CHOICE-RELATED STRESS AND DEPRESSION IN EMERGING ADULTHOOD

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ABSTRACT

Kelly Marie Davis: Choice-Related Stress and Depression in Emerging Adulthood
(Under the direction of Blaise Morrison)

Emerging adulthood is a time period of increased autonomy and decision-making in adults following adolescence. During this time period, there is a heightened presence of mental health symptoms. Distress related to making decisions can sometime stifle individual growth and achievement. While it is supported that stress can contribute to depression, relationships between choice-related stress and depression have not been examined. This study aims to assess how stress stemming from choice is related to depressive symptom outcomes of emerging adults. University students (*N*=854) answered questionnaires to assess anxiety, depression, substance use, peer relations, and externalizing behaviors. Simple regression analysis supports that choice-related stress related from traditional "coming of age" decisions is correlated with depression, and higher identity consolidation is associated with lower reported depressive symptoms. Considerations for mental health and rehabilitation counselors and directions for future research are discussed.

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LIST OF ABBREVIATIONS

SAMHSA	Substance Abuse and Mental Health Services Administration
Int.	Interaction
CRS	Choice-Related Stress
CRS A	Choice Related Stress stemming from everyday choices
CRS B	Choice-Related Stress stemming from major life decisions
ACT	Acceptance and Commitment Therapy

CHOICE-RELATED STRESS AND DEPRESSION IN EMERGING ADULTHOOD

Decision-making in emerging adulthood is crucial in laying the groundwork for the rest of an individual's life (Arnett, 2004). Understanding the role of stress in decision-making is important to best support individuals during this time period, in order to promote healthy outcomes and protect against risky or destructive decision-making behaviors. Research around stress and depression is extensive, but understanding the role that stress as a result of making major life decisions plays in the presence of depression in emerging adults is not well understood. Currently, literature documents distress in decision-making and the elevated presence of mental health disorders during this developmental period (Arnett, 2005); however, this review aims to determine if choice-related stress is related to depression in emerging adults. Better understanding of this relationship could help higher education officials, clinicians, and health care workers assist emerging adults as they transition to adulthood.

Emerging adulthood, coined by Arnett (2000), is a unique time period in development that has materialized over the past five decades in developed nations. The increasing presence of women in the workforce, the delayed age of marriage and childbearing, increased job training and education due to labor market shifts, and more accepting attitudes towards sexual behavior and contraceptive use have all accounted for this delayed entry into conventional adulthood (Arnett 2000; 2005). During this time period, generally from 18-25 years of age, adolescents gain more independence from parental support and influence, but do not yet have the responsibilities of full-fledged adults, such as taking on caregiving roles. Fewer obligations and less influence from family allows for an increased focus on the self, such as forming one's sense

of self, choosing a job, choosing a partner, or solidifying life ideals (Arnett, 2005; Arnett, 2014). As adolescents enter emerging adulthood, they encounter more instances of individual self-direction and less intervention from their parents, expanding opportunity for growth and self-advancement (Arnett, 2014). While opportunities are rife, this time period can lead to instability, especially in light of numerous choices that must be made by individuals. Individuals will frequently change jobs, partners, and residence more often than any other age period during this time (Arnett, 2005).

Stress and Depression in Emerging Adulthood

Emerging adults have the fastest rising rate of depression compared to other age groups (Reed-Fitzke, 2019). This is due to many changes in this developmental period, as well as the change in expectations of adulthood due to economic and ideological shifts (Reed-Fitzke, 2019). The 2017 National Survey of Drug Use and Health collected by the Substance Abuse and Mental Health Service Administration (SAMHSA) found that 7.1% of all U.S. adults had a depressive episode in the previous year, compared to the 13.1% of emerging adults, demonstrating that there are differences among age groups, and showing that emerging adults have higher rates of depression than their counterparts. Difference is also evident by gender, as 8.7% of adult women experienced a depressive episode in the previous year, compared to only 5.3% in men (Substance Abuse and Mental Health Services Administration, 2017). The highest rates of depression by race occurred in biracial individuals (15.0%), American Indian or Alaskan Natives (8.0%), and White individuals (7.9%) (Substance Abuse and Mental Health Services Administration, 2017).

With all of the documented changes in emerging adulthood, subsequent stress in emerging adulthood is expected. Stress, whether chronic or acute, can impair a person's ability to

make sound decisions, but can also lead to further mental health complications, especially as many mental health issues emerge during this time period (Arnett, 2014). Stress in emerging adulthood does not always arise from normative changes, but rather can heighten in intensity if non-normative changes occur in an individual's life, such as a serious health issue or an acquired caretaker role during this developmental period (Bell & Lee, 2008).

Bell and Lee (2008) examined stress in women in emerging adulthood and, surprisingly, found that normative changes, such as moving out, getting married, and being a mother were associated with no significant change in stress level or an actual decrease in stress level. While this may seem improbable, looking at this data in the context of emerging adulthood, these findings make sense. This may occur because making decisions and reaching specific milestones, as deemed by society, define emerging adulthood. If an individual does not meet these milestones, or meets these milestones too early or in undesirable ways, psychosocial stress could heighten. Heightened stress, for an extended period of time, can lead to mental health complications, or even depression (Sheets & Craighead, 2014).

Sheets and Craighead (2014) used data from emerging adults across 18-months to highlight that chronic stress during emerging adulthood predicts further episodes of major depressive disorder. Individuals with a previously recorded major depressive episode participated in this study for an initial assessment, and followed up every 6 months until the 18-month marker. After establishing that chronic stress can contribute to further major depressive episodes, this study divided chronic stress into interpersonal and non-interpersonal domains. While both domains can contribute to depression, chronic stress caused from interpersonal stress, stemming from intimate relationships, social relationships, friendships, and family relationships, appears to be more predictive of depressive episodes than non-interpersonal stress, such as

academic domains, work, health, and finances (Sheets & Craighead, 2014). Separating off from the family unit and forming new friendships can prove to be stressful, especially as the social landscape of emerging adults can change frequently (Arnett, 2000).

Choice Related Stress in Emerging Adulthood

Emerging adults may feel pressure in making decisions, especially as many of these decisions can have lifelong consequences. This stress can have negative outcomes on health and health related behaviors, such as depression, anxiety, risky sexual encounters, as well as substance abuse (Nelson & Padilla-Waler, 2013; Peer & McAuslan, 2015). Arnett (2004) cites that ambivalence in decision-making can also cause anxiety. While the root of this is unknown, researchers speculate that the hesitation in forming identity and making choices into adulthood can make individuals feel like they do not have the capacity to do so, or are not reaching similar milestones to their peers. This can bring about self-doubt in individuals, stifling their progress in identity formation and other milestones of emerging adulthood, which can further impact decision-making (Peer & McAuslan, 2015).

Emerging adulthood is also a time period characterized by higher rates of mental health disorders and substance abuse (Arnett et al., 2014; Sussman & Arnett, 2014). While this could be due to the fact that many disorders emerge during this time, specific social pressures during emerging adulthood could cause these to become more severe. Instability and increased independence during this time could leave individuals without proper social supports, exacerbating symptoms faced by emerging adults (Arnett et al., 2014). Experimentation in decision-making during this time could have long-term consequences that impact self-esteem and fulfillment (Arnett, 2005). Lastly, the formation and consolidation of identity in the time period could bring significant distress to individuals. It is difficult to discern whether individuals

during this time are facing normal hardships of this age period, or are facing clinical problems from mental health complications. Regardless, individuals that do not reach goals or cannot consolidate choices in adulthood experience distress, which could manifest into an anxiety disorder, mood disorder, and/or substance use issues (Schwartz et al., 2010).

Identity Formation and Choice Related Stress

Decision-making around identity in emerging adulthood can also bring about stress stemming from choice. As previously mentioned, identity is advanced during adolescence and is explored and consolidated during emerging adulthood (Arnett, 2000; Luyckx et al., 2006). Arnett (2007) explains that identity in emerging adulthood serves to form an autonomous, consistent sense of self, goals, ideals, and behavior, which involves decision-making. Arnett (2005) characterizes identity formation through exploration and commitment. Arnett argues that individuals that explore their identity and also commit to those identities are better equipped to capitalize on opportunities in life, as well as encounter less distress in decision-making (Schwartz et al., 2009). Individuals with high exploration have greater opportunities for curiosity and searching, but lack of commitments can also leave individuals more likely to encounter low self-esteem, anxiety, and depression. Individuals that do not explore, and also do not commit, tend to be the most likely to engage in risky, delinquent behavior (Schwartz et al., 2009). This demonstrates that, while exploration is important for happiness, commitment to decisions is an important factor that protects against the development of mental health problems, especially in the age group where making influential life decisions are expected milestones. Making decisions and committing to these decisions is evident in decreasing risk for subsequent depression and distress (Schwartz et al., 2009).

Individuals with a greater personal identity consolidation are less likely to engage in risky behaviors, such as binge drinking, illicit drug use, and risky sexual behavior as compared to their peers (Schwartz et al., 2010). Schwartz (2016) posits that working, emerging adults may be less susceptible to these behaviors than college students because more of their identity is consolidated, and there is less room for exploration and new commitments. In addition to this, emerging adults in college that have a more consolidated identity report higher scores on well-being measures and social engagements. Schwartz et al. (2010) found that individuals that explore their identity and commit to this identity display the highest levels of well-being, whereas individuals that do not explore or commit to their identity report the lowest levels of well-being. Promoting exploration and commitment to identity could help reduce the distress in decision-making.

Perfectionism and Choice Related Stress

Distress in decision-making and depression in emerging adulthood is also evident when looking at perfectionism. In some individuals, high standards of achievement, as well as critical self-talk, can manifest itself in ways that are maladaptive, such as higher stress levels, depression, and even suicidal ideation (Stoeber & Otto, 2006). Perfectionism, which is the tendency to refuse performance or outcomes less than perfect, can serve adaptive advantages in individuals with high standards and commitment to success, but in the absence of negative self-evaluation and appraisal (Damian et al, 2017). In a study conducted by Rice et al., (2006), when individuals only expressed negative self-talk or evaluation in perfectionism, psychosocial functioning was negatively impacted, with implications of depression, anxiety, and other mental health complications.

Perfectionism in individuals can alter physical and mental health. When looking at young emerging adults (e.g., undergraduate and graduate students), those with high perfectionism tended to display poorer physical health outcomes after the course of one year in school. These individuals are also more at risk for depression and depressive symptoms, rather than mental health disorders as a whole (Pritchard, Wilson, & Yamnitz, 2007). Depression can stem from not meeting goals and perceiving one's self as a failure. Negative self-talk and evaluation can make individuals who expect perfection feel depressed when they do not meet the mark. Making decisions, especially when at such high stakes to be perfect, could create high stress or anxiety in the lives of individuals, leading to depressive consequences.

Maladaptive perfectionism has been shown to negatively affect career outcomes, as well as academic achievement (Ganske & Ashby, 2007). While individuals that are high in perfectionism tend to be high achieving, there are negative side effects of individuals that are high in perfectionism. Ganske and Ashby (2007) demonstrated that individuals that were adaptive in perfectionism had higher self- efficacy around career decision-making than individuals with maladaptive perfectionism. This finding supports the idea that perfectionism can hinder ability to make decisions concerning career choices, which could cause distress and further mental health complications. Adaptive perfectionism, on the other hand, not only yields better academic outcomes, but also better mental health outcomes (Pritchard, Wilson, & Yamnitz, 2007). For individuals with perfectionism, failure to reach goals and hesitancy in decision-making are sources of stress related to choice.

Peer Influence and Choice Related Stress

The influence of peers on decision-making and depression is documented across the lifespan, but it is known that adolescents and young adults are the most susceptible to peer

influence, especially in the context of risky behavior that could exacerbate mental health issues (Arnett, 2005). Risky behavior is more likely to occur in groups than when individuals are alone (Gardner & Steinberg, 2005). Reniers et al. (2017) describes that, while emerging adults are not as sensitive to rewards as adolescents, emerging adults are still affected by reward sensitivity, which brings about potential risky decision-making that could bring about distress and other complications. The presence of peers appears to heighten the sensitivity to the reward from the risky behavior and other behaviors alike (Reniers et al., 2017). Given that peers are so influential, especially in situations that could be risky, stress surrounding decision-making is probable.

Outside of altering the perceived reward from peer influence, peers are important in creating social environments for emerging adults that will impact their decision-making and wellbeing (Gardner & Steinberg, 2005). When looking to solidify certain aspects of identity, like marriage and a career, emerging adults are influenced through reinforcement, encouragement, and sometimes modeling by peers (Reniers et al., 2017). Patterns in adolescent and emerging adults concerning peer influence tend to maintain through young adulthood and subsequent life stages (Gardner and Steinberg, 2005). Peer modeling, as mentioned above, could bring about distress if individuals are not reaching similar or desired milestones as compared to their friends. Hanna and colleagues (2017) examined peer influence and social comparison by examining Facebook usage in comparison with mental health and wellbeing ratings. Results demonstrated that greater usage was associated with poorer self-esteem, increased body image sensitivity, and poorer mental health. This study's findings are in line with the current literature, demonstrating that social comparison can create distress in the lives of individuals, and that this distress can lead to decreased mental health and poor self-esteem, a hallmark feature of depression. Social

comparison is likely to place stress on individuals to make certain choices specific to social-context and influence their decision-making, which could lead to depression.

Relationship quality also appears to play a role in the influence of peers (Guassi Moreira et al. 2017). During emerging adulthood, instability brings about different changes in friendship. Emerging adults tend to place more weight on stronger friendships than weaker ones, and individuals with weaker friendships tend to be more at risk to participate in risky behavior. While peers are important in this stage of life, researchers suggest that parents also play influential roles in the lives of emerging adults (Guassi Moreira et al. 2017). Emerging adults, depending on which relationship is closer, will lean on either parents or peers equally, suggesting that strong relationships tend to be more influential than the type (parent or peer) of relationship (Guassi Moreira et al. 2017). If strong relationships are not in place during this time, peers could encounter riskier, more stressful decision-making that could lead to negative mental health outcomes.

Given the changing landscape for emerging adults, as well as the heightened presence of mental health symptoms in this age period, this study aims to examine the relationship between choice-related stress and depression outcomes and examine what potential implications exist for helping professionals. The following research questions exist: Is stress stemming from choice (either everyday choices or major life choices) predictive of depression in emerging adults? Does gender impact predicted depressive symptoms in emerging adults? Is the consolidation of identity predictive of depressive symptoms in emerging adults? Does an interaction of choice-related stress and identity consolidation exist in regards to resulting depressive symptoms?

It is predicted that stress related to every day decision-making will be associated with higher reported symptoms of depression. It is hypothesized that stress related to decision-making

on major life decisions will be associated with higher rates of depression. It is predicted that identity consolidation will be negatively related to depressive symptoms. It is hypothesized that women will report higher symptoms of depression than men. It is hypothesized that there will be a significant interaction of choice-related stress and depression for both choice pertaining to everyday choices, as well as stress associated with making long-term decisions: it is predicted that differences observed in reported depressive symptoms in the low choice-related stress condition from differing levels of identity consolidation will be exacerbated in individuals with high choice-related stress.

Methods

The Developmental Risk and Resilience Lab at The University of North Carolina at Chapel Hill in Chapel Hill, NC collected data for this study. The UNC IRB approved this data collection, and all subjects consented to participate.

Sample

This study initially invited 9,000 students to participate through the University Registrar. This sample was initially random for students within the university, followed with oversampling of African American students and males due to low numbers of these groups within the university population. A total of *n*=5 participants were dropped from the recruitment sample because they were RAs on the study. In addition, 57 individuals outside of the recruitment sample requested to participate in the study, for a total of *n*=9,052 students invited to participate. Of these, *n*=1,522 participants completed the prescreening survey and *n*=1,141 met inclusion criteria (i.e., student status, complete prescreening form, and use of alcohol in the past year).

A total of *n*=854 completed the survey. Participants in the study (*N*=854) were 60% European American, 22% African American, 9% Asian American, 6% multiracial, 5% Hispanic, and <1% Native American/Pacific Islander. Fifty-four percent of the participants were female.

Procedures

Participants at the beginning of the testing session completed consent forms. Participants were randomly selected to complete a standardized battery through a computer administration tool in 75 minutes or less.

Instruments

Choice-related stress.

A 19-item scale created for this study measured choice-related stress. Dr. Andrea Hussong of the UNC Developmental Risk and Resilience Lab created this item in 2016. The first 5 items assessed stress surrounding the amount of choices available in everyday scenarios with statement, such as "*How often do you feel overwhelmed by the amount of product choices you have (e.g. clothing, shoes*)?" These 5-items had an internal consistency value of α=0.79. This type of choice-related stress is represented by (A) in subsequent analyses. The next 7-items assessed stress related to making major life decisions, such as "*How often do you feel stressed out about making good or even perfect choices regarding your career*?" These items had an internal consistency value of α=0.87. This type of choice-related stress is indicated by (B) in further analyses. The first 12 questions were assessed through a Likert Scale with 1 = *rarely* and 5 = *all the time*. Higher average scores on the first 12 items indicate higher levels of stress related to choice.

The final 11 questions were items concerning identity consolidation. These items were a series of "I" statements, such as "*I have a strong sense of who I am*" and "*I can easily make*

choices about what I think is right when faced with a dilemma". These questions were also assessed through a Likert scale ranging from 1=*strongly disagree* through 4=*strongly agree*. Some items were reverse coded. Higher scores on the last 11 items represent a stronger sense of identity than lower average scores. Identity consolidation items were subject to a factor analysis. Factor analysis revealed that reverse-scored items did not load meaningfully and were not indicative of the variable being measured. These 4 reverse coded items were removed from the data set (α=0.82) for a total of 7 items for the measure. This instrument is in Appendix A.

Depression.

Depression was measured using the Short Mood and Feelings Questionnaire (α=0.85), a questionnaire validated to measure depressive symptoms in adolescents specifically (Angold et al., 1995). The Short Mood and Feelings Questionnaire (SMFQ) is a 13-item inventory that includes items such as "*I felt lonely*" and "*I found it hard to think properly or concentrate*." Participants responded about their behavior over the past two weeks using a scale containing 0=*not true*, 1=s*ometimes*, and 2=*true* to answer. A subset of items (n=7) was used in this analysis (α=0.80) because item stems on other items were varied to test methodological hypotheses in the parent study. Higher scores on this measure indicate higher presence of depressive symptoms. This instrument is in Appendix B.

Data Analysis

Data from this study will be analyzed using Statistical Analysis System, Version 9.4, 2019. Mean scores for each subset of the choice-related stress variable and depression will be used as the basis for the model of fit being tested to characterize choice-related stress. A simple regression will be used to test the fit of this model (containing predictor variables choice-related stress (A), choice-related stress (B), and identity consolidation) and the variance accounted for in

depressive symptoms. A subsequent regression will be used to determine if an interaction exists between choice-related stress and identity consolidation in the outcome of depressive symptoms, while controlling for gender. Final analysis will control for gender as a confounding variable in depressive symptoms.

Results

Descriptive Data

Mean and standard deviation values were calculated for each component of the choice-related stress measure and depression. For the first choice-related stress measure concerning everyday stress (A), values were M=1.70, SD=0.99. The second choice-related stress measure concerning major life decisions (B) had values of M=2.51, SD=1.05. The identity consolidation measure yielded average scores of M=3.41, with a standard deviation of SD=0.52. Depression calculations indicate M=0.42, SD=0.49.

Table 1

Mean and Standard Deviation Values of the Choice-Related Stress Model

	Mean	Standard Deviation
Choice-Related Stress (A)	1.70	0.99
Choice-Related Stress (B)	2.51	1.05
Identity Consolidation	3.41	0.52
Depressive Symptoms	0.42	0.49

Regression Analyses

After identifying descriptive data, choice-related stress measures, identity consolidation, and depression were examined using a simple regression analysis to test the fit of the initial conceptualization of the model proposed for choice-related stress. Simple regression displayed

major life decision stress (B) as a significant predictor of depressive symptoms when controlling for other variables within the model (b=0.16, t(908)=9.79, p<0.0001). The beta value indicates that as choice-related stress (B) increases, so does the presence of depressive symptoms. Another significant predictor of depression in the model was observed with identity consolidation (b= -0.12, t(908)=-7.94, p<0.0001), supporting that as values of identity consolidation increase, the presence of reported depressive symptoms decrease. A nonsignificant finding was observed for everyday choice related stress (A) and depression (b=-0.017, t(908)=-1.00, p=0.3189) within the model. These findings are represented in Table 2. The model tested for the main effect of the study variable fit well (F(3, 908)=76.15, p<0.0001; Adjusted R-Square=0.1984). Values indicate that the initial model accounts for approximately 20% of variance in depressive symptoms reported by participants. These values are indicated in Table 3.

Given that both choice-related stress (B) and identity consolidation were significant, an interaction analysis was conducted to determine if these variables together significantly alter differences observed from predictor variables independently. Choice-related stress (A) was not included in the subsequent analysis to determine interaction because it was not a significant predictor of depression in the initial regression analysis to test the model. Variables included in the simple regression included choice-related stress resulting from major life decisions (B), identity consolidation (C), gender, and the interaction of choice related stress and identity consolidation. Gender was included in this regression because it has been supported by literature that depression is significantly more common in women (Substance Abuse and Mental Health Services Administration, 2017). Upon subsequent regression analysis, findings support previous literature that women are more likely to report symptoms of depression compared to men (b=-0.08, t(907)=-2.56, p=0.01). Results indicate a marginally significant finding for the interaction

of the choice related stress resulting from major life decisions (B) and identity consolidation (*b*= -0.02, *t* (907)=-1.80, *p*=.07). The negative beta value indicates that as identity consolidation increases, the effect of choice-related stress on depression shifts further negative. Highest rates of depressive symptoms were seen in individuals with lower identity consolidation and higher reported stress concerning major life decisions (B). These findings are reported in Table 4.

Table 2

Regression Results using Depressive Symptoms as the Criterion

Predictor	Beta	Std. Error	t value	p
Intercept	0.74	0.03	22.65	<0.0001
CRS (A)	-0.02	0.01	-1.00	0.32
CRS (B)	0.15	0.02	9.31	<0.0001
Identity Cons.	-0.12	0.02	-7.94	<0.0001

Table 3

Model of Fit for Choice-Related Stress Hypothesis

Predictor	Sum of Squares	DF	Mean Square	F	P	R-Square	Adj. R^2
Model	43.68	3	14.56	76.15	<0.0001	.20	.20
Error	173.63	908					

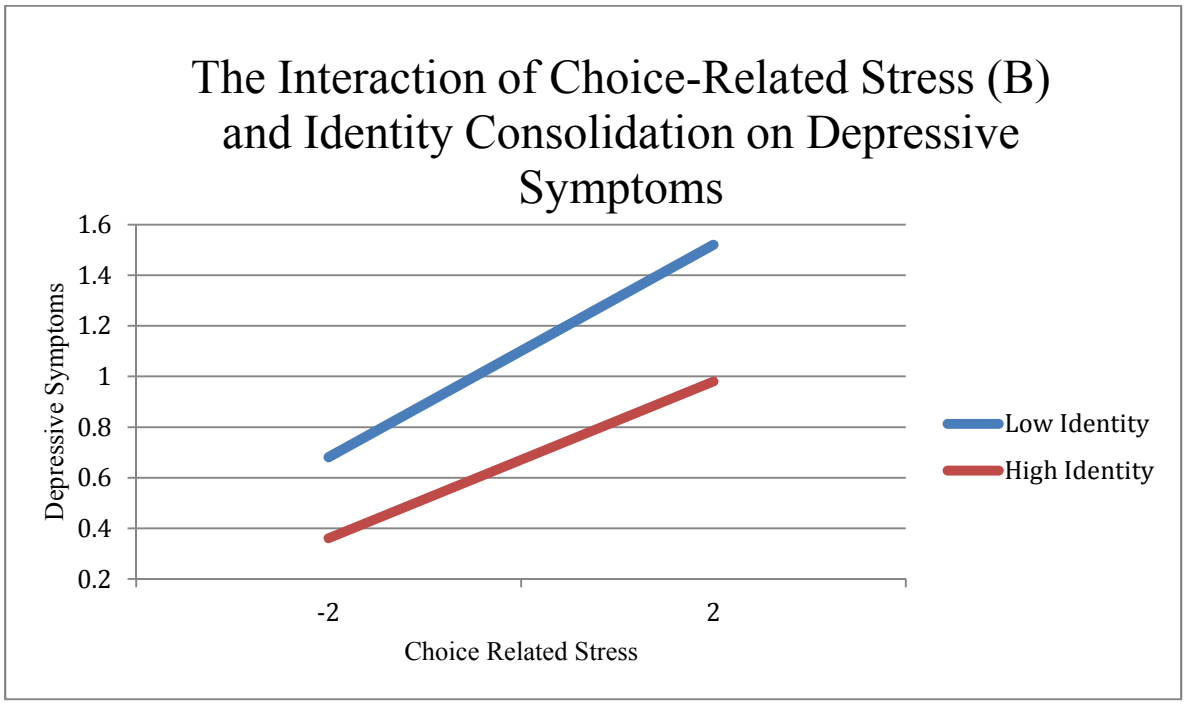
Table 4

The Interaction of Choice Related Stress and Identity Consolidation

Predictor	Beta	Std. Error	t value	p
Intercept	.74	0.01	40.54	<0.0001
Gender	-0.08	0.03	-2.56	0.01
CRS (B)	0.14	0.02	9.79	<0.0001
Identity Cons.	-0.12	0.02	-7.64	<0.0001
Int. CRS (B) X Identity Cons.	-0.02	0.01	-1.80	0.07

Figure 1

Interaction of Choice-Related Stress and Identity Consolidation in Relation to Depressive Symptoms



Discussion

Based upon results of analyses, the initial conceptualization of the choice-related stress model containing everyday stress, stress stemming from major life decisions, and identity consolidation is promising in predicting presence of depressive symptoms. Findings suggest that everyday inundation of choice, such as what to wear or what social events to attend, is not a significant predictor of depression, which does not support initial hypotheses. While these decisions are made often and many choices exist for emerging adults that previous generations did not have, these choices were not supported to be predictive of depressive symptoms. Stress coming from major life decisions such as planning for a career and/or picking a partner, are stressors with greater association to depressive symptoms; this significant finding supports initial hypotheses (b=0.16, t(908)=9.79, p<0.0001). This significant finding is consistent with current literature: Arnett's (2004) work supports this time period as a new phase of development, and one that can be stress provoking because of ever-changing external variables. Arnett's conceptualization that individuals change jobs, homes, and partners often in this time period, and that this could induce stress, is supported in this data as being associated with depressive symptoms. This finding is of concern because choice-related stress could precipitate depressive symptoms and contribute to the maintenance of depressive symptoms, and vice versa, as the nature of this analysis is cross-sectional; therefore, directionality cannot be concluded. While stress and depression are well linked, this specific type of stress stemming from major life decision has not been well studied. More information about "major life decision" stress is needed to be able to determine which coming-of-age choices are more stressful, when these coming-of-age choices become of major concern, and how to best approach these decisions in order to better target follow-up in services, whether academic, rehabilitation, or mental health related

services.

In addition to the above findings supporting choice-related stress and depression models, higher identity consolidation is associated with lower reported depressive symptoms, which supports initial hypotheses concerning the relationship between identity consolidation and depressive symptoms, as well as is consistent with Arnett's work and characterization of risk based upon an individual's advancement of their perceived identity. Identity consolidation, which comprises understanding the self, personal values, and needs, has demonstrated to be protective against risky decision-making and poor mental health outcomes (Arnett, 2005). This evidence is apparent in Table 3 (b= -0.12, $t(908)$=-7.94, p<0.0001) and in Figure 1. In both conditions, high identity consolidation was associated with lower rates of reported depressive symptoms, supporting identity consolidation's associated protective effects against depressive symptoms. This cross-sectional analysis indicates these predictor variables are related, but directionality of this relationship is not conclusive. This information is critical because it indicates further support for possible ways to help reduce risk for adverse outcomes for emerging adults, especially since this developmental period is relatively new within literature and targeted interventions do not specifically consider the needs of this age group. Leveraging this protective association in targeted follow-up for emerging adults could be helpful to protect against rapidly changing life conditions that could cause distress.

The interaction of choice-related stress and identity consolidation showed marginally significant results, which do not fully support our initial hypothesis. While these results aren't significant, they indicate the need for more information and studies to be conducted to support or refute the interaction of these two variables. Depressive symptoms were higher in the high choice-related stress condition for both low and high identity consolidation as compared to the

low choice-related stress condition. High identity consolidation was observed to be predictive of lower reported depressive symptoms in both low and high-choice related stress. The differences observed in the low-choice related stress condition when considering both levels of identity consolidation are exacerbated when examining the high choice-related stress condition. Increased differences in depressive symptoms due to the combination of these variables indicate that some interaction could exist, but currently evidence is inconclusive. Understanding the relationship between these two variables, with more evidence, could help follow-up for emerging adults, especially if they are individuals with low identity consolidation and high reported symptoms of choice-related stress, which is the condition in the findings with the highest reported symptoms of depression. If more studies or refined measurement tools showed stronger evidence of the interaction working with both aspects of the model concurrently, then more informed intervention models, such as within academia, employment, rehabilitation, or mental health, could be employed to help people bolster identity consolidation, reduce stress related to choice, or both.

Overall, the model shows promise in capturing the construct of choice-related stress. The model accounted for nearly 1/5 of the variance in depressive symptoms. While not the majority of variance, it is still significant and warrants more study to further develop the model of choice-related stress.

Possible Considerations for Clinical Intervention

Implications for rehabilitation counselors.

Few publications examine the impact of emerging adulthood on individuals with disabilities and what this could mean for rehabilitation professionals working with such individuals. One academic manuscript examining the theoretical base of Arnett's emerging

adulthood (Meyer, Hinton & Derzis, 2015) argues that, based upon findings from emerging adults without disabilities, the expectations for job stability and job placement in a short-time post high school are not appropriate, given societal standards for emerging adults when building careers. Arnett's (2004) work indicates that individuals within emerging adulthood will change jobs often while building their career. With this knowledge, rehabilitation counselors could continue to help emerging adults choose careers they would like to pursue, with the flexibility that holding a job for a lifetime is not a realistic expectation. Providing skills within services to be flexible within the current market would be advantageous for job seekers with disabilities. This could include extended follow-up beyond placement services, beyond traditional transition-aged-youth end at 24, for job seekers with disabilities (Meyer, Hinton, & Derzis, 2015).

In addition to structural changes within the Vocational rehabilitation system, evidence from this study demonstrates that stress in decision-making for major life decisions, like a career, is associated with heightened depressive symptoms. Given vocational rehabilitation counselors role to help individuals with disabilities secure employment, it would be imperative for counselors to understand the relationship between choice-related stress and depression, as untreated mental health symptoms could impede progress. Vocational rehabilitation counselors should continue to recognize signs of stress within the process in order to provide appropriate resources or follow-up. This monitoring of stress could include standardized questions to address stress within the VR process, ongoing interview assessment of stress, or even quick screeners to address stress or depression. Referrals for additional services could be made to community providers to address mental health needs of individuals with the vocational rehabilitation system.

Understanding how emerging adults currently are impacted by the stress of decision-making can help inform rehabilitation counselors of potential hurdles within the rehabilitation process that may not be currently addressed. Making sure that Vocational rehabilitation system processes are congruent with patterns of employment for current emerging adults could promote a more helpful experience for individuals with disabilities.

Implications for mental health counselors.

Given these findings, more research should be done to intentionally target stress stemming from choice in therapeutic techniques and interventions for emerging adults in mental health settings. Choice-related stress from coming-of-age decisions, such as deciding on personal beliefs, a career, and a partner could be explored in counseling settings and targeted in interventions because of results supporting the relation to depressive symptoms. Therapeutic techniques, such as goal setting and monitoring, as well as exploration of values, are some possible avenues for mental health intervention that would also address components from choice-related stress and strengthen identity consolidation, which have shown to be related to presence of depressive symptoms in college students.

Therapeutic interventions.

Acceptance and commitment therapy.

Acceptance and Commitment Therapy is an evidence-based psychotherapy that has demonstrated to reduce mental health symptoms across a variety of populations (Hacker, Stone & MacBeth, 2016). Acceptance and Commitment Therapy works to identify core values and construct behavior accordingly in order to reduce mental health symptoms. This could be successful given the results of this study because it could target depressive symptoms, whether diagnosed or subthreshold (Audel et al., 2020) while exploring core values and goals. Exploring

core values and goals could encourage emerging adults to define core values to them and use these principles as a guide, which could bolster the demonstrated protective effects of identity consolidation against depressive symptoms.

Group psychotherapy.

Other counseling or mental health interventions could include group psychotherapy in emerging adults, whether this is in a collegiate university setting or in a community center. Group psychotherapy has been empirically validated as a source of treatment, and specifically is advantageous because it provides social support for individuals experiencing the same issues, whether this is emerging adults experiencing depression, emerging adults experiencing work stress, or emerging adults struggling with adequate ways to cope without engaging in risky behaviors (Thimm & Antonsen, 2014). A meta-analysis of early intervention programs has evidence to support that skills-based programs focusing on supervised practice of skills for behavior change can be helpful in preventing mental health complications during a time of heightened stress. Given choice-related stress and its association with depressive symptoms, utilizing these groups to teach skills in the short-term could be helpful to reach more students or young individuals before experiencing mental health symptoms from major stress during this time period (Conley, Durlak & Kirsch, 2015).

Implications for resource center partners.

Another avenue for targeted intervention could exist within academic or career counseling centers. From results, it is demonstrated that finding careers is a source of stress associated with negative mental health outcomes (Arnett, 2014). Increasing access to academic and career counseling could further guide emerging adults to consolidate this aspect of their identity, reducing stress from different decisions made during emerging adulthood. Academic

counseling centers or American Job Centers that serve the public could serve as a point of advising for emerging adults to find and pick careers congruent with values and desires. Results demonstrate the importance of finding ways to bolster career choice for emerging adults. This could include use of inventories in order to match students and workers to careers that are a good fit, such as the Strong Interest Inventory or the Self-Directed Search, which are derived from the study personality and values (Maree, 2019). Inventories can be a helpful tool to capture interests, but should be used with caution in order to make sure they are an appropriate tool for the individual and are updated for utility. Assessment of fit and desires with what is available or sustainable will also be paramount in order to create ideal outcomes that consolidate career. Career professionals or academic advisors will need to be able to assess individual need and merge that with what is currently available in the marketplace. Match individuals to careers that are consistent with their goals and unique personality traits could help reduce the amount of times individuals change careers and help land individuals in careers that are successful sooner, eliminating or reducing this element of choice-related stress.

Limitations and Implications for Further Research

While findings concerning interaction between identity consolation and choice-related stress are marginally significant, more research needs to be done to refine the working conceptualization of choice-related stress. This model is still in the beginning phases of development, and more testing with emerging adults should be done to clarify which aspects of emerging adulthood are stress-inducing to better understand structuring preventative measure or solutions for depressive symptoms. More research could also be done to identify other aspects of emerging adulthood that could impact decision-making stress, such as peer environment and possible cohort effects due to the changing structure of delayed adulthood. Emerging adulthood

has been introduced as a time period created by societal shifts in the 1960s (Arnett, 2000). While this timeframe is relatively short, emerging adults from the 1970's and 1980's could have a different experience than emerging adults now.

While these ideas exist for future research, future research should also address limitations within the sample used and the assessment tool used to measure choice-related stress. This sample was largely comprised of educated women who are white. While oversampling was conducted to better represent African Americans and men, any representation outside of these demographics is largely unavailable from this sample, which is a limitation of participants available. Other minority information is not available in the sample. Information regarding individuals that did not attend higher education that are emerging adults is not present in the sample. Without this representation, it is not appropriate to generalize results to all emerging adults, especially because career advancement and decision-making looks different for individuals outside of the college setting who do not have the same life experiences. Individuals with disabilities may exist within the sample, but are not represented adequately. While all emerging adults are impacted by societal factors, individuals with disabilities could possibly have a different experience with major-life decisions, based upon work goals or functional impairments present. While initial findings are helpful, more research to represent these populations could clarify current questions about generalizability of results.

In addition to sampling, another limitation that exists is within tools used to measure predictor variables. After showing initial promise, more steps should be done to refine items on the choice-related stress inventory used, as well as other ways to measure depressive symptoms. The parent study manipulated depressive inventories to measure only partial elements from the Short Mood and Feelings questionnaire. Other ways to measure depression could help provide

more information about depressive symptoms within the population being tested, as the Short Mood and Feelings Questionnaire does not include symptoms associated with depression, such as suicidal ideation. In addition to this, to further refine the created measure for choice-related stress, focus groups should be used, as well as repeated testing for validity and reliability to provide support for the utility of the tool used within this analysis. While initial results provided significance, and this analysis served as a starting point to measure this variable, more research needs to be done in order to make sure that enough aspects of the construct "choice-related stress" are included in the measure and are grouped accordingly. More testing with this variable and more information provided by focus groups could help refine the variable for further use.

Conclusion

Emerging adults within the 21st century face a unique landscape for making decisions about everyday friendships, fashion statements, and leisure activities, as well as widened options for more significant decisions, such as partners, careers, and schools of thought. Stress and depression have long been linked, and findings here support that stress associated with making major life decisions are predictive of reported depressive symptoms. Consolidation of facets of identity, such as personal values and beliefs, are demonstrated to be protective against the effect of choice-related stress, reducing depressive symptoms observed within the same levels of reported choice-related stress. These findings help mental health and rehabilitation professionals, schools, and job centers work towards more effective solutions that consider needs of 21st century emerging adults. Initial findings of this model of choice-related stress indicate promise and necessitate further research to enhance current understanding of choice-related stress in a variety of populations, contexts, and time frames, as well as to better understand what elements make-up choice-related stress and what ways to best measure these elements in future research.

APPENDIX A: CHOICE-RELATED STRESS

Choice-Related Stress Measure (Hussong, 2016)

Choice and Identity

Choice-Related Stress (A): 001 –005

Use the scale below to indicate you answers to the following questions. How often do you…

0 = Never, 1 = Rarely, 2 = Sometimes, 3 = Frequently, 4 = Often, 5 = All the time, . = refuse to answer

1 feel overwhelmed by the amount of product choices you have? (e.g., clothing, shoes)?
2 find yourself unable to make a decision about your college major given all the options?
3 struggle with selecting which social events to attend from all those offered?
4 feel stuck in deciding among different forms of media that you want to see or hear (movies, shows, songs, books, podcasts etc…)?
5 generally feel stressed out by the number of choices available to you when you are faced with making a decision?

Choice-Related Stress (B): 001 – 007

How often do you feel stress out about making good or even perfect choices regarding…

0 = Never, 1 = Rarely, 2 = Sometimes, 3 = Frequently, 4 = Often, 5 = All the time, . = refuse to answer

1 your education?
2 your career?
3 your friends?
4 your family?
5 your dating or romantic relationships?
6 how to use your down time?
7 your volunteer or service activity involvement?

Identity Consolidation: 001 –011

Please use the following scale to rate how much you agree with each statement below.

1 = Strongly Disagree, 2 = Somewhat disagree, 3 = Somewhat agree, 4 = Strongly agree

1 I have a strong sense of who I am.
2 I am often swayed by the opinions of others.
3 I am able to listen to my internal voice when faced with tough decisions.
4 I can easily make the choices about what I think is right when faced with a dilemma.
5 I would never make a decision without asking my friends for input.

6 I am confident that I know what type of career I want to pursue over the next 10 years.
7 I have a clear sense of identity.
8 I know what I am looking for in a romantic partner.
9 I touch base with my family often about decisions I need to make in my daily life.
10 I am confident that I can figure out how to solve most of the challenges I will face in the next year.
11 I would feel lonely if I spent an hour without interacting with my friends of family (in person or digitally).

APPENDIX B: DEPRESSIVE SYMPTOMS

Short Mood and Feelings Questionnaire (Angold et al., 1995)

	Not True	Sometimes	True
1. I felt miserable or unhappy			
2. I didn't enjoy anything at all			
3. I felt too tired that I just sat around and did nothing			
4. I was very restless			
5. I felt I was no good anymore			
6. I cried a lot			
7. I found it hard to think properly or concentrate			
8. I hated myself			
9. I was a bad person			
10. I felt lonely			
11. I thought nobody really loved me			
12. I thought I could never be as good as other kids			
13. I did everything wrong			

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