Year's resolutions, logotherapy techniques, commitment enhancing techniques

Counterconditioning	Substituting alternatives for problem behaviors: relaxation, desensitization, assertion, positive self-statements
Stimulus control	Avoiding or countering stimuli that elicit problem behaviors: restructuring one's environment {e.g., removing alcohol or fattening foods), avoiding high risk cues, fading techniques
Reinforcement management	Rewarding one's self or being rewarded by others for making changes: contingency contracts, overt and covert reinforcement, self-reward
Helping relationships	Being open and trusting about problems with someone who cares: therapeutic alliance, social support, self-help groups
Dramatic relief	Experiencing and expressing feelings about one's problems and solutions: psychodrama, grieving losses, role playing
Environmental reevaluation	Assessing how one's problem affects physical environment: empathy training, documentaries
Social liberation	Increasing alternatives for non-problem behaviors available in society: advocating for rights of repressed, empowering, policy interventions

Adapted from Prochaska, Norcross, and DiClemente (2002).

The results confirmed that the stage differences among participants are found in self-efficacy levels. The self-efficacy levels are the determining factors used as predictors of the stages of change the student occupies (Prochaska et al., 2002). Self-efficacy is also

the connection to autonomy and self-confidence noted in Chickering's identity formation level (Chickering et al., 1969; Crouch et al., 2015). The study reflected in the book by Prochaska et al., *Changing for Good* (Prochaska et al., 2002) also indicates that the decisional balance, that is, examining the pros and cons for smoking cessation, also supported the stages of the change classification schema. One limitation of this study and a reason for caution is that the participants used self-reporting as a way to assess their progress. Furthermore, participants were planning to be recruited from all developmental stages for this study. However, the results might not be comparable to other studies or generalizable, because they recruited specific participation study subjects. The authors of this study intended to attract subjects who were not originally planning to quit in an attempt to get participants from all stages of change. This requirement may have resulted in recruitment of pre-contemplators, who may have been more amenable to hearing nonsmoking messages.

In the article, *Self-efficacy and the Addictive Behaviors*, DiClemente (1986) supports the current research by showing that there may be a relationship between Readiness for Change and the formation of identity, as it pertains to smoking cessation. Stage classifications for smoking cessation are consistently related to self-efficacy (DiClemente). As seen in Table 2.1, many of the definitions for the processes are similar to the subgroups of Chickering's Identity Formation. An example of this is under Consciousness Raising, defined as "any increased knowledge about yourself or the nature of your problem regardless of source" (Prochaska et al., 2002, p. 27). This is similar to the fifth vector, Establishing Identity, of Chickering's model, which focuses on the individual's sense of self. Additionally, Table 2.1 defines Self-Liberation as "any new

alternatives that the external environment can give you to begin or continue your change efforts” (Prochaska et al., p. 28), a similarity to the subgroup of Identity Formation that focuses on clarification of self through roles and lifestyles and personal stability, indicating a confidence in one’s self. Finally, Helping Relationships, defined as “enlisting the help of someone who cares,” (Prochaska et al., p. 33) shows a similarity to the subgroup in Chickering’s fifth vector that depicts a sense of self in response to feedback from valued others. These studies, focusing on self-efficacy and autonomy, are important to students’ development in identity and their ability to make behavioral changes (Prochaska, et al.; Chickering, et al., 1969).

Crouch, DiClemente, and Pitts (2015), also focused on self-efficacy and behavioral change referred to as Alcohol Abstinence Self-efficacy (AASE), defined as levels of perceived confidence in remaining abstinent in high risk situations with behavioral process of change and post treatment drinking outcomes (Crouch, DiClemente, & Pitts, 2015). The study showed significant relationship such that “self-efficacy most robustly predicted outcomes when high” (p. 706). AASE was recognized as significant in predicting abstinence following treatment (Ilgen, McKellar, & Tiet, 2005; Moos & Moos, 2006; Vielva & Iraurgi, 2001; Lawson, Lambert, & Gressard, 2011). In a meta-analysis, AASE was also seen as a consistent predictor of treatment outcomes (Adamson, Sellman, & Frampton, 2009). Abstinence self-efficacy and behavioral processes of change are the focus of Crouch et al.’s study. “Within recovery, the duration of abstinence is positively correlated with enhanced coping skills, stable housing, social and spiritual support, and self-efficacy associated with preventing relapse” (Lawson, et al., p. 72).

It was determined that successful coping had a positive relationship to self-efficacy and that the lack of coping skills can decrease self-efficacy (Marlatt & Gordon, 1985; Crouch et al., 2015). Additionally, two studies also found a relationship between self-efficacy and coping when predicting drinking outcomes (Demmel & Rist, 2005; Levin, Ilgen, & Moos, 2007; Crouch et al., 2015). Both studies (Demmel et al., 2005; Levin et al., 2007) found that the presence of low self-efficacy with avoidant/repressive coping style was specifically detrimental to drinking outcomes, but that even with avoidant/repressive coping style when accompanied by high self-efficacy, the drinking outcomes were achieved. Crouch et al. focused their study not on coping styles and its affect on self-efficacy and outcomes but rather on an evaluation of the interaction between self-efficacy and utilization of specific behavioral processes of change. The results of this study (Crouch et al., 2015) proved the hypothesis that end-of-treatment behavioral processes of change would influence the effect of end-of-treatment self-efficacy on drinking outcomes. The hypothesis was supported when end-of-treatment abstinence was not controlled for the interaction between self-efficacy, and behavioral processes for change were significant.

Ryan et al. (2011) also conducted a study on self-efficacy as it applies to motivation. A meta-analysis was cited (Rosen, 2000), in which the results regarding the sequencing of change processes by stage for smoking cessation or substance abuse were consistent with the model's intended outcomes. Furthermore, the authors defined motivation as a self-determination paradigm, whereby autonomy plays a significant role in motivation. The more self-determined the client is, the more motivated the client is (Deci & Ryan, 1985, 2000; Ryan & Deci, 2000, 2008). Empirical evidence suggests that

as the participants report being in the later stages of change versus in the earlier stages of change, they also report more autonomy or self-determination for change (Prochaska et al., 2002). Developmentally, those who are more autonomous will move toward intended change. This change proves to be more permanent for the participant than those whose motivation for change are externally driven; for example, those mandated to a program are externally motivated. This is explained in the following:

...to the extent that the intention to pursue change is undergirded by controlling motives, they are less likely to get translated into effective change, especially over time. If, on the other hand, clients' intentions to pursue change are self-endorsed or more autonomous, intentions might be better related to subsequent pursuit of change, especially when patients also formulate implementation intentions. (Ryan et al., 2011, p. 219)

The authors also define motivation using a self-determination theory taxonomy that displays motivation along a continuum. The authors also consider the motivational implications of nonspecific factors such as therapeutic alliance, developmental level, and support. The authors further apply the taxonomy in discussing how various counseling approaches address client motivation and autonomy, both in theory, and in practice. This taxonomy is portrayed in Table 4.

The clients' motivation and choice are important theoretical and applied issues in counseling, for several reasons. First, many clients feel ambivalent and fearful when beginning treatment; in fact, some clients may even experience a feeling of hopelessness (Sheeren, Aubrey, & Kellett, 2007). These feelings tend to sap motivation, and the client

may react by attempting to sabotage the treatment efforts of the counselor. A second reason is that if the client is not motivated to participate, nothing will effect change. Regardless the brilliance of the intervention, if the client is not motivated to participate, nothing will effect change, and the client will likely terminate counseling before its completion (Ogrodniczuk, Joyce, & Piper, 2005; Rappaport, 1997). A third reason focuses on energy. Motivation translates into energy, and without it, the client may want counseling but does not have the energy to make the changes. As Nix, Bierman, and McMahon (2009) concluded in their research on parent training groups, “From a clinical perspective . . . findings suggest that it is not enough to get parents to attend sessions; it is also necessary to facilitate their active engagement in the therapeutic process” (p. 429). Finally, a fourth reason for concentrating on client motivation is the requirement by the third-party payers for brief therapy (Milner & O’Byrne, 2002). Counselors must find a way to help clients in short periods of time.

Table 2.2

Taxonomy of Motivational Styles Relevant to Counseling and Behavior Change

Motivational Styles	Phenomenal Sources	Locus of Causality
Intrinsic motivation	Interest and enjoyment in acting, discovery, growth	Highly internal
Integrated regulation	Valuing of the activity and fit with other personal values and goals	Highly internal
Identified regulation	Conscious value for the activity	Internal

Introjected regulation	Motivated by self or other approval, avoidance of disapproval or guilt	Somewhat external
External regulation	Motivated by external reward and punishment contingencies	Highly external
Amotivation I: low value	Little or no perceived value or incentive for action	Varied, can be external or internal
Amotivation II: low efficacy	Little or no perceived competence for change	Impersonal

Adapted from Ryan et al., 2011.

The study conducted by Ryan et al. (2011) indicates that the developmental level of the client is a factor that affects the success or failure of a client's movement through the stages of change. In addition, evidence has shown that the success or failure of a treatment program for clients who desire to change behavior in addictions, is based on being able to determine in which developmental stage the client is functioning. A mismatch of stages can be detrimental to the progress of the client (DiClemente et al., 1992; Prochaska et al., 2002). For example, if a client is in an earlier developmental stage of change, the contemplation stage where, according to Ryan et al., this is a cognitive/motivational stage, and the therapist is preparing a program geared to the action stage, which is a behavioral stage, then the client will fail to progress or will drop out of therapy. Establishing which stage of change the client is in, and what other factors – such as developmental levels – may motivate change, is primary in choosing effective treatment. Although there has been some criticism about the accuracy in predicting which

stage a client is in and how they move from one stage to the next, from the perspective of motivation, this might be due to the fact that within the Stages of Change there is not enough attention being paid to the qualitatively different reasons each client may have for pursuing change along with other factors, such as the level of development of the client (Ryan et al., 2011).

Initial motivation is important in persuading the client to come into counseling. However, autonomy and motivation from within is essential to sustain ongoing counseling (Overholser, 2005; Ryan & Deci, 2008). Some counseling theories view a lack of motivation as a sign the client is not ready for counseling, while other schools of counseling embrace the lack of motivation as part of the therapeutic relationship and the starting point for therapy (Cleary, 2015; Antony & Roemer, 2003; Bandura, 1996). The Ryan et al. (2011) article states that in dozens of studies examining the key tenets of the Stages of Change Model (a part of the broader Transtheoretical Model), this model's tenets have been used as a guide or framework to understanding the changes related to the cessation of high risk behavior and the adoption and maintenance of healthy behaviors. In addition to motivation, the conception of self-efficacy or the belief that one is capable of achieving the desired change, is a part of the Transtheoretical perspective (Bandura, 1996; Norcross, 2002; Wampold, 2001; Zuroff et al., 2007). Ryan et al.'s (2011) study identified this as a function of the stage the client is in, and found that with respect to smoking cessation, those in the latter stages of change reflected greater self-efficacy. In addition, Ryan et al. argued that there are two types of motivation: one, intrinsic, which is more desirable and two, extrinsic, which is not desirable for long term progress.

Finally, Ryan et al. also identify the difficulty in determining the shift from one stage to another, especially between the preparation and the action phases. In other words, the transition from intention to change to actually changing the behavior is not well predictable by this model. This may be due to the lack of attention paid to the autonomy of the client or his qualitatively different reasons for wanting change. That is, the more the intention to pursue change is controlled by outside forces (mandated programs) the less likely the intention to change will translate into actual change; especially over time. This implies that the more developed the client is regarding self-efficacy, the more the intended change may occur. The Ryan et al. (2011) study supports the current research, in that it examines the level of motivation for change with self-efficacy. The more the client is autonomous in self indicating a higher level of identity formation, the more likely the client will be motivated for lasting change.

There are several research projects that focus on the stages of change and the levels of self-efficacy and self-esteem when investigating other disorders and other populations. Berry, Naylor, and Warf-Higgins (2005), conducted a study on SOC and exercising in adolescents. The research looked at self-efficacy, decisional balance, and reason for relapse, in adolescent exercise behavior. The outcome of this research showed that self-efficacy or how the participant perceived his ability to succeed based on how he felt about himself, was the strongest predictor of the stage of change the participant occupied. Self-efficacy was measured by using the self-efficacy questionnaire from work by Marcus, Selby, Niaura and Ross and was rated on a 7-point Likert scale, ranging from not at all confident (1) to very confident (7). The researchers found that participants in the contemplation stage demonstrated lower self-efficacy than those in the preparation or

action stages. Self-efficacy was shown to be of utmost importance to the movement through the stages of change as well as the prevention of relapse (Berry et al., 2005).

In another study on the development and validation of green eating behavior Stages of Change, decisional balance and self-efficacy scales in college, Weller et al. (2014) sought to develop an instrument that would assess environmentally conscious eating behavior, using the constructs of self-efficacy and stages of change. In this research, again, the researchers linked self-efficacy, meaning sense of self and belief in oneself, with the stage of change in which the participant was determined to be in. The research goal was to develop an instrument to measure these constructs and explained it in this way:

Objective: To develop and validate an instrument to assess environmentally conscious eating (Green Eating [GE]) behavior (BEH) and GE Transtheoretical Model constructs including Stage of Change (SOC), Decisional Balance (DB), and Self-efficacy (SE). (Weller et al., 2014, p. 324)

The results of this instrument development was as follows:

Conclusions and Implications: Successful development and preliminary validation of this 25-item GE instrument provides a basis for assessment as well as development of tailored interventions for college students (Weller et al., 2014, p. 324).

This pairing of self-efficacy and the SOC allowed Weller et al. (2014) to tailor interventions to each individual. As mentioned previously, this ability to tailor the

interventions is of great importance to the effectiveness of the intervention. Mismatching the technique and the developmental level was contraindicated, putting developmental level at a high priority in counseling college students (Prochaska et al., 2002).

An examination of the studies cited thus far, portrays the use of stages of change along with the participants' sense of self-esteem and autonomy. None of the studies used Chickering's developmental levels to estimate the level of self-esteem or autonomy, including the research on green eating. Despite the fact that the participants were college students, none of the studies utilized Chickering's model that is specifically designed to determine the developmental levels of college students. Chickering's framework was the first to concentrate exclusively on development during the college years (Chickering, 1969). Self-esteem and autonomy were measured using questionnaires employing Likert scales such as the self-efficacy questionnaire in Berry et al.'s (2005) research on adolescent exercise behavior and the Likert scale developed to measure green eating among college students in the Weller et al. (2014) study. The seven vectors used to measure development included identity, that Chickering determined was the central vector, of which all the others were a part (Chickering et al., 1969).

The identity vector measures the level of autonomy and self-esteem each student possesses (Chickering et al., 1969). Yet, despite the fact that there exist constructs specifically developed for college students, pairing Prochaska and DiClemente's Stages of Change Model with Chickering's Identity Formation with college students' alcohol use has yet to be examined. Though research has been done with other populations and with other issues, allowing counselors to inform their choice of techniques to use with the

clients, none have paired Chickering's model with Prochaska and DiClemente's Stages of Change Model.

Conclusion

DiClemente et al. (1991), support the current research, insofar as indicating that there is a relationship between Readiness for Change and the formation of identity. Stage classifications for smoking cessation are consistently related to self-efficacy (DiClemente, 1986). "Studies indicate that self-efficacy (SE) is a valuable construct for exploring successful change in addictive behaviors, especially for predicting relapse and maintenance. SE evaluations not only predict successful abstinence, but they are also related to coping activities during maintenance" (DiClemente et al., p. 295).

The processes of change include (1) consciousness raising, 2) dramatic relief, (3) environmental reevaluation, (4) social liberation, and (5) self-evaluation. These appear to correspond to the processes or subgroups in identity formation from Chickering's model that reflect an overall comfort with self, clarification of self concept through roles and lifestyles, a sense of self—derived from feedback from valued others, acceptance of self and self esteem, and personal stability and integration. The aforementioned studies indicate that another variable to the success or failure of the Stages of Change model could be tied to the student's developmental identity formation (DiClemente et al., 1992; Chickering et al., 1969; Ribeiro et al., 2009; Crouch et al., 2015).

There has been much research conducted on both Chickering's Developmental model and Prochaska and DiClemente's Transtheoretical Stages

of Change model. However, a review of the literature has revealed that there have been few studies that have examined the relationship between the level of identity formation and the most effective counseling approaches to use in the various stages of change. Furthermore, no study has been done that compares Chickering's Identity Formation developmental level of college students with Stages of Change developed by Prochaska and DiClemente regarding intentional change. Examining this relationship of Identity Formation and Stages of Change with student alcohol use would fill the literature gap, and the research may help us begin the process of developing a more effective model for working with this population of college students who are prone to excessive or abusive alcohol drinking.

A relationship between Identity Formation and Stages of Change with college student alcohol use could increase the effectiveness of the counseling done with college students' drinking problems and, subsequently, help alleviate the secondary problems student drinking causes for colleges. This would be done by determining if the student is developmentally low or high in identity formation and this would advise what stage of change corresponds to this level and what technique of counseling would work more effectively. For example, in a study with smokers done by DiClemente et al. (1991), it was found that those in the later stages of change had a high rate of self-worth indicative of higher level of identity formation. This resulted in specific participants' ability to see the value of quitting, more so than those participants who were determined to be in the earlier stages of change. A student in a lower stage of change, for instance contemplation, is only thinking about the issue as a possible problem. This student would have an

identity formation level that lacks clarity about who he is and how others see him. In turn, it would be more difficult for this student to see the value in not drinking. At this point, the student still sees drinking as a way to connect. A technique, focusing on the pros and cons of the problem behavior could be more effective for this student, whose identity formation level of self lacks clarity. If, however, the counselor uses a technique best reserved for a later stage, like the action stage, the student might feel pressured to change before he was ready, and he would prematurely end counseling. This supports Prochaska's statement that mismatching technique to stage of change is contraindicated (Prochaska et al., 1994). Furthermore, DiClemente et al. (1991) stated this from a study of smoking cessation:

At the level of the individual, cessation interventions may be able to increase success rates by being sensitive to stage and by shifting strategies depending on stage of change. For early stage smokers, repeated contacts seem essential. Feedback that focuses on stage-specific goals and strategies holds great promise. However, maintaining contact with individuals as they move through the cycle of change over time can be the greatest challenge. Paying attention to the stages of change dimension should help increase the effectiveness and efficiency of our interventions (p. 303).

Chapter Three

Research Methodology

Introduction

This study examines the relationship between college students' developmental level of identity formation and their choice to make intentional changes in behavior. Specifically, it examines whether there is a relationship between the level of identity development of college students according to Chickering's model, measured by the Erwin Identity Scale, and the level of Readiness for Change concerning alcohol use following the Stages of Change Model by Prochaska and DiClemente.

This chapter describes the research design and methodology, including sampling and data gathering procedures, instrumentation, specific research hypotheses, and data analyses.

Population and Sample

The data consists of archived information gathered by the New Leaf Clinic from 2010 to 2014. The New Leaf Clinic is a counseling center at the College of William and Mary in Williamsburg, VA, that provides confidential counseling for students who are either self-referred or are referred for substance abuse by The College of William and Mary Dean of Students Office. The study was conducted according to the guidelines of counseling services provided to the clients. The students were primarily mandated to attend counseling because of their reported high-risk behavior regarding their illegal drinking or other drug use. The opportunity for research was one of the benefits of

evaluating the effectiveness of the counseling service, via the collection of data on changes in attitudes and drinking patterns, as well as changes in stages of change. These data were collected and analysis completed using quantitative research designs. It was expected that the data collection could support potential grant applications and could add to the current literature on counseling students with high risk drinking patterns.

The target population for this study was comprised of all students referred for counseling by the university's Dean of Students Office, as well as those who were self-referred. The sample was drawn from the accessible population of students referred for services to the New Leaf Clinic at The College of William & Mary in Williamsburg, Virginia. A convenience sample was employed, with the Recognition that the results of this study will not be generalizable to all college students. The sample will, however, be carefully described and inferences will be made as to the type of population to which this sample might be generalizable.

Data Collection

Method

The process of collecting data at the New Leaf Clinic began when each student participating in the study was randomly assigned to one of the New Leaf Clinic student counseling interns. The Erwin Identity Scale (EIS) and the Stages of Change Readiness and Treatment Eagerness Scale for Alcohol use (SOCRATES-A) were then administered to each participating student. In addition, all participating students were also asked to complete a demographic questionnaire, an informed consent for research, and a consent

for recording. All sessions were recorded to ensure consistent administration of instruments and counseling services. Participating students were given the EIS and the SOCRATES at the first session and were retested with the SOCRATES at the final session. The Erwin Identity Scale (EIS) was administered only during the first session.

All counseling interns had taken the required pre-requisite courses to qualify them to use Motivational Interviewing for substance abuse as the counseling technique. Motivational Interviewing (MI) based interventions have been identified by the National Institute on Alcohol Abuse and Alcoholism (NIAAA) as having demonstrated effectiveness for reducing alcohol consumption in college settings (Branscum & Sharma, 2011).

All participating students were informed of the purpose of the study. Participating students retained the right to refuse taking any instrument. Participating students who missed assessment sessions were rescheduled in order to complete the assessments; for example, those who may have missed the last session when the SOCRATES was re-administered would be rescheduled to come in for this final assessment. Participating students who discontinued services prior to the last session were asked to schedule a follow-up interview during which they were post-tested with the SOCRATES-A instrument. Participating students who failed to schedule a follow-up interview and complete post-testing were considered non-respondents or non-participating students in the collection of data related to all hypotheses. All responses and data were maintained in a confidential manner. The assessments were stored in a locked file with the student's consent forms. These locked files were stored in a locked file room. Any further handling

of this information for compiling data was done so using code in place of the student's name.

Instrumentation

Three instruments were used to collect data for this study. Specifically, these instruments included: 1) Informed Consent Form, 2) Stages of Change Readiness and Treatment Eagerness Scale, and 3) Erwin Identity Scale.

Informed Consent Form

The informed consent form outlined the study's purpose, described what would be expected of each participant, and described how the results of the study would be used. All participants were informed of their right to refuse participation. Participating students were also informed of their right to withdraw at any time from the study without penalty. Data gathered from students who did not wish to continue their participation were removed from the data set. The informed consent form assured the participating students of confidentiality and informed them that the sessions were being recorded to monitor the therapists' adherence to specific treatment protocols.

The Stages of Change Readiness and Treatment Eagerness Scale for Alcohol (SOCRATES-A)

“The Stages of Change Readiness and Treatment Eagerness Scale (SOCRATES) is an instrument designed to assess motivation for change in problem drinkers,” (Miller et al., 1996, p. 81). Miller developed a 32-item version in 1987, using a five-point Likert scale ranging from five (strongly agree) to one (strongly disagree). The current 19-item

version of the SOCRATES was developed in 1991, and was used as a self-administered paper-and-pencil questionnaire in Project MATCH (Miller & Tonigan, 1996).

Miller et al. (1996), found that the 19-item version of the SOCRATES loaded on three factors they called Ambivalence (about drinking), Recognition (of a drinking problem), and Taking Steps (to change drinking behavior). Although Stages of Change produce five stages (precontemplation, contemplation, preparation, action, and maintenance) as explained in more detail in Chapter One, the factor structure produces only three. This instrument measures the stage constructs as created by Prochaska and DiClemente (1982, 1986); using a breakdown of the stages (Miller et al., 1996), in which the scales of SOCRATES are better understood as “continuously distributed motivational processes that may underlie stages of change” (p. 81). Precontemplation is explained as a state of unawareness of the existence of a problem and a fluctuation between having no problem and the possibility that a problem exists. This moves into the stage of Contemplation, depicted as an increase of awareness of the existence of a problem, thus increasing Ambivalence, in which the pros and cons are weighed (Miller & Rollnick, 2002). When it is determined that the cons outweigh the pros and the consequences are horrific enough to want to change, the person moves into the preparation stage leading to the action stage, also known as Taking Steps. As the person is motivated to take steps to alleviate the problem, the next stage – that of maintenance – is reached.

Subsequent studies on the SOCRATES-A, as it applies to adolescent and young adults (Maisto, Chung, Cornelius, & Martin, 2003), found a two-factor model to be a better fit measured by Principle Component Analysis (PCA). According to the items

loading on the respective factors, Taking Steps refers to currently engaging in action to change or to maintain the changes already made. Recognition is viewed as the awareness of an alcohol problem. The correlation between the two factors derived from the PCA was moderate and positive ($r = 0.54$, $N = 119$, $p = 0.01$). The third factor, Ambivalence, was not evident in this particular study using PCA, but was included in the validity and reliability studies of this analysis. “This study provides empirical validation for the use of the SOCRATES as a measure of readiness to change in adolescents admitted to outpatient alcohol treatment” (Maisto et al., p. 106).

Explanation of high scores and low scores on the constructs/factors:

See Table 3.1

RECOGNITION (Re)

HIGH scorers recognize that alcohol is causing problems in their life and express a desire to change their drinking behavior to avoid future harm.

LOW scorers are in denial regarding the effects of alcohol and the problems their alcohol use is causing. Further, they resist any label such as “problem drinker” and “alcoholic and show no signs of wanting to change their current behavior regarding alcohol use.

AMBIVALENCE (Am)

HIGH scorers question the amount of alcohol they are consuming and the damage their drinking may have on themselves and others. They do contemplate the possibility they

are alcoholics. A high score here reflects an openness attributed to the contemplation stage of change.

LOW scorers deny any negative consequences from their drinking and believe their drinking is under control. It is noteworthy to mention that some low scorers may score low on Ambivalence because they know they have a problem with drinking. Thus, a low Ambivalence score should be interpreted in relation to the Recognition score. For example, if a low score is attained because they do not know they have a problem with alcohol, this would be considered low Recognition but if they know they have a problem this would be considered high Recognition.

TAKING STEPS (Ts)

HIGH scorers are those who are already doing something to make a positive change in their drinking behavior. Although they may have had some success in changing their drinking behavior, they may want help to maintain this success. High scores on this scale may indicate successful change.

LOW scorers report that they are not currently doing things to change their drinking, and have not made such changes recently.

Table 3.1

SOCRATES-A Scoring High to Low

DECILE SCORES	Recognition	Ambivalence	Taking Steps
90 (Very High)		19-20	39-40
80		18	37-38
70 (High)	35	17	36

60	34	16	34-35
50 (Medium)	32-33	15	33
40	31	14	31-32
30 (Low)	29-30	12-13	30
20	27-28	9-11	26-29
10 (Very Low)	7-26	4-8	8-25
RAW SCORES (from Scoring Sheet)	Re=	Am=	Ts=

Table from: <http://www.ncbi.nlm.nih.gov/books/NBK64976/#A62297>

Answers were recorded directly on the questionnaire form. Scoring is accomplished by transferring the numbers circled by the respondent for each item to the SOCRATES-A Scoring Form. The sum of each column yields the three scale scores.

Version 8 is a reduced 19-item scale based on factor analyses with prior versions and is highly correlated to the longer 39 item version. The shorter version makes retesting easier to perform as it takes less time to complete and score.

Table 3.2 Test-retest reliabilities for the 19-item SOCRATES

Test-Retest Estimates of Reliability and Internal Item Consistency

SOCRATES Scales	ICC Intra-class correlation coefficient (ICC) Test re-test reliability	Pearson's r	Cronbach α Test	Cronbach α Retest
Ambivalence	0.82	0.83	0.88	0.87
Recognition	0.94	0.99	0.95	0.95

Taking Steps	0.91	0.93	0.95	0.96
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Note. N = 82. ICC = intraclass correlation; SOCRATES = Stages of Change Readiness and Treatment Eagerness Scale (Miller et al., 1996, p. 87).

Test-retest reliabilities for the 19-item SOCRATES are also shown in Table 3.2. The intraclass correlations ranged from 0.82 to 0.94, not substantially smaller than the corresponding Pearson's r values, reflecting excellent test-retest replicability (Miller et al., 1996). In statistics, Cronbach's α is used to estimate the reliability of a psychometric test. The α score indicates the expected correlation of a pretest and posttest that measure the same construct. Cronbach's α is a function of the number of items in a test, the average covariance between item-pairs of the pretest and posttest, and the variance of the total score. As seen in Table 6, the Cronbach's α scores in pretest and posttest are almost identical, indicating that the internal consistency of the SOCRATES is high.

The Erwin Identity Scale (EIS)

The Erwin Identity Scale (EIS) (Erwin, 1982) is an instrument that measures Chickering's vectors of identity. In a study done by Erwin, he defined Chickering's identity vector in the following way:

[A]n assuredness in one's self and in one's capabilities, and an accurate self-perception and acceptance of one's sexual feelings and of one's body and appearance. Three basic sub-scales of the EIS comprise the three hypothesized constructs of identity. These are Confidence, Sexual Identity, and Conceptions About Body and Appearance (p. 164).

The scale uses the three subscales which are composed of the three components of identity. The EIS contains 58 items, and individuals respond to each statement by indicating on a 5-point scale whether the item is “very true of me,” “somewhat true of me,” “not sure or neutral,” “somewhat untrue of me,” or “not at all true of me.”

Confidence Subscale

The Confidence subscale focuses on the belief the individual has in his or her capabilities and self-image. This subscale was not originally identified by Chickering but he implied it, “citing Erickson’s phrases of ‘inner capital,’ ‘the person one feels oneself to be,’ and ‘accrued confidence’ implying that self-assuredness was a necessary component of identity” (Erwin, 1982, p. 164). Erwin recognized confidence as demonstrated by college students in the following ways: “confidence in openly stating personal beliefs, making decisions, and behaving competently, even if action is not yet taken in these areas” (Hensley, p. 89; Erwin, 1978). An example from this subscale as found in the EIS questionnaire is: “My confidence is really shaken when I see so many capable people with abilities as good or better than mine” (Erwin, 1977, p. 2).

Sexual Identity Subscale

The Sexual Identity component measures how the individual feels about, understands, and accepts his or her sexuality. Sexual feelings are perceived as positive and not guilt ridden. The scale has no link to the individual’s level of sexual activity. An example of an item on this subscale is found in the EIS questionnaire, “I realize that most of my feelings and desires are natural and normal,” (Erwin, 1977, p. 3).

Conceptions About Body and Appearance Subscale

The Conceptions about Body and Appearance subscale measures an individual's sense of how they look and acceptance of how they compare to others. A high scorer in this subscale indicates someone with a unique sense of style or comfort in their own skin regardless of how others perceive them. A low scorer would be more inclined to base their sense of self on the dictates of others. An example of an item on this scale is found in the EIS questionnaire, "I often have uneasy thoughts about the way I appear to other people" (Erwin, 1977, p. 2).

Reliability of the EIS has been found to range between 0.75 and 0.85 (Erwin, 1982), which Erwin concludes, "the three subscales are consistently measuring three constructs" (Erwin, 1978, p. 195). The Cronbach coefficient of internal consistency coefficients for the subscales are as follows: the Confidence subscale, 0.75; Sexual Identity subscale, 0.75; and Concerns about Body and Appearance, 0.65 (Erwin, 1982). Cronbach's alpha coefficient indicated the extent to which the items within each subscale measure a common characteristic; in this case, Identity. "These coefficients were determined to be satisfactory for the initial form of the instrument" (Erwin, 1982, p. 25). Another study was done by Erwin to research the possibility that change in identity might occur earlier or later than Chickering predicted. "Reliability estimates, again using Cronbach's alpha, were calculated from a combined sample of high school and graduate students and 78 items were used for the reliability calculations, as previously and no items were eliminated" (Erwin, 1982, p. 28). This research produced the same pattern as

the previous one and, additionally, Confidence and Sexual Identity had higher reliability coefficients (Erwin, 1982).

Research Design

This study used a multivariate correlational design. A regression analysis with three independent variables (IV) and four dependent variables (DV) were used. The Erwin Identity Scale (EIS) areas measures (1. Confidence, 2. Body Appearance, 3. Sexual Identity) were used as the three IVs. The DVs come from the constructs from the Stages of Change instrument (SOCRATES-A) and are A. Ambivalence, B. Recognition, and C. Taking Steps.

The process used is a regression design to determine if there is a relationship between the EIS and the SOCRATES-A. The pretest of the SOCRATES-A subscale was used as a covariate in the first block of the SPSS step-wise process. This was done to control for initial SOCRATES-A values when determining the relationship to ending SOCRATES-A values. Simple difference methods were not used as they result in less reliable measures. Block 2 comprised the EIS subscales. This process was repeated with each of the three subscales of the SOCRATES. If the results proved to be significant, the analysis would continue and the influence of the IVs on the DVs would be determined.

The purpose of this study was to determine if there is a relationship between student identity formation and Readiness for Change in college student alcohol use. It was anticipated that those at higher levels of student identity formation development will

have higher levels of Readiness for Change. Specifically, the purpose of the current study was to answer the following research questions as they apply to the hypotheses.

Research Questions

1. Is there a relationship between identity formation developmental levels and Readiness for Change?
2. Do the subscales from the SOCRATES relate individually to any of the subscales of the EIS?

Data Analysis

Mean scores were obtained for the SOCRATES-A and the EIS. Analyses of covariance (ANCOVA) were used to compare the pre-test and post-test scores from the SOCRATES-A. Correlational analyses in the form of regression were used to examine the relationships between the various assessment measures. A significance level of $p < 0.05$ was used. Dependent variables (DV): Three SOCRATES constructs were as follows: Recognition, Taking Steps, and Ambivalence. These DVs were correlated with each of the independent variables (IV). Independent variables: Three Erwin Identity Scale categories as follows: Confidence Scale, Sexual Identity Scale, and Concerns about Body Appearance Scale. For each of those DVs conducted, a multiple regression with EIS (IV) was done. Generalizability was difficult due to the lack of diversity in the student population as addressed in the findings. Although the demographics form used by the New Leaf Clinic was missing, the overall demographics published for the College of William and Mary for their 2017 registration information indicated the following

breakdown in Ethnic Diversity: white (59%); Hispanic (9.1%); Asian (8%); African American/ Black (7.4%); Ethnicity unknown (6.5%); two or more races (4.4%); and Native American/Alaskan (5.5%). The analysis of statistical significance was then calculated for the hypothesis.

Conclusion

Chapter One introduced the topic of exploration for this study, while Chapter Two provided a review of the literature around student development and Readiness for Change with college students as well as adolescents. A gap in the literature seems to be combining the level of student development of college students and their Readiness for Change with alcohol use. This chapter described the research design and methodology used in this proposed study as well as sampling, data collection and methodology, instrumentation, research design, hypotheses, and data analysis procedures.

Chapter Four

Results

Introduction

This study considers the relationship between college students' developmental level of identity formation and their readiness to make intentional changes in behavior. Specifically, this study examines whether there is a relationship between Chickering's Identity Formation Development in college students and Prochaska's and DiClemente's Readiness for Change concerning alcohol use. The following chapter reviews the information related to the 35 participants who completed the EIS, and the pretest and posttest of the SOCRATES. It reports the results of each relationship between the subscales of the EIS (IV) with each of the subscales of the SOCRATES (DV). Additionally, it examines the significance of the relationships, taking into account the collinearity of the IV and the minimum and maximum scores of each of the DV.

Results

Descriptive Statistics

The records for those participating in services through the New Leaf clinic between 2010 and 2014 were examined for the identified measures. Of the 200 participants during this timeframe, 35 had complete data on the measures of interest. The data were to be collected over a four-year period, however there was a miscommunication, resulting in the subsequent Student Directors neglecting to give the students the EIS. Further, approximately 10 students were only given the SOCRATES D and a further 5 students

had incomplete data on the SOCRATES A (the second page was missing). The data from the remaining 35 participants comprise the sample for the study. This reduction in the number of participants is likely to bias the results because the sample may not represent the population at The College of William and Mary or the general population.

Demographic information indicated 8 participants were female (22.9%) and 27 participants were male (77.1%); N=35. Table 4.1 presents the descriptive statistics for the SOCRATES, at both the pretest and the posttest, and the EIS. The timeframe between the pretest and the posttest was an average of 6 weeks.

Table 4.1

Descriptive Statistics for the SOCRATES-A

		Recog1	Recog2	Ambv1	Ambv2	Steps1	Steps2	Tot1	Tot2
N	Valid	35	35	35	35	35	35	35	35
	Missing	0	0	0	0	0	0	0	0
Mean		13.51	10.49	7.43	5.86	26.80	24.37	47.80	40.71
Median		11.00	9.00	6.00	4.00	29.00	26.00	48.00	41.00
Std. Deviation		6.51	3.97	3.81	2.61	8.83	10.10	16.86	14.014
Variance		42.37	15.79	14.55	6.83	77.93	102.00	284.40	196.39
Skewness		1.28	1.03	1.50	1.00	-.66	-.22	.39	-.03
Std. Error of Skewness		.40	.40	.40	.40	.40	.40	.40	.40
Kurtosis		1.86	-.05	2.47	-.60	-.44	-1.26	.46	-1.21
Std. Error of Kurtosis		.78	.78	.79	.78	.78	.78	.78	.78
Minimum		7.00	7.00	4.00	4.00	8.00	8.00	19.00	19.00

Maximum	35.00	35.00	20.00	20.00	40.00	40.00	95.00	95.00
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Table 4.1 (continued)

		Conf	SexId	Body
N	Valid	35	35	35
	Missing	0	0	0
Mean		93.63	72.00	61.09
Median		95.00	74.00	61.00
Std. Deviation		14.41	10.70	10.41
Variance		207.78	114.41	108.43
Skewness		-.08	-.69	-.004
Std. Error of Skewness		.40	.40	.40
Kurtosis		-.63	.14	-.42
Std. Error of Kurtosis		.78	.78	.78
Minimum		66.00	45.00	39.00
Maximum		123.00	89.00	85.00

The subscales of the SOCRATES read as Recog 1 (Recognition pretest), Recog 2 (Recognition posttest), Ambv1 (Ambivalence pretest), Ambv 2 (Ambivalence posttest), Steps 1 (Taking Steps pretest), Steps 2 (Taking Steps posttest). The totals of both the pretest and the posttest of the SOCRATES are read as Tot 1 and Tot 2.

The pretest and posttest Recognition subscale of the SOCRATES showed means of 13.5 and 10.5, respectively, indicating that, according to the interpretation of scores from the instrument, these means are in the very low range (scores can fall between 7 and 35). On the Ambivalence pretest and posttest, the results show mean scores of 7.4 and 5.9, respectively, indicating that the scores are low. Taking Steps show a pretest mean of 26.8 and posttest mean of 24.4, showing that the mean scores are moderate on this scale. The total scores in the pretest and posttest yielded means of 47.8 and 40.7, respectively. In all

cases, the posttest mean scores were lower than the pretest mean scores. According to the Paired Sample t-test results, Recognition and Ambivalence were significantly lower while Taking Steps was only comparatively lower (see Tables 4.2 and 4.3).

Table 4.2 Paired Samples Test

		Paired Differences				
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference	
					Lower	Upper
Pair 1	Recog1 - Recog2	3.0286	5.3714	.9079	1.1834	4.8737
Pair 2	Ambv1 - Ambv2	1.5714	3.2925	.5565	.4404	2.7024
Pair 3	Steps1 - Steps2	2.4286	7.9753	1.3481	-.3110	5.1682

Table 4.3 Paired Samples t-Test

		t	df	Sig. (2-tailed)
Pair 1	Recog1 - Recog2	3.336	34	.002
Pair 2	Ambv1 - Ambv2	2.824	34	.008
Pair 3	Steps1 - Steps2	1.802	34	.080

The EIS, representing the level of Identity Formation, was given only once at the beginning of the counseling sessions, specifically, at the first session. The subscale results were as follows: Confidence (Conf) had a mean score of 93.6, showing a moderate

score; Sexual Identity (SexId) had a mean score of 72.0, showing a moderate to high score; and finally, Comfort with Body Appearance (Body) had a mean score of 61.1, showing a moderate score. An explanation of the meaning of these scores is seen in Table 4.4: Explanation of low to high scores on the three Subscales of EIS. The moderate scores indicate that the participants had average Confidence, Body Appearance, and Sexual Identity. This could be interpreted as the participants being further along the continuum between low developmental level and high developmental level in Identity Formation.

Table 4.4 Explanation of low to high scores on the three Subscales of EIS

<p><i>Low developmental level:</i></p> <p><i>Body Appearance</i> Discomfort with body and appearance</p> <p><i>Sexual Identity</i> Discomfort with gender and sexual orientation</p> <p><i>Confidence</i> Lack of clarity about heritage and social/cultural roots of identity</p> <p>Confusion about “who I am” and experimentation with roles and lifestyles Lack of clarity about others’ evaluation</p> <p>Dissatisfaction with self Unstable, fragmented personality</p>	<p><i>High developmental level:</i></p> <p><i>Body Appearance</i> Comfort with body and appearance</p> <p><i>Sexual Identity</i> Comfort with gender and sexual orientation</p> <p><i>Confidence</i> Sense of self in a social, historical, and cultural context</p> <p>Clarification of self-concept through roles and lifestyles Sense of self in response to feedback from valued others</p> <p>Self-acceptance and self-esteem Personal stability and integration</p>
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Regression Analysis

Correlation analysis, in the form of multivariate regression, was used to examine the relationships between the various assessment measures. This helped answer the research questions: Is there a relationship between identity formation developmental levels and Readiness for Change and; do the subscales from the SOCRATES relate individually to any of the subscales of the EIS?

Recognition

A multiple regression analysis was conducted with the Recognition subscale of the SOCRATES-A. The pretest of the SOCRATES-A subscale was used as the covariate in the first block of the SPSS step-wise process. This was done to control for initial SOCRATES-A values when determining the relationship to posttest SOCRATES-A values. This Recognition subscale was used as the dependent variable, and the three subscales of the EIS as the predictors. The results indicated a significant model ($F(3, 31) = 3.66, p = 0.02$) with an overall R^2 of 0.26. Table 4.5 presents the summary information for the model and Table 4.6 presents the regression coefficients and collinearity statistics. The data in Table 4.6 show that the EIS subscales of SexId and Body are significant predictors of Recognition but Confidence is not. The table also indicates that the predictors are not collinear, which eliminates this explanation for the non-significant result for Confidence.

Table 4.5

Model Summary for Recognition Multiple Regression

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	0.511 ^a	0.261	0.190	3.5761	2.343

Table 4.6

Model Regression Coefficients and Collinearity Statistics for Recognition

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.	Collinearity Statistics
		B	Std. Error	Beta			Tolerance
1	(Constant)	17.632	4.504		3.915	0.000	
	Conf	-0.072	0.058	-0.261	-1.242	0.224	0.541
	SexId	0.210	0.099	0.566	2.133	0.041	0.338
	Body	-0.255	0.094	-0.668	-2.704	0.011	0.390

Ambivalence

A multiple regression analysis was conducted with the Ambivalence subscale of the SOCRATES as the dependent variable, and the three subscales of the EIS as the predictors. The results indicated a significant model ($F(3, 31) = 4.02, p = 0.02$) with an overall R^2 of 0.28. Table 4.7 presents the summary information for the model and Table 4.8 presents the regression coefficients and collinearity statistics. The data in Table 4.8 show that the EIS subscale of Body is a significant predictor of Ambivalence, but SexId

and Confidence are not. The data also show that the predictors are not collinear, which eliminates this explanation for the non-significant result for Confidence and SexId.

Table 4.7

Model Summary for Ambivalence Multiple Regression

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	0.529 ^a	0.280	0.210	2.3225	2.111

Table 4.8

Model Regression Coefficients and Collinearity Statistics for Ambivalence

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.	Collinearity Statistics
		B	Std. Error	Beta			Tolerance
1	(Constant)	11.246	2.925		3.845	0.001	
	Conf	-0.030	0.038	-0.166	-0.803	0.428	0.541
	SexId	0.118	0.064	0.484	1.848	0.074	0.338
	Body	-0.182	0.061	-0.723	-2.966	0.006	0.390

Taking Steps

A multiple regression analysis was conducted with the Taking Steps subscale of the SOCRATES as the dependent variable, and the three subscales of the EIS as the predictors. The results indicated a non-significant model ($F(3, 31) = 0.55, p = 0.65$) with an overall R^2 of 0.05. Table 4.9 presents the summary information for the model and Table 4.10 presents the regression coefficients and collinearity statistics. The data in

Table 4.10 show that the EIS subscales of SexId, Body and Conf are non-significant predictors of Taking Steps. The table also indicates that the predictors are not collinear, which eliminates this explanation for the non-significant result for Sexual Identity, Body Appearance and Confidence.

Table 4.9

Model Summary for Taking Steps Multiple Regression

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	0.225 ^a	0.051	-0.041	10.3050	2.521

Table 4.10

Model Regression Coefficients and Collinearity Statistics for Taking Steps

Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.	Collinearity Statistics
	B	Std. Error	Beta			Tolerance
1 (Constant)	39.035	12.978		3.008	0.005	
Conf	-0.139	0.167	-0.198	-0.833	0.411	0.541
SexId	0.061	0.284	0.064	0.214	0.832	0.338
Body	-0.099	0.272	-0.102	-0.364	0.719	0.390

Hypothesis Results

Recognition and Confidence scores:

H0: No relationship exists between Confidence scores on the EIS and Recognition scores on the SOCRATES.

H1: A relationship exists between Confidence scores on the EIS and Recognition scores on the SOCRATES.

The data in Table 4.6 show that Confidence is not a significant predictor of Recognition; therefore, the null hypothesis is true.

Recognition and Sexual Identity scores:

H0: No relationship exists between Sexual Identity scores on the EIS and Recognition scores on the SOCRATES.

H1: A relationship exists between Sexual Identity scores on the EIS and Recognition scores on the SOCRATES.

The data in Table 4.6 show that the EIS subscales of Sexual Identity is a significant predictor of Recognition; therefore, the H1 hypothesis is true.

Recognition and conceptions about body and appearance scores:

H0: No relationship exists between Conceptions about Body and Appearance scores on the EIS and Recognition scores on the SOCRATES.

H1: A relationship exists between Conceptions about Body and Appearance scores on the EIS and Recognition scores on the SOCRATES.

The data in Table 4.6 show that the EIS subscale of Body and Appearance is a significant predictor of Recognition and, therefore, the H1 hypothesis is true.

Ambivalence and Confidence scores:

H0: No relationship exists between Confidence scores on the EIS and Ambivalence scores on the SOCRATES.

H1: A relationship exists between Confidence scores on the EIS and Ambivalence scores on the SOCRATES.

The data in Table 4.8 show that the EIS subscale of Confidence is not a significant predictor of Ambivalence; therefore, the null hypothesis is true.

Ambivalence and Sexual Identity scores:

The data in Table 4.8 show that the EIS subscale of Sexual Identity is not a significant predictor of Ambivalence; therefore, the null hypothesis is true.

H0: No relationship exists between Sexual Identity scores on the EIS and Ambivalence scores on the SOCRATES.

H1: A relationship exists between Sexual Identity scores on the EIS and Ambivalence scores on the SOCRATES.

Ambivalence and Conceptions about Body and Appearance scores:

The data in Table 4.8 show that the EIS subscale of Conceptions about Body and Appearance is a significant predictor of Ambivalence; therefore, the H1 hypothesis is true.

H0: No relationship exists between Conceptions about Body and Appearance scores on the EIS and Ambivalence scores on the SOCRATES.

H1: A relationship exists between Conceptions about Body and Appearance scores on the EIS and Ambivalence scores on the SOCRATES.

Taking Steps and Confidence scores:

The data in Table 4.10 show that the EIS subscale of Confidence is non-significant predictors of Taking Steps; therefore, the null hypothesis is true.

H0: No relationship exists between Confidence scores on the EIS and Taking Steps scores on the SOCRATES.

H1: A relationship exists between Confidence scores on the EIS and Taking Steps scores on the SOCRATES.

Taking Steps and Sexual Identity scores:

The data in Table 4.10 show that the EIS subscales of Sexual Identity is non-significant predictors of Taking Steps; therefore, the null hypothesis is true.

H0: No relationship exists between Sexual Identity scores on the EIS and Taking Steps scores on the SOCRATES.

H1: A relationship exists between Sexual Identity scores on the EIS and Taking Steps scores on the SOCRATES.

Taking Steps and Conceptions about Body and Appearance scores:

The data in Table 4.10 show that the EIS subscales of Conceptions about Body and Appearance is a non-significant predictor of Taking Steps; therefore, the null hypothesis is true.

H0: No relationship exists between Conceptions about Body and Appearance scores on the EIS and Taking Steps scores on the SOCRATES.

H1: A relationship exists between Conceptions about Body and Appearance scores on the EIS and Taking Steps scores on the SOCRATES.

Table 4.11 Hypothesis testing result

		Recognition	Ambivalence	Taking Steps
	Confidence	No significant relationship	No significant relationship	No significant relationship
	Sexual Identity	Significant Relationship	No significant relationship	No significant relationship
	Body Appearance	Significant Relationship	Significant Relationship	No significant relationship

Summary of Results

The preceding chapter presented the Descriptive statistics for the EIS subscales and the SOCRATES subscales. These statistics showed the participants were scoring at the moderate to high level of identity formation. The interpretation of this level of identity formation was seen in Table 4.3. The results also showed that the participants were scoring low to moderate on the subscales for the SOCRATES in both pretest scores and posttest scores over a period of six weeks, even though the posttest overall scores were lower than the overall pretest scores. This is interpreted as a possible disequilibrium experienced by the participants, that is explained in further detail in Chapter 5. Also covered in Chapter 5 are the possibilities that the lower scores on the posttest could be a product of the interventions given during the six weeks counseling made them worse, however this is unlikely. The regression analysis was presented, showing that there was a relationship in some cases between the EIS subscales and the SOCRATES subscales. The EIS subscale Comfort with Body Appearance was a significant predictor of Ambivalence. Additionally, the EIS subscales of Sexual Identity and Comfort with Body Appearance both showed to be significant predictors of Recognition. The one EIS subscale that showed no significant relationship to any of the SOCRATES-A subscales was Confidence. The nine hypotheses were reviewed and indications were made as to which null hypotheses were retained and which were rejected.

Chapter Five

Discussion

This chapter will discuss the current study's research results, subsequent implications for the counseling profession, and suggested areas for future direction. Descriptive analyses will be reviewed, looking at the levels of development in identity formation and the Readiness for Change within this participant sample. Thereafter, statistical findings, as they relate to the relationships of the subscales of Readiness for Change and the examined independent variables, will be explained. The results of the relationship between the subscales of the Erwin Identity Scale and the subscales of Readiness for Change will encompass a discussion of the results, potential interpretations, implications, and recommendations for future research. This study considered the relationship between college students' developmental level of identity formation and their readiness to make intentional changes in behavior. Specifically, it examined whether there was a relationship between Chickering's identity formation development in college students and Prochaska and DiClemente's Readiness for Change concerning alcohol use.

Descriptive Data Overview

SOCRATES subscale Recognition

The results of the multiple regression analysis, conducted with the Recognition subscale of the SOCRATES as the dependent variable, and the three subscales of the EIS as the predictors indicated that two of the EIS subscales, Sexual Identity (SexId) and Comfort about Body and Appearance (Body) had a significant relationship to

Recognition. The EIS subscale of Confidence (Conf) showed no significant relationship to Recognition. Further, the pretest and posttest Recognition subscale of the SOCRATES showed means of 13.5 and 10.5 respectively, indicating that according to the interpretation of scores from the instrument, these means are in the very low range (scores can fall between 7 and 35). This indicates that the participant denies that alcohol is causing them serious problems. Even when they are diagnosed with alcohol abuse or alcohol dependence they reject diagnosis, and do not express a desire to change. Further, the analysis showed that the scores on the SOCRATES-A subscale, Recognition, went down between the pretest and the posttest. This result was surprising and not predicted. The participants were in treatment during this time so an interpretation that the treatment made them worse is unlikely. According to cognitive theories on development, lower levels of cognitive complexity accompany concrete behavior, which is less adaptive in problem solving (Brendel et al.). To increase the ability to advance in problem-solving abilities, their realities need to be challenged and the change supported, preventing the unnecessary need for defense of the original behavior. It is possible that although the challenge to participants' realities was accomplished and support was available for the change in behavior, the results of the scores declining, illustrated the time between the challenge and the behavior change when a supportive environment was necessary. This could wrongfully be interpreted as the participants getting worse. A further interpretation of this result could be that the number of participants was very small (n=35). This result may change with a subsequent study with a larger number of participants.

SOCRATES subscale Ambivalence

Ambivalence subscale of the SOCRATES pretest and posttest results show mean scores of 7.4 and 5.9 respectively, for possible scores between 4 and 20, indicating the scores are low. Participants with low scores on Ambivalence say that they do not wonder if they drink too much or have problems being in control of their drinking. It is important to note that a low score on Ambivalence can also mean that the scorer knows there is a problem, therefore they don't wonder, they know. This score needs to be interpreted with scores from the other two subscales. The results of the multiple regression analysis conducted with the Ambivalence subscale of the SOCRATES as the dependent variable and the three subscales of the EIS as the predictors show that the EIS subscale of Body is a significant predictor of Ambivalence but Sexual Identity and Confidence are not. As with Recognition, the scores on Ambivalence declined between the pretest and the posttest. As with Recognition, this was a surprise, and could be a product of the small sample as well as a biased sample which can only be guessed at, as there was no logistical form available. If the diversity mirrored the whole campus, the sample might still be interpreted as biased as far as generalizability to the general population is concerned. Although the demographics form used by the New Leaf Clinic was missing, the overall demographics published for the College of William and Mary for their 2017 registration information indicates the following breakdown in Ethnic Diversity: white (59%); Hispanic (9.1%); Asian (8%); African American/ Black (7.4%); Ethnicity unknown (6.5%); two or more races (4.4%); and Native American/Alaskan (5.5%).

SOCRATES subscale Taking Steps

Taking Steps subscale of the SOCRATES shows a pretest mean of 26.8 and a

posttest mean of 24.4 for possible scores between 8 and 40, showing the mean scores are moderate on this scale. This indicates a possible willingness to make changes in their drinking patterns. Of the three SOCRATES subscales, this was the only one whose scores indicated that there was a willingness to change. This could be interpreted to mean that since these participants were already in a program for alcohol abuse, this was what they interpreted as “Taking Steps.” Many of the participants in the study were mandated to attend counseling at the New Leaf Clinic. If they felt there was no reason for this instruction to attend counseling then the other subscales of SOCRATES would threaten their position of not needing substance abuse counseling, specifically, Recognition of the problem and Ambivalence about the problem. Participants without motivation for change resist any change. They do not recognize the value of change across the following dimensions:

Identify realistic goals, view their symptoms as psychologically based and believe that therapy will provide an opportunity for self-exploration and understanding, positively value therapy and believe in its efficacy, experience significant distress, and are willing to make sacrifices for therapy. (Hemphill & Howell, 2000)

Hemphill et al. (2000), conducted a study on adolescents who were mandated to treatment and found that adolescents who are involved in antisocial behaviors have the following traits: less motivation to change, which is associated with frequent absences from treatment, which in turn results in poor outcomes (Hemphill et al., 2000). The reasons behind this resistance may be associated with the number one task of college students and adolescents, which is identity formation (Chickering et al., 1994), and this population identifies with the antisocial behavior.

They may lack self-reflection skills and instead may externalize their difficulties by acting out or by abusing substances; they may be suspicious and distrustful of those in authority and therefore resist the help of others, particularly when treatment is mandated. (Hemphill et al., 2000, p. 371)

The analysis of the significance of the effect of the predictors on the dependent variable Taking Steps show that the EIS subscales of Sexual Identity (SexId), Comfort with Body and Appearance (Body), and Confidence (Conf), are non-significant predictors of Taking Steps. Taking Steps was the only subscale of the SOCRATES-A, in which the posttest scores did not go down significantly. This may be due to the fact that the participants identified the six weeks of counseling as Taking Steps and would, therefore, not change from the pretest taken in the first week of counseling to the posttest in the sixth week of counseling. They would consider the six weeks of treatment as the same “Taking Steps.”

Summary of Findings

The findings of this study indicate that despite the small sample, there is a significant relationship between Recognition subscale of the SOCRATES and Sexual Identity and Comfort about Body and Appearance from the EIS. The scores on the EIS for Sexual Identity (SexId) had a mean score of 72.0, indicating a moderate to high score. This, according to Chickering’s explanation of scores, signifies comfort with gender and sexual orientation and a sense of self in a social, historical, and cultural context (Chickering et al., 1994). The possible explanation for this high score on Sexual Identity and a low score on Recognition of the problem of drinking is the use of alcohol to fit in and help define oneself through association with groups and peers. The participant would

not recognize drinking as a problem if it assisted in his/her belonging. Additionally, the low number of participants (n=35) could be a reason for the unexpected results.

Recognition was also found to have a significant negative relationship with Comfort with Body and Appearance (Body). The mean score on the EIS for Comfort with Body and Appearance was 61.1, indicating a moderate score. Again, according to Chickering (Chickering et al., 1994), this puts the participant between confusion about self-identity while experimenting with roles and lifestyles and becoming more clear about self concept through roles and lifestyles. The possible explanation for a negative relationship between Comfort with Body and Appearance and Recognition of the problem of drinking is the roles and lifestyles the participant uses to develop self concept and identity. Further, the low number of participants (n=35) could be a reason for the unexpected results.

Ambivalence was also found to have a significant negative relationship with Comfort with Body and Appearance. On the Ambivalence pretest and posttest, the results show mean scores of 7.4 and 5.9 respectively for possible scores between 4 and 20, indicating the scores are low. The mean score on the EIS for Comfort with Body and Appearance was 61.1, indicating a moderate score. The possible explanation for this moderate score on Comfort with Body and Appearance and low score on Ambivalence may be the connection between roles and lifestyles the participant is experimenting with that, preventing him/her from questioning the control they feel they have when drinking. Again, the low number of participants (n=35) may be responsible for the unexpected results.

Recommendations for the counseling profession

This study considers the relationship between college students' developmental level of identity formation and their readiness to make intentional changes in behavior. Specifically, this study examines whether there is a relationship between Chickering's Identity Formation Development in college students and Prochaska and DiClemente's Readiness for Change, concerning alcohol use. Since many of the opportunities to meet individuals and/or organizations are made easier with the use of alcohol to relax, fit in, relieve stress, and be more sociable when otherwise the student is shy, identity formation and the culture of drinking coexist.

The possibilities of linking developmental level, and issues around changing the drinking behavior of college students, open up a way of evaluating college students', which could alter the counselors' approach as to which interventions they would choose. Prochaska viewed the choice of intervention as imperative to the success of the counseling process. It is proposed that college students' level of identity formation may be related to Readiness for Change (Prochaska, Norcross, & DiClemente, 2002) and that, by identifying students' identity level and matching the identity level with counseling approaches that are consistent with that identity level, counselors may be more effective in helping students make changes in potentially harmful drinking practices.

This study started the process of research into the connection between identity formation and Readiness for Change. Although the results were not as predicted, the recommendation is that subsequent research be done using a larger sample size. Even with the small sample size in this study, there was a significant relationship shown between the subscales of Readiness for Change and the subscales of Identity Formation.

Limitations of the Study

When analyzing the results of this study, consideration for the limitations warrants attention. The data consisted of archived information gathered by the New Leaf Clinic from 2010 to 2014. The students were primarily mandated to attend counseling because of their reported high-risk behavior regarding their illegal drinking or other drug use. The target population for this study was comprised of all students referred for counseling by the university's Dean of Students Office, as well as those who were self-referred. The sample was drawn from the accessible population of students referred for services to the New Leaf Clinic at The College of William & Mary in Williamsburg, Virginia. A convenience sample was employed, with the Recognition that the results of this study will not be generalizable to all college students.

The convenience sample yielded only 35 students who had completed the necessary evaluations to qualify for the study. This number, from 200 students who had been through New Leaf Clinic between 2010 and 2014, was a disappointment. This made generalizability to other student populations impossible. Demographic information indicated 8 participants were female (22.9%) and 27 participants were male (77.1%). This uneven number of males to females makes it difficult to generalize to issues of gender.

Summary: Discussion

This chapter outlined the research results of the current study. Results were examined in separate sections that led to a discussion of the results related to the specific

section and potential interpretations. A summary of all results and their implication for the counseling profession was provided. Finally, limitations to the current study were explored as it related specifically to the discussion and interpretation of this study's results.

References

- Adamson, S. J., Sellman, J. D., & Frampton, C. M. A. (2009). Patient predictors of alcohol treatment outcome: A systematic review. *Journal of Substance Abuse Treatment, 36*, 75–86.
- Alverson, H. (2005). Students' social life at Dartmouth College: Reflections in their looking glass (paper presented by Dartmouth Professor). Hanover, NH: <http://www.dartmouth.edu/~dcare/pdfs/dartmouth-drinking.pdf>.
- Antony, M. M., & Roemer, L. (2003). Behavior therapy. In A. S. Gurman, & S. Messer (Eds.), *Essential psychotherapies* (pp. 182–223). New York: Guilford.
- Aveyard, P., Massey, L., Parson, A., Manaseki, S., & Griffin, C. (2009). The effect of Transtheoretical Model based interventions on smoking cessation. *Social Science & Medicine, 68*, 397–403.
- Bandura, A. (1996). *Self-efficacy: The exercise of control*. New York: Freeman.
- Berry, T., Naylor, P. J., & Warf-Higgins, J. (2005). Stages of change in adolescents: An examination of self-efficacy, decisional balance, and reasons for relapse *Journal of Adolescent Health, 37*, 452–459.
- Branscum, P., & Sharma, M. (2010). A review of motivational interviewing-based interventions targeting problematic drinking among college students. *Alcoholism*

Treatment Quarterly, 28, 63–77.

Brendel, J. M., Kolbert, J. B., & Foster, V. A. (2002). Promoting Student Cognitive Development. *Journal of Adult Development*, 9(3) 217–227.

Brown, S., McGue, M., Maggs, J., Schulenberg, J., Hingson, R., Swartzwelder, S., Martin, C., Chung, T., Tapert, S., Sher, K., Winters, K., Lowman, C., & Murphy, S. (2009). Underage alcohol use summary of developmental processes and mechanisms: Ages 16–20. *Alcohol Research & Health*, 32(1), 41–52.

Cazzell, M. (2010). *College student risk behavior: The implications of religiosity and impulsivity*. UMI: 3391108. Available from ProQuest Information & Learning. ISBN: 978-1-109-62783-1

Chickering, A. W. (1969). *Education and identity*. San Francisco, CA: Jossey-Bass.

Chickering, A. W. & Reisser, L. (1994). *Education and identity (2nd Ed.)*. San Francisco, CA: Jossey-Bass.

Chickering, A. W., McDowell, J., & Campagna, D. (1969). Institutional differences and student development. *Journal of Educational Psychology*, 60(4), 315–326.

Cleary, T. J. (2015). *Self-regulated learning interventions with at-risk youth: Enhancing adaptability, performance, and well-being*. Washington, D.C.: American Psychological Association.

- Cornett, D. J. (1997). *Seven weeks to safe social drinking: How to effectively moderate your alcohol intake*. Secaucus, NJ: Carol.
- Crouch, T. B., DiClemente, C. C., & Pitts, S. C. (2015). End of treatment abstinence self-efficacy, behavioral process of change, and posttreatment drinking outcomes in project MATCH. *Psychology of Addictive Behavior, 29*(3), 706–715.
- Deci, E. L., & Ryan, R. M. (1985). *Intrinsic motivation and self-determination in human behavior*. New York: Plenum.
- Deci, E. L., & Ryan, R. M. (2000). The “what” and “why” of goal pursuits: Human needs and the self-determination of behavior. *Psychological Inquiry, 11*, 227–268.
- Demmel, R., & Rist, F. (2005). Prediction of treatment outcome in a clinical sample of problem drinkers: Self-efficacy and coping style. *Addictive Disorders & Their Treatment, 4*, 5–10.
- Derby, D. C. (2011). Men’s alcohol expectancies at selected community colleges. *Community college journal of research and practice, 35*(10), 791–801.
- DiClemente, C. C. (1986). Self-efficacy and the addictive behaviors. *Journal of Social and Clinical Psychology, 4*, 302–315.
- DiClemente, C. C., Prochaska, J. O., Fairhurst, S. K., Velicer, W. K., Velasquez, M. M.,

- & Rossi, J. S. (1991). The Process of Smoking Cessation: An Analysis of Precontemplation, Contemplation, and Preparation Stages of Change, *Journal of Consulting and Clinical Psychology, 59*(2), 295–304.
- DiClemente, C. C., Prochaska, J. O., & Norcross, J. C. (1992). In search of how people change. *American Psychologist, 47*(9), 1102–1114.
- Dimeff, L. A., Baer, J. S., Kivlahan, D. R. & Marlatt, G. A. (1999). *Brief alcohol screening and intervention for college students*. New York, NY: Guilford Press.
- Erikson, E. (1968). *Identity: Youth and crises*. New York: Norton.
- Erol, S., & Erdogan, S. (2008). Application of a stage based motivational interviewing approach to adolescent smoking cessation: The Transtheoretical Model-based study. *Patient Education and Counseling, 72*, 42–48.
- Erwin, D. (1977). Erwin Identity Scale (EIS).
- Erwin, D., (1978). *The validation of the Erwin Identity Scale* (Unpublished doctoral dissertation). The University of Iowa.
- Erwin, D. (1982). Academic status as related to the development of identity. *The Journal of Psychology, 110*, 163–169.
- Fournier, A. K., Hall, E., Ricke, P., & Storey, B. (2013). Alcohol and the social

- network: Online social networking sites and college students' perceived drinking norms. *Psychology of Popular Media Culture*, 2 (2) 86–95.
- Gibson, G. E. (1995). *Chickering's model of student development and the academic performance of African American college students on a predominantly white campus*. Available from ProQuest Dissertations and Theses database (UMI No. 9604834).
- Gil-del-Real, F. (2012). *An alcohol intervention model with college students: Effectiveness of the Basics Program*. Available from ProQuest Dissertations and Theses database (UMI No. 3531361).
- Grant, S., LaBrie, J., Hummer, J., & Lac, A., (2012). How drunk am I? Misperceiving one's level of intoxication in the college drinking environment. *Psychology of Addictive Behaviors*, 26(1), 51–58.
- Gruza, R. A., Norberg, K. E., & Bierut, L. J. (2009). Binge drinking among youths and young adults in the United States: 1979-2006. *Journal of American Academic Child and Adolescent Psychiatry*, 48, 692–702.

Harris, R. S., Aldea, M. A., & Kirkley, D. E. (2006). A motivational interviewing and common factors approach to change in working with alcohol use and abuse in college students. *Professional Psychology: Research and Practice, 17*, 614–621.

Hayes, B. G., Curry, J., Freeman, M. S., & Kuch, T. H. (2010). An alternative counseling model for alcohol abuse in college: A case study. *Journal of College Counseling, 13*, 87–96.

Hensley, L. G. (1997). *An investigation of the relationship between college student development and alcohol consumption patterns*. Available from ProQuest Dissertations and Theses database (UMI No. 9805162).

Hemphill, J. F., Howell, A. J. (2000). Adolescent Offenders and Stages of Change. *Psychological Assessment, 12*(4), 371–381.

Hingson, R. W. (1998). College-age drinking problems. *Public Health Reports, 113*, 52–55.

Hingson, R., Heeren, T., Winter, M., & Wechsler, H. (2005). Magnitude of alcohol-related mortality and morbidity among U.S. college students ages 18–24: Changes from 1998 to 2001. *Annual Review: Public Health, 26*, 259–279. doi: 10.1146/annurev.publhealth.26.021304.144652

Hingson, R. W., Zha, W., & Weitzman, E. R. (2009). Magnitude of and trends in alcohol-

- related mortality and morbidity among U.S. college students ages 18-24, 1998-2005. *Journal of Studies of Alcohol Drugs Supplement*, 16, 12–20.
- Ilgen, M., McKellar, J., & Tiet, Q. (2005). Abstinence self-efficacy and abstinence 1 year after substance use disorder treatment. *Journal of Consulting and Clinical Psychology*, 73, 1175–1180.
- Johnston, L. D., O'Malley, P., Bachman, J. G., & Schulenberg, J. E. (2011). *Monitoring the future national survey results on drug use, 1975-2010. Volume 1, secondary school students*. Ann Arbor, MI: Institute for Social Research, University of Michigan.
- Josselson, R. (1987). *Finding herself: Pathways to identity development in women*. San Francisco: Jossey-Bass.
- Juhnke, G. A., & Reel, J. J. (1999). An integrated counseling model for alcohol abusing college students. *Journal of College Counseling*, 2, 89–91.
- Lawson, G., Lambert, S. F., & Gressard, C. F. (2011). Reframing recovery: Developmental considerations for maintaining change. *Journal of Addictions & Offender Counseling*, 32, 72–83.
- Levin, C., Ilgen, M., & Moos, R. (2007). Avoidance coping strategies moderate the

- relationship between self-efficacy and 5-year alcohol treatment outcomes.
Psychology of Addictive Behaviors, 21, 108–113.
- Maier-Marietta, E. A. (2001). *"In our own words": Exploring female psychosocial student development*. Available from ProQuest Dissertations and Theses database (UMI No. 3020233).
- Manners, J., Durkin, K., & Nesdale, A. (2004). Promoting advanced ego development among adults. *Journal of Adult Development*, 11, 19–27.
- Marcia, I. E. (1966). Development and validation of ego-identity status. *Journal of Personality and Social Psychology*, 3, 551–558.
- Marcus B. H., Selby V. C., Niaura R. S., & Rossi, J. S. (1992). Self-efficacy and the stages of exercise behavior change. *Res Quart Exerc Sport*, 63, 60–66.
- Marlatt, G. A., & Gordon, J. R. (Eds.). (1985). *Relapse prevention: Maintenance strategies in the treatment of addictive behaviors*. New York, NY: Guilford Press.
- Miller, W. R., & Rollnick, S. (2002). *Motivational interviewing: Preparing people for change (2nd Ed.)*. New York, NY: Guilford Press.
- Miller, W. R., & Rose, G. S. (2009). Toward a theory of motivational interviewing.
American Psychologist, 64, 527–537.

Miller, W., & Tonigan, J.S. (1996). Assessing drinkers' motivation for change:

The stages of change readiness and treatment eagerness scale (SOCRATES)

Psychology of Addictive Behaviors, 10(2), 81–89.

Milner, J., & O'Byrne, P. (2002). *Brief counselling: Narratives and solutions*. New York:

Palgrave.

Misch, A. (2010). Changing the culture of alcohol abuse on campus: Lessons learned

from secondhand smoke. *Journal of American College Health, 59(3)*, 232–234.

Moos, R. H., & Moos, B. S. (2006). Rates and predictors of relapse after natural and

treated remission from alcohol use disorders. *Addiction, 101*, 212–222.

National Institute on Alcohol Abuse and Alcoholism (2002). *A call to action: Changing*

the culture of drinking at U.S. colleges. U.S. Department of Health and Human

Services.

Nelson, T. F., Toomey, T. L., Lenk, K. M., Erickson, D. J., & Winters, K. C. (2010).

Implementation of NIAAA college drinking task force recommendations: How

are colleges doing 6 years later? *Alcoholism: Clinical and Experimental*

Research, 34(10), 1687–1693.

- Nix, L., Bierman, K., & McMahon, R. J. (2009). How attendance and quality of participation affect treatment response to parent management training. *Journal of Consulting and Clinical Psychology, 77*, 429–438.
- Norcross, J. C. (2002). Empirically supported therapy relationships. In J. C. Norcross (Ed.), *Psychotherapy relationships that work* (pp. 3–16). New York: Oxford University Press.
- Noam, G. (1998). Solving the Ego Development-Mental Health Riddle. In Westenberg, P. M., Blasi, A., & Cohn, L. Eds (1998). *Personality Development: Theoretical Empirical and Clinical Investigations of Loevinger's Conception of Ego development* (pp. 271–295). Mahwah, NJ: Lawrence Erlbaum Associates.
- Ogrodniczuk, J. S., Joyce, A. S., & Piper, W. E. (2005). Strategies for reducing patient-initiated termination of psychotherapy. *Harvard Review of Psychiatry, 13*, 57–70.
- Overholser, J. C. (2005). Contemporary psychotherapy: Promoting personal responsibility for therapeutic change. *Journal of Contemporary Psychotherapy, 35*, 369–376.
- Pascarella, E. T., & Terenzini, P. T. (1991). *How college affects students, Vol. 2*. San Francisco, CA: Jossey-Bass.
- Prochaska, J. O., & DiClemente, C. C. (1983). Stages and processes of self-change of

smoking: Toward an integrative model of change. *Journal of Counseling and Clinical Psychology, 51*(3), 390–395.

Prochaska, J. O., Norcross, J. C., & DiClemente, C. C. (2002). *Changing for good: A revolutionary six-stage program for overcoming bad habits and moving your life positively forward*. New York, NY: Harper Collins.

Project MATCH Research Group (1997). Matching alcoholism treatments to client heterogeneity: Project MATCH posttreatment drinking outcomes. *Journal of Studies on Alcohol, 58*, 7–29.

Rabow, J., & Duncan-Schill, M. (1995). Drinking among college students. *Journal of Alcohol and Drug Education, 40*(3), 52–64.

Rappaport, R. L. (1997). *Motivating clients in therapy*. New York: Routledge.

Ribeiro, L. A., & Hauser, S. T. (2009). Ego development and psychosocial functioning in young adults with and without psychiatric history. *Journal of Adult Development, 16*(4), 263–269.

Rickwood, D., George, A., Parker, R., & Mikhailovich, K. (2011). Harmful alcohol use on campus: Impact on young people at university. *Youth Studies Australia, 30*(1), 34–40.

- Rogers, C. R. (1951). *Client-centered therapy*. Boston: Houghton-Mifflin.
- Rosen, C. S. (2000). Is the sequencing of change processes by stage consistent across health problems? A meta-analysis. *Health Psychology, 19*, 593–604.
- Rotter, J. B. (1966). Generalized expectancies for internal versus external control of reinforcement. *Psychological Monographs, 80*, 609.
- Ryan, R. M., & Deci, E. L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist, 55*, 68–78.
- Ryan, R. M., & Deci, E. L. (2008). A self-determination approach to psychotherapy: The motivational basis for effective change. *Canadian Psychology, 49*, 186–193.
- Ryan, R. M., Lynch, M. F., Vansteenkiste, M., & Deci, E. L. (2011). Motivation and autonomy in counseling, psychotherapy, and behavior change: A look at theory and practice. *The Counseling Psychologist, 39*, 193.
- Sheeran, P., Aubrey, R., & Kellett, S. (2007). Increasing attendance for psychotherapy: Implementation intentions and the self-regulation of attendance-related negative affect. *Journal of Consulting and Clinical Psychology, 75*, 853–863.
- Simmons, D. D. (1973). Development of an objective measure of identity achievement

- status. *Journal of Projective Techniques and Personality Assessment*. 34, 241–244.
- Tan, A. (2012). Through the drinking glass: An analysis of the cultural meanings of college drinking. *Journal of Youth Studies*, 15(1), 119–142.
- Thieke, W. S. (1994). *Developmental change in freshman students: Validating Chickering's theory of student development*. Paper presented at the annual meeting of the Association for the Study of Higher Education, Tucson, AZ.
- Thomas, R., & Chickering, A. (1984). Education and Identity Revisited. *The Journal of College Student Personnel*, 25, 392–399.
- Treise, D., Wolburg, J. M., & Otnes, C. C. (1999). Understanding the 'social gifts' of drinking rituals: An alternative framework for PSA developers. *Journal of Advertising*, 28(2), 17–31.
- Vielva, I., & Iraurgi, I. (2001). Cognitive and behavioural factors as predictors of abstinence following treatment for alcohol dependence. *Addiction*, 96, 297–303.
- Wampold, B. E. (2001). *The great psychotherapy debate: Models, methods, and findings*. London: Taylor & Francis.
- Wechsler, H., Seibring, M., Liu, I. C., Ahl, M. (2004). Colleges respond to student

- binge drinking: Reducing student demand or limiting access. *Journal of American College Health*, 52(4),159–168.
- Wechsler, H., & Wuethrich, B. (2002). *Dying to drink: Confronting binge drinking on college campuses*. New York, NY: St. Martin's Press.
- Wechsler, H., Lee, J. E., Kuo, M., Seibring, M., Nelson, T. F., & Lee, H. (2002). Trends in college binge drinking during a period of increased prevention efforts. Findings from 4 Harvard School of public health college alcohol study surveys: 1993–2001. *Journal of American College Health*, 50, 203–217.
- Wechsler, H., Kelley, K., Weitzman, E. R., SanGiovanni, J. P., Seibring, M. (2000). What colleges are doing about student binge drinking. A survey of college administrators. *Journal of American College Health* 48(5), 219–226.
- Weller, K. E., Greene, G. W., Redding, C. A., Paiva, A. L., Lofgren, I., Nash, J. T., & Kobayashi, H. (2014). Development and Validation of Green Eating Behaviors, Stage of Change, Decisional Balance, and Self-Efficacy Scales in College Students. *Journal of Nutrition Education and Behavior*, 46, 324–333.
- White, D., & Hood, A. (1989). An assessment of the validity of Chickering's theory of student development. *Journal of College Student Development*, 30, 354–361.

Widdick, C., & Knefelkamp, L. (1978). Arthur Chickering's vectors of development. Applying New Developmental Findings. *New Directions for Student Services*, 4, 13 Chickering's 23.

Workman, T. A. (2001). Finding the meanings of college drinking: An analysis of fraternity drinking stories. *Health Communication*, 13(4), 427-447.

Zuroff, D. C., Koestner, R., Moskowitz, D. S., McBride, C., Marshall, M., & Bagby, M. (2007). Autonomous motivation for therapy: A new common factor in brief treatments for depression. *Psychotherapy Research*, 17, 137-148.

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