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Depression and modifiable protective factors among  
underemployed emerging adults

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Doctor of Philosophy

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## Abstract

### Depression and modifiable protective factors among underemployed emerging adults

By Robin E. McGee

Depression is a significant public health problem among emerging adults (i.e., 18 -25 year olds). Individuals who have difficulty finding suitable employment (i.e., underemployed) during their transition to adulthood may be at greater risk for depressive symptoms due to the stress they may experience. Understanding factors that may protect underemployed emerging adults from depressive symptoms may contribute to the development of effective intervention programs. However, little is known about the mental health outcomes of underemployed emerging adults, and the mechanisms that may mediate or moderate the relationship between stress and depressive symptoms. The aim of this mixed-methods dissertation study was to gain an in-depth understanding of stress, coping, and resilience among underemployed emerging adults. A diverse sample of underemployed emerging adults responded to an online questionnaire, and a subset participated in a one-on-one in-depth interview. Three analyses were completed as part of this dissertation study. Paper 1 examined whether race/ethnicity moderated the relationship between an additional stressor of discrimination and depressive symptoms, and whether perceived stress mediated the relationship. Qualitative data contextualized the quantitative findings. Paper 2 tested the transactional model of stress and coping to identify potential protective factors. Paper 3 developed a modified grounded theory of the resilience process among underemployed emerging adults. Results across the three studies suggest that this population has high levels of stress and depression, but that appraisal processes contribute to resilience. Additionally, coping and social support may contribute to resilience through more nuanced relationships than tested with the Transactional Model of Stress and Coping. Using the findings from these studies, future work could examine quantitatively how protective factors work together to contribute to resilience among underemployed emerging adults. Additionally, future prevention interventions could focus on the appraisal process.

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## **Chapter 1: Introductory Literature Review**

Depression, a leading cause of disability worldwide (Ferrari et al., 2013; Mathers & Loncar, 2006; Whiteford et al., 2013), places a considerable burden on individuals, families, and society through reduced quality of life, increased physical health problems, and high costs associated with lower productivity (Greenberg, Fournier, Sisitsky, Pike, & Kessler, 2015; McKenna, Michaud, Murray, & Marks, 2005). The etiology of depression is not fully understood, and a complex interplay of biological, environmental, and behavioral factors may contribute to the onset of depression (Mrazek & Haggerty, 1994; Sullivan, Neale, & Kendler, 2000). Among emerging adults (i.e., 18-25 year olds) the prevalence of depression is over 10% (Center for Behavioral Health Statistics and Quality, 2016).

Underemployment is one salient stressful experience that increases the risk of depressive disorders (Dooley, Prause, & Ham-Rowbottom, 2000; Jefferis et al., 2011; Rosenthal, Carroll-Scott, Earnshaw, Santilli, & Ickovics, 2012). Underemployed refers to those who are unemployed or employed in positions that do not meet their needs (i.e., fewer hours than desired or not fully using their education and skills) (Dooley, 2003). Underemployment is consistently at least two times greater among emerging adults compared to other adults, and the Great Recession contributed to labor market changes that have significantly impacted emerging adults (Bell & Blanchflower, 2011). Among adults, the relationship between unemployment and depression is well established, but much less is known about the mechanisms that may mediate (McKee-Ryan, Song, Wanberg, & Kinicki, 2005; Paul & Moser, 2009), as well as moderate, this relationship. Much less research has focused on individuals working in positions that do not meet their needs (Dooley et al., 2000). Additionally,

only limited research has examined resilience among underemployed emerging adults.

Research is needed to understand the experience of underemployment among emerging adults due to the consistently high rates of youth underemployment (Bell & Blanchflower, 2011), which has been called a public health crisis (Limb, 2011). Because they are just beginning to establish their economic independence, the impact and experience of underemployment may differ among emerging adults compared to older adults.

Increased understanding of the mechanisms that may mediate between underemployment and depression could inform future studies, including depression prevention interventions, and reduce the short- and long-term consequences associated with underemployment among emerging adults. Of particular relevance for prevention are factors that protect underemployed emerging adults from depression, i.e., factors that contribute to their resilience. Examining factors that may moderate the relationship between perceived stress and depression, such as race/ethnicity (Jager, 2011), could provide information needed to tailor interventions to specific groups.

This study examined the social and personal protective (resilience) mechanisms associated with depression among underemployed emerging adults. This age-group is going through a critical transition period that could provide an opportunity for the prevention of future major depressive episodes (MDEs), one of Healthy People 2020's objectives (U.S. Department of Health & Human Services, 2013). The conceptual models guiding this work were the resilience framework (Luthar, 2006;

Rutter, 1987) and the Transactional Model of Stress and Coping (Lazarus & Folkman, 1984). While resilience has been highlighted in the literature addressing prevention of mental disorders (Mrazek & Haggerty, 1994; O'Connell, Boat, & Warner, 2009), it has received less prevention research attention compared with research examining risk factors for mental illnesses (Bradshaw et al., 2012). Resilience focuses on the resources available to individuals to counteract the stressors they experience (Luthar, 2006; Rutter, 1987). Lazarus and Folkman's (1984) Transactional Model of Stress and Coping has influenced the development of the resilience framework (Smith-Osborne, 2008). The model focuses on the coping process in reaction to stressful experiences (Lazarus & Folkman, 1984). In this study, underemployment is the stressful experience that may place emerging young adults at increased risk for depression. Protective processes identified in the Transactional Model of Stress and Coping include coping self-efficacy, problem management, emotional regulation, and social support.

This study fills an important gap among in-depth studies of the experiences of underemployed emerging adults, the adversities they experience, the resources they use to cope, and the interactions among these adversities and resources. Prior to developing effective interventions for a specific population, it is necessary to identify factors that contribute to depression and how the factors work together in the causal pathway, an area that is rarely examined (Cuijpers, 2003). This study sought to identify potential protective factors to provide a theoretical foundation for future longitudinal studies and the development of preventive interventions (Howard, Galambos, & Krahn, 2010; O'Connell et al., 2009).

## Depressive Disorders: A significant public health problem

Depressive disorders, among the most common mental health problems (Kessler, Chiu, Demler, Merikangas, & Walters, 2005), are a significant public health concern. Worldwide, depression is a leading cause of disability (Ferrari et al., 2013; Mathers & Loncar, 2006; Whiteford et al., 2013). In 2015, it was the third leading cause of disability globally, and the second leading cause of disability in the United States (Global Burden of Disease 2015 Disease and Injury Incidence and Prevalence Collaborators, 2016). Depressive disorders lead to reduced quality of life (McKenna et al., 2005) and increased risk for physical health problems (Merikangas et al., 2007). Additionally, they are costly health conditions due to treatment expenses, comorbidities, and lost productivity (Greenberg et al., 2015).

The most prevalent mood disorder is major depressive disorder (MDD) with an estimated annual prevalence is 6.7% (Center for Behavioral Health Statistics and Quality, 2016; Kessler, Chiu, et al., 2005). Data from the Behavioral Risk Factor Surveillance System suggest that about 9.0% of adults meet criteria for current depression, including major depression and other depressive disorders (CDC, 2010). The lifetime prevalence of MDD is estimated to be between 13.2% (Hasin, Goodwin, Stinson, & Grant, 2005) and 16.6% (Kessler, Petukhova, Sampson, Zaslavsky, & Wittchen, 2012). However, lifetime prevalence is frequently assessed with retrospective studies, which likely underestimate the occurrence of depression suggesting that the lifetime prevalence of depressive disorders may be even greater (Kessler, Petukhova, et al., 2012; Moffitt et al., 2010; Patten et al., 2012).

Depressive disorders fall within the category of mood disorders. Depressive

disorders include syndromes characterized by a sad, empty, or irritable mood that influence functioning by changing somatic and cognitive factors, for a specific time frame (American Psychiatric Association, 2013; Ingram & Siegle, 2009). Major depressive disorder occurs when individuals have a period of at least two weeks when they have depressed mood or loss of interest or pleasure in activities for most of the day for nearly every day (American Psychiatric Association, 2013). Additional criteria include having at least four of the following symptoms: significant weight loss or gain; insomnia nearly every day; psychomotor agitation or retardation nearly every day; fatigue or loss of energy nearly every day; feelings of worthlessness or guilt; diminished ability to think or concentrate; and recurrent thoughts of death (American Psychiatric Association, 2013). With significant distress or impairment in functioning, these symptoms indicate an MDE (American Psychiatric Association, 2013). Dysthymia or persistent depressive disorder is a more chronic form of depression that continues for at least two years (American Psychiatric Association, 2013).

The causes of depressive disorders are complex. Genetic, behavioral, and environmental factors can all contribute (Mrazek & Haggerty, 1994; Sullivan et al., 2000). Stressful life events precede the onset of most MDEs (Hammen, 2005; Kendler, Karkowski, & Prescott, 1999). The diathesis-stress model provides one causal explanation. Originally used to explain a potential cause of schizophrenia (Bleuler, 1963; Zubin & Spring, 1977), the diathesis-stress model postulates that in order for someone to develop depression they have to be at increased vulnerability due to genetic, biologic, or psychological susceptibility (Ingram & Siegle, 2009). In



this model, increased vulnerability interacts with stressful experiences to a certain threshold (Zubin & Spring, 1977) to produce depression (Ingram & Siegle, 2009; Monroe & Simons, 1991). Stress may be particularly relevant for first onset depressive episodes (Hammen, 2005). Increased vulnerability may contribute to the reaction to stressful events (Hammen, 2005). Alternatively, depression may contribute to increased probability of experiencing stressful events (Hammen, 2005). Due to the bidirectional relationships among vulnerability, stressful events, and depression, a transactional model of depression has extended the diathesis-stress model (Calvete, Orue, & Hankin, 2013; Hankin & Abramson, 2001).

*Burden of Depression.* Depression contributes to considerable burden for individuals, families, and society. Depression is frequently a chronic-recurring disorder, where experiencing one MDE increases the risk of experiencing another MDE (Vuorilehto, Melartin, & Isometsä, 2005). Furthermore, those with depressive disorders are more likely to have comorbid mental (Vuorilehto et al., 2005) and physical health conditions (Carney & Freedland, 2000; Chapman, Perry, & Strine, 2005; Katon, Lin, & Kroenke, 2007; Moussavi et al., 2007), and in these cases treatment adherence is worse (Carney & Freedland, 2000; DiMatteo, Lepper, & Croghan, 2000; Kuhl, Fauerbach, Bush, & Ziegelstein, 2009). More specifically, individuals frequently have more than one mental health condition with more than 40% of annual cases of any mental health condition being comorbid (Kessler, Chiu, et al., 2005). Depression is also associated with worse health behaviors, such as smoking and alcohol abuse (Franko et al., 2005; Hooshmand, Willoughby, & Good, 2012; Katon et al., 2010), as well as limited physical activity (Franko et al., 2005;

Katon et al., 2010).

In addition to the associated health impacts, depression has economic and social consequences. For instance, depression may contribute to worse socioeconomic outcomes by reducing the likelihood of completing education (Arria et al., 2013) and increasing the likelihood of becoming unemployed (Greenberg et al., 2015; Whooley et al., 2002). Relationships with friends and family may deteriorate among individuals with depression (Umberson & Montez, 2010). More broadly, workplace costs associated with absenteeism and presentism comprise almost half of the economic burden associated with depression (Greenberg et al., 2015).

#### Emerging adults: An important risk group

Emerging adults are one group at increased risk for experiencing a depressive disorder (Eaton et al., 2012; Klein et al., 2013; Substance Abuse and Mental Health Services Administration & Center for Behavioral Health Statistics and Quality). The term “emerging adult” describes individuals who are transitioning from adolescence to adulthood (Arnett, 2000, 2015). Due to the transitional nature of this life stage, the consequences of depression could be significant (Elovainio et al., 2012; Reinherz, Giaconia, Hauf, Wasserman, & Silverman, 1999; Yaroslavsky, Pettit, Lewinsohn, Seeley, & Roberts, 2013). Identifying protective factors within this population may contribute to the development of effective preventive interventions.

During the past half century demographic changes, including delay in marriage and lengthening of education in industrialized countries, have contributed to a lengthening of the transition into adulthood from adolescence (Arnett, 2000). One example of this change is the number of young individuals living with their parents

for long periods of time (O'Connell et al., 2009). With this shift, Arnett (2000) has proposed a new period of development called emerging adulthood. Emerging adulthood is defined as the period between adolescence and young adulthood and is different from adolescence and young adulthood due to the independence from social roles and freedom from responsibilities (Arnett, 2000). In contrast to adolescence, a period of dependency, and young adulthood, a period of stability, emerging adulthood is characterized by the transitional and exploratory nature of the time period (Arnett, 2000). The emerging adult population is demographically diverse (Arnett, 2000). Additionally, the progression through emerging adulthood varies considerably and varies based on gender and race/ethnicity (P. Cohen, Kasen, Chen, Hartmark, & Gordon, 2003).

Some suggest that achieving adulthood comes from psychological and contextual processes (Cote & Schwartz, 2002). Young adults who have experience with role transitions, such as full time work, may be more likely to see themselves as adults (Johnson, Berg, & Sirotzki, 2007). Additionally, these experiences provide an opportunity to develop psychological aspects related to adulthood (Johnson et al., 2007). With the importance of role transitions, emerging adulthood is less well defined by age (Arnett, 2000). Therefore, someone who has married, started a career, and formed a sense of identity by age 20 may not be considered an emerging adult. On the other hand, some suggest that rather than attaining these status indicators, criteria of becoming an adult includes accepting responsibility, making independent decisions, and becoming financially independent (P. Cohen et al., 2003). However, the operationalization of emerging adulthood for research studies

tends to be between the ages of 18 and 25 (Arnett, 2000, 2015).

Identity formation is a key characteristic of emerging adulthood (Arnett & Brody, 2008; Schwartz et al., 2011; Schwartz, Cote, & Arnett, 2005). Previously, Erikson's lifespan theory suggested that adolescence was the period when identity was formed, but due to social and demographic changes that have occurred more recently emerging adults are delaying marriage and employment decisions for postsecondary education, which provides more opportunity for exploration (Arnett & Brody, 2008). Agency among young adults during the identity development phase contributes to exploration, flexible commitment, and deliberate choice making (Schwartz et al., 2005), which may contribute to positive identity formation strategies. Young adults who do not have agency demonstrate more avoidance-based strategies (Côté & Bynner, 2008; Schwartz et al., 2005). While some floundering during emerging adulthood may be useful for identity development (Schulenberg, Sameroff, & Cicchetti, 2004), it may also add to confusion and discomfort during this transition that may contribute to depressive symptoms (Schwartz et al., 2011).

Those with a clear sense of their identity may transition more easily through adulthood (Schwartz et al., 2011). Additionally, emerging adults who are satisfied with the direction of their identity commitments may be less likely to report depressive symptoms (Ritchie et al., 2013). Alternatively, those who struggle and experience difficulties throughout the transition are more likely to experience depressive symptoms (Schwartz et al., 2011). Emerging adults who can cope with exploration during this developmental phase may progress positively through

emerging adulthood. Characteristics contributing to positive adjustment focus on agency and include self-esteem, life purpose, and flexible commitment (Schwartz et al., 2005).

The transition-to-adulthood period offers the opportunity for a “turning point” that can influence long-term outcomes. Longitudinal studies have identified potential “turning points” when events occur that may influence the direction of an individual’s life (Masten, 2001). Examples of these opportunities include finding mentors, joining the military, or leaving negative peer groups (Masten, 2001). Individuals who have been demonstrating positive adjustment throughout adolescence will likely continue on this trajectory through emerging adulthood (Burt & Masten, 2010; Masten, Obradovic, & Burt, 2005). However, turning points provide an opportunity for those adolescents who have been struggling to change their lives for the better (Masten et al., 2005). Werner describes these as “second chance” opportunities (Werner, 1993; Werner & Smith, 2001). Some reasons for improvement during this time period may be due to the opportunity to find healthier environments and relationships (Luecken & Gress, 2010). For example, one study found that those who reported higher levels of parental conflict at age 18 experienced faster rates of declines of depressive symptoms during the emerging adult time period (Galambos, Barker, & Krahn, 2006).

Emerging adulthood is characterized by heterogeneity, but uncertainty and instability are consistent experiences of emerging adults (Arnett, 2000; O’Connell et al., 2009). During this period, emerging adults navigate finding their first full-time job, continuing their education, and forming relationships and families (O’Connell et

al., 2009). Increasing amounts of responsibilities may add to additional uncertainty and stress during this time period (O'Connell et al., 2009).

### Depression and Emerging Adults

With uncertainty and social isolation as two psychosocial factors associated with depression (Kaplan, Roberts, Camacho, & Coyne, 1987), the transition to adulthood may be a particularly relevant period for depressive disorders. Emerging adults experience uncertainty associated with the transition and the changes to social support systems could increase social isolation (Arnett, 2000; Schulenberg, Sameroff, et al., 2004). The stressors of transitioning to adulthood may manifest into depressive disorders, especially if symptoms were subthreshold during adolescence (Klein et al., 2013; Schulenberg, Sameroff, et al., 2004). This transition period may provide opportunities or increase vulnerability depending on the resources and support systems available (Obradovic, Burt, & Masten, 2006).

While the majority of emerging adults experience improved mental well-being during their transition to adulthood (Ferro, Gorter, & Boyle, 2015; Schulenberg & Zarrett, 2006; Yaroslavsky et al., 2013), depressive disorders are a significant problem in this population (Kessler & Walters, 1998). The epidemiology of mental disorders among children and adolescents is developing and suggests that many mental disorders begin earlier than previously understood (Kessler, Avenevoli, et al., 2012; Merikangas et al., 2010).

Current data suggest that depression frequently occurs in early to middle adulthood (Eaton et al., 2012). One study reported that over 35% of young adults, reported a first lifetime MDD episode between the ages of 19 and 31 (Klein et al.,

2013). Using data from the National Comorbidity Survey Adolescent Supplement (NCS-A) and adult NCS-R, Kessler (2012) reports a median age-of-onset (AOO) for a MDE of 25 (interquartile range (IQR): 23-27). However, others report a younger average AOO (Lewinsohn, Rohde, Seeley, Klein, & Gotlib, 2000; Reinherz et al., 1999), with one estimate suggesting an AOO of 15 (O'Connell et al., 2009).

Variations in AOO curves likely vary by cohort, which could contribute to different estimates of AOO (Gotlib & Hammen, 2009). Additionally, recall bias may misestimate actual AOO for respondents (Kessler, Berglund, et al., 2005). The age when respondents are asked about the onset of depression could impact the estimates. For example, one study reported that AOO clustered around 10 years prior to the interview for all ages of respondents (Simon & VonKorff, 1992).

Those with an earlier AOO may be at increased risk for a recurrent MDE during the emerging adulthood period (Kessler & Walters, 1998; Reinherz et al., 1999). For example, data from the Oregon Adolescent Depression Project, suggest that while 24% of emerging adults experience a first incident MDE between the ages of 18 and 24, 43% of those who had already experienced a MDE prior to emerging adulthood had a recurrent episode (Rohde, Lewinsohn, Klein, Seeley, & Gau, 2012). Annually, 10.3% of adults ages 18-25 report having at least one MDE according to National Survey on Drug Use and Health (NSDUH) data (Center for Behavioral Health Statistics and Quality, 2016). This rate has increased significantly when comparing 2005 to 2014 data (Center for Behavioral Health Statistics and Quality, 2016).

*Risk Markers and Risk Factors Related to Depression among Emerging Adults.* A variety of factors contribute to increasing the risk for depression. These factors may

be grouped into risk markers and risk factors. Risk markers are distinguished from risk factors because they are not modifiable (Kraemer et al., 1997; O'Connell et al., 2009). Risk markers for depression include female gender, White race/ethnicity, and family history of depression (Kraemer et al., 1997; O'Connell et al., 2009). Risk factors for depression include stress, negative cognitions, poor social relationships, and low socioeconomic status (Klein & Santiago, 2003; Luthar, 2006; O'Connell et al., 2009). As proposed by the diathesis-stress model, not everyone with these risk markers and factors will have depression. However, these factors may combine to increase vulnerability to depression.

*Gender.* MDD is more common among women (Hasin et al., 2005; Kessler, Chiu, et al., 2005; Klein et al., 2013; Riolo, Nguyen, Greden, & King, 2005). The gender differences related to MDD present around the time of puberty (Angold, Costello, & Worthman, 1998; Cyranowski, Frank, Young, & Shear, 2000). During adolescence, girls begin to report two to three times higher rates of depression compared with boys (Gotlib & Hammen, 2009; Hankin et al., 1998). Some suggest the gender differences in MDD result from a confluence of factors, including hormonal changes, cognitive vulnerabilities, social transitions, and negative life events (Cyranowski et al., 2000; Hankin & Abramson, 2001). For example, women may be more likely to ruminate or have dysfunctional attitudes (Hankin & Abramson, 2001).

Data from one study suggests that emerging adult women are five times more likely than emerging adult men to maintain a high level of depressive symptoms throughout emerging adulthood (Frye & Liem, 2011). Similarly, in another study population, female gender doubled the risk of depression during emerging



adulthood when controlling for a number of other factors (Klein et al., 2013).

However, results from other studies suggest a convergence of prevalence of depression between emerging adult men and women (Adkins, Wang, & Elder, 2009; Galambos et al., 2006; Tanner et al., 2007).

*Race.* Among adults, non-Hispanic whites tend to report higher rates of MDD, but the chronicity of depressive disorders may be more severe for African Americans compared with non-Hispanic whites (Breslau et al., 2006; Kessler, Chiu, et al., 2005; Riolo et al., 2005; Williams et al., 2007). Some suggest that the overall lower rate of MDD among minority populations may be associated with protective factors more common among minorities (Breslau et al., 2006; Williams et al., 2007). However, the lower rate of mental disorders among minority populations has been termed a “paradox” due to the higher rates of physical illness and experiences of disadvantage. On the other hand, the differences may be due to selection effects or measurement error (Keyes, Barnes, & Bates, 2011).

African American emerging adults are more likely to report an increase in depressive symptoms during emerging adulthood, which may contribute a convergence in prevalence among racial/ethnic groups during emerging adulthood (Frye & Liem, 2011; Gore & Aseltine, 2003). The emerging adult timeframe may be particularly relevant for African Americans due to changes in social environments that may increase stress (Frye & Liem, 2011; Gore & Aseltine, 2003).

*Family History.* Due to the genetic factors that may increase susceptibility to depression, family history is also a common risk marker (Klein et al., 2013; Wilde et al., 2014). However, family history may also contribute to depression through social

factors. For instance, the childhood environment may be more stressful in households where a parent is depressed (Hammen, Hazel, Brennan, & Najman, 2012).

*Stress.* Beyond risk markers, risk factors for depressive disorders include early adversity and chronic stress (Klein & Santiago, 2003; Mrazek & Haggerty, 1994; U.S. Department of Health and Human Services, 2001). Stress is a frequent precursor to a MDE (Hammen, 2005). Stressful life events during childhood and adolescence increase the risk of depression (Hammen, 2005; Keyes et al., 2012; Klein et al., 2013). Adverse childhood events remain important predictors of depression during emerging adulthood (Frye & Liem, 2011; Klein et al., 2013). Additionally, stressful life events are more strongly related to depression among individuals without a family history of depression (Monroe, Slavich, & Gotlib, 2014). These experiences may contribute to learned helplessness (Forgeard et al., 2011) and maladaptive cognitive processes (Beck & Dozois, 2011), which contribute to depression. In addition to stressful life events, chronic stresses, such as experiences of discrimination are associated with depressive symptoms (Clark, 2014; U.S. Department of Health and Human Services, 2001).

Several psychosocial stressors may contribute to depressive disorders among emerging adults. Developmental stresses are related to maturation and are part of normal development (Bradshaw et al., 2012). Not attaining adulthood may increase risk for stress and negative health outcomes, such as increased depressive symptoms (Mossakowski, 2011). As mentioned, the transition to adulthood may provide a turning point for some adolescents. Some who functioned well during

adolescence may not handle the transition to adulthood well, whereas some who had more difficulties during adolescence may handle the transition to adulthood well (Schulenberg, Bryant, & O'Malley, 2004).

*Cognitive factors.* Maladaptive cognitive thoughts, including thoughts related to personal loss, deprivation, and failure, are related to depression (Beck & Dozois, 2011). Additionally, negative attitudes related to appraisal from others and failures contribute to depressive symptoms (Lewinsohn, Joiner, & Rohde, 2001). Similarly, low self-esteem is related to increased incidence of depression (Sowislo & Orth, 2013).

*Poor Social Skills and Relationships.* Poor interpersonal functioning has been associated with a stable trajectory of depressive symptoms from adolescence to adulthood (Yaroslavsky et al., 2013). Additionally, poor relationships with family may predispose individuals to depression (Ferro et al., 2015). These relationships may be characterized by social undermining or social negativity, which are also risk factors for depression (Ibarra-Rovillard & Kuiper, 2011; Vinokur & Vanryn, 1993). Social undermining and negativity occur when someone criticizes, expresses anger or dislike, or demonstrates insensitivity to an individual (Ibarra-Rovillard & Kuiper, 2011; Vinokur & Vanryn, 1993).

*Low socioeconomic status.* Low socioeconomic status, including low income (Hasin et al., 2005), low educational status (Riolo et al., 2005), and unemployment (Kessler et al., 2003), are correlates of depression, as well. Low childhood SES has prospectively been associated with an increased lifetime risk of major depression among adults (Gilman, Kawachi, Fitzmaurice, & Buka, 2002). In addition to social

status contributing to the relationship between SES and depression (McLaughlin, Costello, Leblanc, Sampson, & Kessler, 2012), some suggest that low childhood SES contributes to depression outcomes by increasing exposure to stressful environments, such as low level of parental support, family disruption, or neighborhood disadvantage (Tracy, Zimmerman, Galea, McCauley, & Stoep, 2008). Low childhood SES may indirectly influence educational and occupational outcomes, as well (Quesnel-Vallee & Taylor, 2012).

### Unemployment, Underemployment, and Depression

Economic factors have long been associated with mental health outcomes, including depressive disorders (Bambra, 2010; Wahlbeck & McDaid, 2012). Much of the research on employment status and mental health has focused on unemployed populations. The broader concept of underemployment has received less research attention (Allan, Tay, & Sterling, 2017; Dooley et al., 2000). Underemployed populations include individuals who are unemployed and in suboptimal employment situations, such as involuntary part-time work or over-qualification (Dooley, 2003; Jensen & Slack, 2003; McKee-Ryan & Harvey, 2011). Individuals who are unemployed and in suboptimal employment situations experience similar negative health consequences (Dooley et al., 2000; Friedland & Price, 2003; Perreault, Toure, Perreault, & Caron, 2016; Rosenthal et al., 2012; Sadava, O'Connor, & McCreary, 2000).

The Bureau of Labor Statistics (BLS) defines unemployed as people who are available for work, do not have a job and have actively looked for work in the prior four weeks (Bureau of Labor Statistics, 2014). The BLS provides a broader measure

of underemployment that includes people marginally attached to the labor force and people employed part-time for economic reasons. People who are marginally attached to the labor force are neither working nor actively looking for work, but want a job and have looked for a job in the past year; people who are employed part-time and for economic reasons want full-time work but have settled for part-time work (Brundage, 2014). To accurately describe the studies on employment status and health, the term unemployment will be used to describe studies that only sampled unemployed populations. Where the continuum of employment status was studied (i.e., unemployed to sub-optimally employed), the term underemployment will be used.

The risk of depression is higher among adults who are underemployed (Dooley, 2003; McLeod, Lavis, MacNab, & Hertzman, 2012), suggesting that underemployed emerging adults are a risk group that could experience increased incidence and prevalence of depression. One study found about three times greater odds of depression for unemployed emerging adults compared to the employed emerging adults (McGee & Thompson, 2015). Among all adults, a meta-analysis examining the relationship between unemployment and depression reported a medium effect size ( $d = 0.50$ ) (Paul & Moser, 2009). Unemployment may increase risk for depression, in part due to reduced opportunity for social contact and social status (Jahoda, 1981; McLeod et al., 2012; Wanberg, 2012). Similarly, the economic deprivation associated with loss of income is associated with negative mental health outcomes (Jahoda, 1981; Kessler, House, & Turner, 1987). Experiencing unemployment may compound other life stresses (Kessler et al., 1987), such as the transition to adulthood.

The response to unemployment varies (McKee-Ryan et al., 2005). Significant moderators strengthening the relationship between unemployment and mental health are male gender, longer unemployment duration, and lower-level occupational status (Paul & Moser, 2009). Social undermining, financial strain, a high work-role centrality outlook and a high stress appraisal contribute to worse mental health outcomes (McKee-Ryan et al., 2005). Additionally, job-search intensity is related to worse mental health, which may be due to the stress involved in searching for a job and the associated rejection (McKee-Ryan et al., 2005). Some psychosocial correlates associated with better mental health while unemployed include social support, financial resources, time structure, re-employment expectations, and problem- and emotional-focused coping strategies (McKee-Ryan et al., 2005).

Underemployment may result from an individual choosing to leave a full-time job or being fired from a job. Among emerging adults, underemployment may also result from having difficulty finding a job after leaving school. The likelihood of experiencing underemployment is considerable, especially for emerging adults. Data from the National Longitudinal Survey of Youth 1979 (NLSY79) suggests that, on average, baby boomers experienced over five spells of unemployment between the ages of 18 and 46 (Bureau of Labor Statistics, n.d.). In this cohort, between the ages of 18 and 24, participants experienced 2.9 spells of unemployment (Bureau of Labor Statistics, n.d.).

As these data suggest, entering the labor market as a young person is challenging, and underemployment is high among emerging adults (Arnett, 2015).

Emerging adults consistently have the highest rate unemployment compared with other age groups (Athar et al., 2013). The Great Recession contributed to employment difficulties. Among recent college graduates, many reported difficulty finding work that meets their needs (Aronson, Callahan, & Davis, 2015). Additionally, employment-related challenges, including finding a job, difficulty developing careers, and experiences with underemployment, were among the biggest challenges that recent graduates reported (Aronson et al., 2015).

Even with an improving labor market in 2015, the unemployment rate among emerging adults aged 18-24 was over 10%, which was more than double the rate for adults 25 to 54 (around 4%) (Bureau of Labor Statistics, 2016). In 2015, the underemployment rate for workers under the age of 25 was 21% compared to 11% for all workers (Kroeger, Cooke, & Gould, 2016). This high rate of underemployment among emerging adults is an important economic as well as public health concern.

The health effects of underemployment may differ by the cause of underemployment. For example, one study examining health outcomes among those who were unemployed involuntarily or voluntarily demonstrated worse health status for both groups, but being fired or laid off contributed to much greater odds of reporting worse health (Strully, 2009a). Similarly, voluntarily unemployed people reported lower levels of depressive symptoms compared with involuntarily unemployed people, and upon re-employment the voluntarily unemployed reported significantly fewer depressive symptoms compared with the involuntarily unemployed (L. Waters, 2007). These results correspond with other research suggesting that stressful events that result from an individual's behavior are more

strongly associated with depression than events that result from independent events (Kendler et al., 1999).

As mentioned, among emerging adults, some may be unemployed because they have not found employment after leaving school. Two recent meta-analyses investigating the relationship between unemployment and mental health included studies among school leavers. One study found higher, but not statistically significant, distress symptoms among school leavers who became unemployed compared with school leavers who obtained employment and school leavers who continued with education (Paul & Moser, 2009). This study also found that U-shape relationship between age and distress associated with unemployment with younger and older people reporting more distress than middle-age people (Paul & Moser, 2009). However, the other study found that school leavers had worse mental health compared with adult samples (McKee-Ryan et al., 2005).

*Causality.* Considerable debate in the unemployment and health literature concerns causality. Unemployment may not be the cause of negative health, including mental health, outcomes. Instead, reverse causation wherein poor mental health contributes to increased likelihood of unemployment may contribute to this relationship (Fergusson, Horwood, & Woodward, 2001; Whooley et al., 2002). Thus, this “healthy worker effect” may contribute to bias in examining the relationship between employment and health, because those who are employed are more likely to be healthy (Li & Sung, 1999). Alternatively, the relationship between unemployment and poor health outcomes may be spurious wherein both outcomes are related to a common risk factor or causal process (Fergusson et al., 2001).



To account for possible selection effects, researchers have used study populations where a factory or plant closed and everyone lost a job, regardless of health status (Strully, 2009b; Wanberg, 2012). Plant closure studies provide a natural experiment to reduce selection effects (Paul & Moser, 2009; Strully, 2009b). In these situations large numbers of individuals lose their jobs due to economic or business reasons, which reduces the influence of individual characteristics contributing to job loss (Paul & Moser, 2009). Meta-analysis results suggest that in factory closure situations, unemployed individuals had higher levels of distress compared with employed individuals (Paul & Moser, 2009), supporting the causation hypothesis.

When a natural experiment is not feasible, a number of researchers have included potentially confounding variables in their analyses (Fergusson, Horwood, & Lynskey, 1997; Fergusson et al., 2001; Fergusson, McLeod, & Horwood, 2014; Jefferis et al., 2011; Kessler et al., 1987). In addition to accounting for potentially confounding variables, longitudinal studies may reduce bias related to a “third variable” that is not measured contributing to the relationship between unemployment and mental health outcomes. For instance, adolescents (16 - 18) who have a previous history of psychological problems and substance abuse, as well as parental conflict and low family SES, are more likely to be unemployed (Fergusson et al., 1997). The relationship between unemployment and depression was no longer significant after controlling for these factors (Fergusson et al., 1997).

Emerging adults may have a different experience than other age groups due to societal expectations related to transitioning to adulthood. Among an emerging

adult population, one longitudinal study in New Zealand suggested that factors such as family conflict, parental illicit drug use, child sexual abuse, and history of depression or anxiety confound the relationship between depression and unemployment (Fergusson et al., 2001). After accounting for these variables exposure to unemployment was associated with an increased risk of depression, providing evidence that that unemployed emerging adults are a vulnerable population for depression (Fergusson et al., 2001).

One prospective study tested both the selection and causation hypotheses among European adults who were employed and unemployed (Jefferis et al., 2011). The findings suggest that the high rates of mental health problems among the unemployed populations is likely due to both causation and selection factors (Jefferis et al., 2011). In support of the causation hypothesis, the strength of the relationship between unemployment and depressive symptoms, in this study, was stronger for those who became recently unemployed (Jefferis et al., 2011).

Another prospective study based on an Australian population of young adults also tested the selection and causation hypotheses (Fergusson et al., 2014). This study also found support for both hypotheses for a number of psychosocial outcomes, including MDD (Fergusson et al., 2014). Once again, exposure to unemployment during young adulthood contributed to increased risk of MDD (Fergusson et al., 2014).

Both natural experiment and observational studies have provided evidence that unemployment is associated with worse health outcomes (McLeod et al., 2012; Paul & Moser, 2009; Strully, 2009b). These studies also demonstrate that health status

contributes to job status suggesting a bidirectional relationship exists. With support for a bidirectional relationship between unemployment and mental health, the unemployed population is a risk group that could benefit from interventions aimed at reducing depressive symptoms. Unemployment is one salient stressful experience that increases the risk of experiencing a MDE (Jefferis et al., 2011). Additionally, stress and depression among the underemployed may contribute to unhealthy coping behaviors (Rosenthal et al., 2012), as well as delayed re-employment (Taris, 2002).

*Consequences.* The experience of unemployment may contribute to long-term negative outcomes, or “scarring” (Daly & Delaney, 2013; Strandh, Winefield, Nilsson, & Hammarstrom, 2014; Thern, de Munter, Hemmingsson, & Rasmussen, 2017). Scarring may effect employment and socioeconomic prospects (Hammarstrom & Janlert, 2002), as well as mental health outcomes (Mossakowski, 2009; Strandh et al., 2014). Scarring effects may be particularly relevant among emerging adults who experience unemployment during their transitional period (Hammarstrom & Janlert, 2002; Mossakowski, 2009; Strandh et al., 2014).

Those who experience depression while unemployed may have more difficulty finding employment (Taris, 2002), which may contribute to increases in long-term unemployment. Additionally, experiencing unemployment during the transition to adulthood significantly predicts depressive symptoms from ages 27 to 37, even when controlling for prior depressive symptoms, current socioeconomic status (SES), and family background (Mossakowski, 2009). In addition to depressive symptoms, the experience of unemployment during emerging adulthood is related

to lower career satisfaction among men and women in their early 30s, as well as lower life satisfaction among men (Howard et al., 2010). Improved understanding about protective factors associated with depressive disorders during this transition period could assist with identifying points of intervention (Howard et al., 2010).

#### Underemployment, Emerging Adulthood, and Depression

As mentioned above, social contact, social status, and financial strain are three factors that contribute to poor mental health among unemployed adults (Jahoda, 1981; McLeod et al., 2012; Wanberg, 2012). The emerging adult population, however, may experience underemployment differently. If emerging adults do not identify strongly with the role of an employed person, the effect of unemployment on social status may not contribute to worse mental health. Additionally, underemployed emerging adults may find underemployment provides an opportunity for increased social contact with friends or exploration of employment options. Furthermore, underemployed emerging adults may not have as many financial commitments, which could reduce feelings of financial strain.

On the other hand, emerging adults may not view underemployment as an opportunity for exploration and may experience stress related to their underemployed status. For example, negative perceptions of public attitudes toward unemployed people contribute to higher levels of psychological distress among emerging adults (Bjarnason & Sigurdardottir, 2003). Similarly, unemployed emerging adults who expected to be employed are more likely to report depression (Mossakowski, 2011). These unfilled expectations likely contribute to stress associated with unemployment (Mossakowski, 2011). Unemployed emerging adults

report higher levels of financial strain compared with employed and student emerging adults (Bacikova-Sleskova et al., 2007), suggesting that unemployment could increase psychological distress in this population (Bjarnason & Sigurdardottir, 2003), as well.

Unemployment during emerging adulthood may delay adult identity formation and status, as well as independence (Reine, Novo, & Hammarstrom, 2004).

Emerging adults who are not able to explore employment options due to unemployment may not progress with their identity development (Schwartz et al., 2011). This delay could contribute to increased incidence of depression (Aseltine & Gore, 2005; Schwartz et al., 2011).

With changing labor market structures, and consistently high underemployment rates among emerging adults (Athar et al., 2013; Bell & Blanchflower, 2011), the prevalence of depression among this group may likely increase in the coming years (Galambos et al., 2006). The transition from adolescence to young adulthood is accompanied by a number of uncertainties (O'Connell et al., 2009). The potential situational stressor of being underemployed and the developmental stressor of transitioning to young adulthood (Bradshaw et al., 2012), may combine to increase the incidence of MDEs.

Uncertainty and instability are consistent experiences of emerging adults (Arnett, 2000). Underemployed emerging adults are at particular risk for negative outcomes due to the disadvantages of underemployment and increased experiences of social exclusion (Côté & Bynner, 2008). They may have limited opportunity to make choices throughout their trajectory into adulthood (Luyckx, Schwartz,

Goossens, & Pollock, 2008), which could increase depressive symptoms (Ritchie et al., 2013).

*Stress.* As described above, underemployment may increase risk for depression. One definition of stress provided by Aldwin (2009, p. 24) states:

*Stress refers to that quality of experience, produced through a person-environment transaction, that, through either overarousal or underarousal, results in psychological or physiological distress.*

Pearlin and colleagues' (1981) study of the stress process elaborated on how job disruption contributes to stress proliferation. Stress proliferation occurs when an eventful experience converges with chronic strains to produce stress. When stressful life events exceed peoples' ability to cope with the demands of the events, the risk for poor health outcomes increases (Lazarus & Folkman, 1984). The higher levels of stress among younger people compared to older groups (American Psychological Association, 2016; S. Cohen & Janicki-Deverts, 2012) may be related to these new experiences.

Various types of stress are related to poor mental health outcomes, including traumatic events or natural disasters, early adversity, significant life events, chronic stress, and daily hassles (Lazarus & Folkman, 1984). All of these are associated with poor mental health outcomes (Assari & Lankarani, 2016; Keyes et al., 2012; Norris, Tracy, & Galea, 2009; Vrshek-Schallhorn et al., 2015). Traumatic events include events such as terrorist attacks, mass shootings, or natural disasters (Norris et al., 2009). Early adversity refers to significant life events that occur during childhood, including neglect and abuse (Keyes et al., 2012). Significant life events include losing

a job, changing jobs, or moving. They are acute changes that occur in short time periods (Carr & Umberson, 2013). Chronic strains are persistent, recurring demands and include stressful jobs or poor neighborhood environments (Carr & Umberson, 2013). Underemployment can be considered a stressful life event, but can also be a chronic stressor depending on circumstances and the length of the experience. A longitudinal study found that stressful life events or chronic stressors each uniquely contributed to the onset of depression (Vrshek-Schallhorn et al., 2015).

The response to underemployment varies with it being more impactful for some and less impactful for others. In some cases, being underemployed, may not directly cause stress among emerging adults, but instead operate through a “wider context of life strains.” (Pearlin et al., 1981, p. 339) The combination of stressful experiences and chronic strains may converge to produce stress (Pearlin et al., 1981).

*Discrimination.* Certain stressors related to the underemployment context may increase poor mental health outcomes. In addition to the convergence of a potentially stressful life period and the experience of underemployment, these situational stressors during emerging adulthood may be exacerbated through exposure to other persistent chronic stressors (Pearlin et al., 1981), such as everyday discrimination. Perceptions of discrimination as a class of stressors is increasingly receiving empirical attention due health consequences associated with it (Williams & Mohammed, 2009). Some propose that African Americans may face additional stress and discrimination during emerging adulthood due to leaving familiar environments and entering new environments that may expose them to different forms of discrimination (Arnett & Brody, 2008).

One definition of discrimination is that it is “a socially structured and sanctioned phenomenon, justified by ideology and expressed in interactions, among and between individuals and institutions, intended to maintain privileges for members of dominant groups at the cost of deprivation for others” (Krieger, 2000, pg. 41). In other words, discrimination is unfair treatment based on belonging to a certain group that results in disadvantage (National Research Council, 2004). Further distinction of the types of discrimination may be categorized by the source, including institutional, structural, and interpersonal (Krieger, 2000, 2014). At the interpersonal-level, people may experience everyday discrimination (e.g., daily hassles) or more discrete major events (e.g., hate crimes) (Karlsen & Nazroo, 2006; Krieger, 2000). An example of everyday discrimination is being treated with less courtesy or respect than others (Sternthal, Slopen, & Williams, 2011; Williams, Yan, Jackson, & Anderson, 1997).

Over three-quarters of Black adults report experiencing everyday discrimination compared to 61% of all adults (American Psychological Association, 2016). Accordingly, most research on discrimination focuses on racial/ethnic discrimination (Pascoe & Richman, 2009). Discrimination occurs for a variety of reasons, including gender, sexuality, disability, and age, among others (Krieger, 2000, 2014). Discrimination is common with a majority of U.S. adults (61%) reporting day-to-day discrimination (American Psychological Association, 2016).

Experiences of discrimination contribute to health disparities, and poor physical and mental health outcomes (Lewis, Cogburn, & Williams, 2015; Paradies, 2006; Pascoe & Richman, 2009; Williams & Mohammed, 2009; Williams, Neighbors, &



Jackson, 2003). Even anticipating discrimination may lead to a stress response (Sawyer, Major, Casad, Townsend, & Mendes, 2012), especially among those who have had previous discrimination experiences (Pearlin, Schieman, Fazio, & Meersman, 2005). Therefore, the mental health impacts of discrimination may be even greater compared to the physical health impacts (Paradies, 2006). Chronic discrimination, such as everyday discrimination, may be worse for mental health outcomes compared to lifetime discrimination (Pascoe & Richman, 2009).

*Appraisal of Discrimination.* The stress response to discrimination is a major pathway linking discrimination experiences to poor mental health (Pascoe & Richman, 2009). In a 2009 meta-analysis of perceived discrimination and health outcomes, 12 experimental studies testing stress responses were identified (Pascoe & Richman, 2009). The results suggest that perceived discrimination increases negative psychological stress responses (Pascoe & Richman, 2009). Moderator analyses to examine differences by groups were not possible due to limited data. A more recent study has assessed the stressfulness of racial and non-racial discrimination experiences among Black and White adults (Williams et al., 2012). Group differences were not statistically significant, but White adults reported slightly higher stressfulness scores than Black adults (Williams et al., 2012). Additionally, a higher percentage of Black adults reported not being surprised or being resigned as emotional responses to racial and non-racial discrimination (Williams et al., 2012).

Myriad studies have identified a relationship between discrimination and stress (Pascoe & Richman, 2009). In contrast, the mediating processes linking stress and

discrimination has received less attention (King, 2005; Ong, Fuller-Rowell, & Burrow, 2009). Similar to other stressors, the appraisal of discrimination plays an important mediating role in the stress response (Lazarus & Folkman, 1984). Appraisal of discrimination stress may help explain the individual variation in how discrimination influences health (King, 2005). For instance, an event that is highly significant to an individual will confer a stress response (Lazarus & Folkman, 1984). For racial discrimination, racial identity may affect the appraisal process with a stronger racial-identity contributing to more threatening appraisals (Sellers, Caldwell, Schmeelk-Cone, & Zimmerman, 2003) and stress responses (Neblett & Roberts, 2013). In an experimental study, the personal relevance of a discrimination experience mediated the relationship between discrimination and stress responses among African American women providing support for the role of appraisal in determining health effects of racial discrimination (King, 2005). A cross-sectional study reported prior exposure to discrimination contributes to a greater likelihood of perceiving discrimination events as threatening or harmful (Brondolo et al., 2005).

A variety of measures have been developed in recent years to assess perceptions of discrimination (Karlsen & Nazroo, 2006). One way to measure discrimination due to a variety of reasons uses a two-stage question that asks about experiences of mistreatment followed by a question about the reasons (Sternthel et al., 2011; Williams et al., 1997). A limitation of many measures of discrimination is that they do not appraise the stressfulness of the experience, instead they focus on the frequency. Building upon measures used to assess other stressful events, Williams

(2009) has suggested that assessments of perceived discrimination may need to include markers related to the stressfulness of the experience to gain a better understanding of the influence on negative health outcomes.

Harrell (2000) extended stress and coping theory and coined the term “racism-related stress” to capture the dynamic relationship between experiencing racism that exceeds individual resources to cope with it. A meta-analysis of the relationship between racism and mental health identified 37 studies that included appraisal measures to assess racism (Pieterse, Todd, Neville, & Carter, 2012). While they did not find a statistically significant association between ways of measuring racism and mental health outcomes across studies, they suggested that refining measures to assess the frequency and stressfulness of perceived racism would allow for greater understanding of the relationships (Pieterse et al., 2012).

Age may influence the strength of the relationship between discrimination and negative health outcomes (Gee, Walsemann, & Brondolo, 2012). Compared to 61% overall population, 75% of younger adults (age 18 -36) report experiencing everyday discrimination (American Psychological Association, 2016). Among African American young adults, discrimination was associated with negative mental health outcomes (Hurd, Varner, Caldwell, & Zimmerman, 2014; Neblett, Bernard, & Banks, 2016). A longitudinal study of Black emerging adults found that frequency of perceived racial discrimination predicted increases in depressive symptoms over a four-year period (Hurd et al., 2014). Neblett et al. (2016) distinguished between racial discrimination frequency and how bothering it was examine whether socioeconomic status and gender moderated relationships with poor mental health

functioning. Participants reported the frequency of various microaggressions (e.g., being ignored, not given service) and how bothered they were by the experiences. The measure of bother provided an indication of the stressfulness of the experience. The findings suggest that regardless of gender or socioeconomic status, racial discrimination bother was consistently associated with poor mental health functioning. However, racial discrimination frequency was moderated by gender and socioeconomic status. More specifically, young men of lower socioeconomic status and women of higher socioeconomic status reported worse mental health outcomes associated with more frequent racial discrimination (Neblett et al., 2016). While frequency and bother were correlated overall, these findings suggest that the relationship between frequency of racial discrimination and poor mental health may be stronger for specific groups of individuals (Neblett et al., 2016).

*Consequences of Depression during Emerging Adulthood.* Experiencing depression during the transition to adulthood has consequences for future outcomes. Depression during emerging adulthood increases the risk for a future episode of depression (Reinherz et al., 1999; Yaroslavsky et al., 2013). Additionally, findings from a longitudinal study from mid-adolescence to age 30 suggest that depressive symptoms contribute to the erosion of personal and social resources (Yaroslavsky et al., 2013), as well as impact socioeconomic outcomes (Elovainio et al., 2012). This may in part be due to depression interfering with achieving developmentally important milestones, such as establishing romantic relationships and identifying suitable career development and employment opportunities (Reinherz, Paradis, Giaconia, Stashwick, & Fitzmaurice, 2003). Depression during emerging adulthood

may have a “cascading” effect on life outcomes, in addition to health risk behaviors (Brody, Chen, & Kogan, 2010). Lastly, females and males with depressive symptoms at age 18 are more likely to report lower life satisfaction as adults, and females with depression are more likely to report higher levels of career dissatisfaction than those without (Howard et al., 2010).

In addition to the general stress associated with the transition to adulthood, one of the groups that has been disproportionately impacted by high rates of unemployment are young adults. High rates of youth unemployment has been called a “public health emergency” (Limb, 2011). However, as discussed, limited research has investigated how underemployment impacts emerging adults’ mental health, such as depression. Even less research has focused on protective factors that may contribute to better mental health, or resilience, among underemployed emerging adults.

*Protective Factors Related to Depression among Emerging Adults.* Protective factors are modifiable characteristics at the various social ecological levels associated with reduced incidence of depression (O’Connell et al., 2009). Protective factors may be grouped into assets or resources (Fergus & Zimmerman, 2005). Assets are located within individuals, and examples include coping skills and self-efficacy (Fergus & Zimmerman, 2005). Resources are located externally to the individual, and include examples include social support and mentoring (Fergus & Zimmerman, 2005). Few studies have investigated risk and protective factors related to depression among the emerging adult population (Frye & Liem, 2011; Galambos et al., 2006; Klein et al., 2013). For depression, protective factors include

coping skills, such as cognitive reappraisal and problem management (Aldao, Nolen-Hoeksema, & Schweizer, 2010) and social support (Galambos et al., 2006; Kawachi & Berkman, 2001). *Coping*. Coping pertains to the cognitive and behavioral resources used to deal with stressful events (Lazarus & Folkman, 1984). Most psychological treatments for depression, including cognitive behavioral therapy, aim to improve coping skills through teaching cognitive reappraisal, acceptance, and problem management skills (Aldao et al., 2010; Beck & Dozois, 2011). Problem management strategies seek to change stressful situations or reduce the consequences associated with stressful situations (Aldao et al., 2010). These strategies typically involve specific actions that do not regulate emotions, but may reduce the presence of stress (Aldao et al., 2010). Consensus for measuring the central constructs that encompass coping and the structure of coping is lacking (Compas et al., 2014; Skinner, Edge, Altman, & Sherwood, 2003). In one review, over 400 different labels for coping were identified (Skinner et al., 2003). Some of the most common categories of coping include: problem solving, support seeking, avoidance, distraction, and positive cognitive restructuring (Skinner et al., 2003). As part of their review Skinner et al. (2003) identified higher order distinctions used to classify the coping categories. Some of these distinctions include problem-focused vs. emotion-focused, wherein people try to manage the problem that is causing distress or regulate their emotional response to the problem; approach vs. avoidance, wherein people take a proactive approach to the problem or avoid the problem; and social vs. solitary, wherein people may involve other people or try to do it on their own (Skinner et al., 2003). However, these groupings may artificially simplify the construct (Aldwin &

Werner, 2009; Lazarus, 1996; Skinner et al., 2003) by not accounting for multidimensionality or multi-functionality of some coping categories (Skinner et al., 2003). For instance, creating a plan may inform problem solving and calm emotions (Skinner et al., 2003).

*Social Support.* Supportive relationships are one of the key protective factors associated with mental health (U.S. Department of Health and Human Services, 2001), and the inverse relationship between the existence of social support and depression is well established (Turner & Brown, 2010). Supportive relationships may enhance perceptions of control and promote norms associated with positive behaviors (Umberson, Crosnoe, & Reczek, 2010; Umberson & Montez, 2010). While social relationships play an integral role in mental health outcomes, mental health plays an integral role in the formation and maintenance of social relationships (Umberson & Montez, 2010).

For emerging adults, greater levels of social support are associated with fewer depressive symptoms (Galambos et al., 2006; Hurd & Zimmerman, 2010). The type of support and provider of support may be particularly relevant (Adam et al., 2011; Jackson, 1999). Individuals who report worse relationships with their parents have higher levels of depression (Adam et al., 2011). While emotional support from parents contributes to better mental health outcomes among unemployed emerging adults, receiving parental advice and instrumental support may contribute to higher levels of psychological distress (Bjarnason & Sigurdardottir, 2003). In addition to parental support, having a natural mentor is associated with reductions in depressive symptoms during emerging adulthood (Hurd & Zimmerman, 2010).

However, one study did not find a significant relationship between social support from family and friends and MDD in young adulthood (Klein et al., 2013).

#### Potential Moderators of the Underemployment-Depression Relationship

Among emerging adults, the prevalence of underemployment and depression varies by sex, race/ethnicity, and educational status. Differential exposure and variations in experiences based on these characteristics may strengthen or weaken the relationship between perceived stress associated with underemployment and depression. For instance, disparities in unemployment levels could further enhance disparities in health outcomes due to the association between social determinants, such as unemployment and health (Athar et al., 2013). Furthermore, reactions to stress may operate differently depending on race/ethnicity, gender, and educational status due to differential vulnerability to stress (Berchick, Gallo, Maralani, & Kasl, 2012). Data from Spain suggest that the interactions between unemployment and mental health vary depending on gender and social class (Artazcoz, Benach, Borrell, & Cortes, 2004). Research on these moderators among emerging adults within the United States is needed due to contextual and cultural differences. The experience of transitioning to adulthood may vary depending on race/ethnicity and gender (Arnett & Brody, 2008). For instance, the opportunities for educational attainment vary by race/ethnicity (Jager, 2011). However, limited research has examined differences in the transition among various groups (Côté & Bynner, 2008), and especially related to underemployment.

*Minority Status.* Race/ethnicity is influential in the transition to adulthood.

Results from one longitudinal study suggest that Black young adults assume more



adult roles immediately after high school, but do not increase their independence (P. Cohen et al., 2003). Similarly, Black young adults report feeling more like adults at younger ages compared with white young adults (Johnson et al., 2007). These differences could contribute to a greater risk for depressive symptoms during emerging adulthood among minorities (Adkins et al., 2009; Brown, Meadows, & Elder, 2007)

Unemployment is a considerable problem for minority populations as well. Black American emerging adults are more likely to be unemployed and not attending school (Jager, 2011). One estimate suggests that African Americans are twice as likely to be unemployed compared with non-Hispanic whites (Athar et al., 2013). With this higher rate of unemployment, prospects for finding employment, and optimal employment may be lower (Paul & Moser, 2009).

Stress experienced by underemployed African American emerging adults may further contribute to increased incidence of depression during this life stage. Discrimination is more likely among Black adults (American Psychological Association, 2016). Discrimination combined with economic disparities may place unemployed African Americans in “double jeopardy,” which may reduce their ability to cope with unemployment (Strully, 2009b). Alternatively, “reverse double jeopardy” may occur where White workers experience worse health outcomes due to potentially greater economic and status losses (Strully, 2009b). The jobs that minorities lose are more likely to be “bad jobs” that place workers at greater risk for poor health outcomes (Strully, 2009b). Therefore, leaving these jobs may improve health outcomes (Strully, 2009b).

Few studies have examined the relationship between underemployment and depression among minority populations (Paul & Moser, 2009). However, unemployment, particularly among African American men, is significantly related to increased rates of MDE (Hudson, Neighbors, Geronimus, & Jackson, 2012). One study found that Black American emerging adults compared with White emerging adults were more likely to be underemployed, which increased the risk of depression (Jager, 2011). Family SES accounted for the racial differences in the relationship between challenging social roles, such as underemployment, and depressive symptoms. However, family SES did not account for all the racial difference in the likelihood of experiencing challenges during emerging adulthood, such as underemployment (Jager, 2011).

During periods of high unemployment, such as the recent recession, African Americans report a higher probability of mental illness compared with White Americans (Lo & Cheng, 2014). Additionally, the relationship between unemployment and psychological distress may be stronger among African Americans compared with White Americans (Alexandre, Patrick, Beauliere, & Martins, 2009). On the other hand, studies comparing MDD among employed and unemployed African Americans have mixed results. One study among adults indicated that unemployed African Americans have higher rates of MDD (Williams et al., 2007), whereas a study among African-American young adults did not identify differences in the prevalence of MDD by employment status (Ialongo et al., 2004).

*Gender.* Gender differences in the incidence and prevalence of depression are well recognized. As described, during adolescence, girls begin to report two-to-three

times higher rates of depression compared with boys (Gotlib & Hammen, 2009; Hankin et al., 1998). However, some research suggests a convergence between males and females during emerging adulthood (Adkins et al., 2009; Galambos et al., 2006; Tanner et al., 2007).

Unemployment may contribute to a different pattern of depression between men and women emerging adults. In general men have had a higher rate of unemployment compared with women (Athar et al., 2013). A meta-analysis examining the relationship between unemployment and mental health reported greater effect sizes in samples with a smaller proportion of women participants (Paul & Moser, 2009). Some attribute this stronger relationship to cultural expectations of men as the “breadwinner” and their identity with work. Women may find alternative roles that can replace paid employment. However, emerging adults may not identify with these traditional gender roles. The emerging adult period may challenge the traditional gender roles, which could reduce stresses associated with underemployment among women and men. Younger emerging adult men may not have the added stress of traditional gender role expectations (Bjarnason & Sigurdardottir, 2003). Additionally, some studies have not reported differences in psychological status between men and women who are unemployed (Jefferis et al., 2011; Thomas, Benzeval, & Stansfeld, 2005). For instance, both men and women who transitioned from employment to unemployment in one longitudinal study were close to two times more likely to report psychological distress compared to individuals who remained stably employed (Thomas et al., 2005).

*Educational Status.* The transition to adulthood may vary based on educational

attainment, as well. For instance, in a study examining subjective status of adulthood among young adults ages 18 to 35, those without a college education were more likely to report feeling like an adult compared with those with a college education (Lowe, Dillon, Rhodes, & Zwiebach, 2013). However, when age, gender, race/ethnicity, and a few additional variables were controlled, college status was no longer significantly associated with subjective adult status (Lowe et al., 2013). Those who are not engaged in education may have the greatest opportunity to achieve traditional markers of adulthood, especially if they obtain employment (Lowe et al., 2013). The opportunity to achieve adult status associated with employment, however, varies by educational status. Those with higher educational status are less likely to be unemployed (Athar et al., 2013). Furthermore, educational status may offer some protection against depressive symptoms. Among individuals who involuntarily lose their jobs, those with higher levels of education report fewer depressive symptoms compared to those with lower levels of education (Berchick et al., 2012).

#### Theoretical Framework

While effective interventions aimed at preventing depression have been developed (Cuijpers, van Straten, Smit, Mihalopoulos, & Beekman, 2008; Munoz, Cuijpers, Smit, Barrera, & Leykin, 2010), including an intervention focused on unemployed adults (Vinokur, Price, Caplan, van Ryn, & Curran, 1995; Vinokur, Schul, Vuori, & Price, 2000), additional work in this area is needed (Beardslee, Chien, & Bell, 2011). In 2009, the IOM called for a “fundamental paradigm shift” toward focusing on preventive interventions for mental illnesses (O'Connell et al., 2009, p.

378). Resilience has been highlighted as an important emerging area for research in seminal reports (Mrazek & Haggerty, 1994; O'Connell et al., 2009; U.S. Department of Health and Human Services, 2001). Therefore, the conceptual models guiding this proposed project are the resilience framework and the Transactional Model of Stress and Coping (Lazarus & Folkman, 1984).

*Resilience Framework.* Research has more recently focused on protective factors with the emphasis on promoting mental health (O'Connell et al., 2009), contributing to an increased focus on resilience. However, resilience has received less research focus compared with the traditional paradigm of studying and reducing risk factors to reduce the burden of mental illnesses (Bradshaw et al., 2012). Resilience focuses on the resources available to individuals to counteract the stressors they experience (Luthar, 2006; Rutter, 1987).

One definition of resilience is the process of “bouncing back” from adverse or stressful events (Rutter, 1987). In other words, resilience is the process of “positive adaptation despite experiences of significant adversity or trauma” (Luthar, 2006, pg. 742). As this definition suggests, the resilience process depends on two components: significant adversity or trauma (risk) and positive adaptation (Luthar, 2006). With these two components, resilience is not directly measured (Luthar, 2006). Instead, the process of resilience is examined by measuring levels of adversity, the presence of assets and protective factors, and their influence on outcomes. In one situation someone may have the ability to cope with the adverse experience or stress, but in another situation the individual may not demonstrate resilience (Rutter, 1987). Resilience is not a fixed attribute (Rutter, 1987) or a

personal characteristic (Luthar & Cicchetti, 2000).

Originally, resilience was thought to be a special case of adjustment, but resilience is surprisingly ordinary (Masten, 2001). Similarly, for depression, as previously described, stressful life events often precede the onset of depression, but most people experiencing stressful life events will not experience depressive symptoms (Hammen, 2005).

The resilience framework builds upon the diathesis-stress model (Bleuler, 1963; Zubin & Spring, 1977), but resilience focuses on the resources available to individuals to counteract the stressors they experience (Luthar, 2006; Rutter, 1987). Rutter (1987) distinguishes between vulnerability and risk factors similarly to the distinction between diathesis and stress. Depending on the research question a variable may be a risk or vulnerability factor (Rutter, 1987). For example, if someone loses a job, unemployment is a risk factor for depression, and someone who does not have a job may be more vulnerable to other life events (Rutter, 1987). Vulnerability factors exacerbate the negative effects of a risk factor (Luthar & Cicchetti, 2000).

The definition of significant adversity differs greatly among resilience research studies. Examples include socioeconomic disadvantage, maltreatment, chronic illness, and parental mental illness, among others (Luthar, 2006). Some researchers specify one adverse event and other researchers examine multiple adverse events (Luthar, 2006; Masten et al., 2005). For emerging adults, the normative experience of transitioning to adulthood, while stressful, may not constitute enough adversity to be significant because it is a normative experience (Masten et al., 2005). Instead,

the transition to adulthood would need to be compounded by other events to qualify as significant adversity (Masten et al., 2005). For this study, an additional potential stressful event is the experience of underemployment and the stressors associated with it.

To reduce risk and vulnerability, protective processes may operate by reducing exposure or re-adjusting the meaning of the event (Rutter, 1987). These techniques are similar to psychological treatments for depression. Re-adjusting the meaning of the event may include stress inoculation opportunities or experience handling manageable exposure to the adverse event (Rutter, 1987). Reducing the negative chain of events refers to providing support and intervening after an adverse event to reduce further harm (Rutter, 1987). Additionally, self-esteem and self-efficacy may be developed through secure relationships and successful achievement experiences (Rutter, 1987).

The definition of positive adaptation depends on the research context and questions (Luthar, Cicchetti, & Becker, 2000). Among emerging adults, some define resilience as achieving developmentally appropriate tasks, such as finding employment and developing romantic relationships (Burt & Masten, 2010; Elder, 1998; Masten et al., 2005; E. Waters & Sroufe, 1983). Others may define resilience as the absence of psychopathology, such as depression (Masten, 2001; Masten et al., 2005). However, Masten et al. (2005) adds that good functioning in addition to the absence of psychopathology is essential for resilience. For instance, the absence of psychopathology does not mean an individual is doing well across other life domains (Luecken & Gress, 2010). Alternatively, some with psychopathology will do

well across a number of life domains despite the disorder (Luecken & Gress, 2010), suggesting they may demonstrate resilience too. Another criterion to consider is whether the positive adaptation is defined as functioning that is well-above average or near average (Luthar et al., 2000). The level of functioning anticipated to qualify as demonstrating resilience depends on the level of risk experienced (Luthar et al., 2000). Masten and colleagues (2001; 2005) and Luthar (2000) suggest that if the adverse condition increases the risk of depression, the absence of depression or presence of emotional regulation may be appropriate positive outcomes indicating resilience. Additionally, studies that have examined resilience among adults tend to focus on subjective well-being and the absence of distress (Luthar, Sawyer, & Brown, 2006). With that said, additional outcome measures, including assessments from others (Luthar et al., 2006), may be useful to examine how protective factors contribute to positive adaptation in other domains among emerging adults.

*Transactional Model of Stress and Coping.* Lazarus and Folkman's Transactional Model of Stress and Coping (Lazarus & Folkman, 1984) has influenced the development of the resilience framework (Smith-Osborne, 2008). The model focuses on the coping process in reaction to stressful experiences and proposes that the impact of an external stressor depends on the appraisal of the situation and the psychological and social resources available (Glanz & Schwartz, 2008; Lazarus & Folkman, 1984). Limited research has examined how this model may be applied to underemployed emerging adults. However, the model of stress and coping fits with existing models of depression in terms of cognitive and interpersonal relationships (Folkman & Lazarus, 1986).



In accordance with the causation hypothesis, the broader stress and coping framework is one of the most commonly applied ways of examining depression and underemployment (Dooley, 2003). With this application, experiencing underemployment is the stressful life event that may challenge adaptive capacity (Dooley, 2003). Stress associated with underemployment may be experienced through manifest (e.g., financial, wages) and latent (e.g., time structure, status) functions (Dooley, 2003; Jahoda, 1981). The transactional model of stress and coping suggests that the impact of stress on emotional outcomes is mediated by the cognitive appraisal of the situation and the coping resources available to deal with the situation (Folkman & Lazarus, 1986; Lazarus & Folkman, 1984).

*Appraisal.* The transactional process begins with the appraisal of the situation. Appraisal is comprised of primary and secondary appraisal. Primary appraisal refers to how an individual evaluates the significance of an event and secondary appraisal refers to the coping resources available to the individual (Folkman & Lazarus, 1986). Primary appraisal is the evaluation of the potential stressor, such as being underemployed (Glanz & Schwartz, 2008). Individuals who find underemployment stressful may feel they have more to lose as a result of being underemployed (Folkman & Lazarus, 1988). Furthermore, not meeting an expectation of being employed may increase symptoms of depression (Mossakowski, 2011). Primary appraisal may consist of irrelevant, benign-positive, and stressful categories (Lazarus & Folkman, 1984). If someone who is underemployed does not place value on their employment status, then they are more likely to appraise the situation as irrelevant (Lazarus & Folkman, 1984). If

someone who is underemployed has recently made the transition to underemployed to escape a poor working environment, they may appraise the situation as benign-positive (Lazarus & Folkman, 1984). As opposed to irrelevant and benign-positive appraisal, a stress appraisal views the situation as a harm/loss, challenge, and/or threat situation (Lazarus & Folkman, 1984). Harm/loss appraisal occurs when damage occurs to a person, which can include status loss related to underemployment status (Lazarus & Folkman, 1984). Challenge appraisals occur when there is an opportunity for growth. The person may appraise the stressful situation as a learning opportunity, but may be challenged by new demands (Lazarus & Folkman, 1984). Lastly, a threat situation may occur when a stressful event is anticipated as threatening due to negative future implications, such as future financial difficulties associated with underemployment (Lazarus & Folkman, 1984).

With secondary appraisal, an individual evaluates the situation to decide what can be done about it (Lazarus & Folkman, 1984). Secondary appraisal interacts with primary appraisal to shape the degrees of stress and the emotional reaction (Lazarus & Folkman, 1984). Secondary appraisal has been operationalized by using measures of control and, more recently, coping self-efficacy (Chesney, Neilands, Chambers, Taylor, & Folkman, 2006). Secondary appraisal contributes to whether problem management or emotional regulation is used to manage the stressful encounter (Folkman & Lazarus, 1988) and may be measured through the construct of coping self-efficacy.

For those with depression, the appraisal of stressful encounters does not appear

to be more negative than those with low depressive symptoms (Folkman & Lazarus, 1986). However, those with more depressive symptoms may evaluate stressful situations as more impactful than those with fewer depressive symptoms (Folkman & Lazarus, 1986). Therefore, those with more depressive symptoms may be more vulnerable to stressful situations (Folkman & Lazarus, 1986). Taking a transactional approach to depression, these bidirectional relationships may feedback to worsen depressive symptoms and increase the likelihood of a MDE.

*Coping.* After the event is cognitively appraised, an individual uses coping, which is the thoughts and actions used to manage the demands of a stressful event. Coping refers to the cognitive and behavioral resources used to manage a situation appraised as stressful, such as problem management, emotional regulation (Folkman & Lazarus, 1988), and social support (Glanz & Schwartz, 2008). Folkman and Lazarus (1988) suggest that coping mediates the relationship between appraisal and the emotional response to a stressful situation. The coping mechanisms individuals apply depend on the situational context, as well as individual characteristics (Folkman, Lazarus, Pimley, & Novacek, 1987). A variety of coping taxonomies have been developed (Skinner et al., 2003). In the Transactional Model of Stress and Coping, Folkman and Lazarus (1986) define coping as emotion-focused or problem-focused.

Emotion-focused coping may consist of emotional regulation through distancing, avoidance, or acceptance (Aldao et al., 2010; Beck & Dozois, 2011; Folkman & Lazarus, 1986). Emotional regulation includes strategies individuals use to alter the cognitive appraisal of the situation (Folkman & Lazarus, 1988; Glanz & Schwartz,

2008). Traditionally, emotion-focused coping is related to higher levels of psychological distress. More recently, a shift in measuring emotion-focused coping has allowed identification of positive aspects related to emotion-focused coping, which may contribute to reduced psychological distress (Austenfeld & Stanton, 2004). Among emerging adults, some may focus attention on positive aspects of being unemployed, such as the increased availability of free-time (Bacikova-Sleskova et al., 2007).

Problem-focused coping may consist of planful problem solving or confrontive coping (Folkman & Lazarus, 1986, 1988; Glanz & Schwartz, 2008). Data from Project Competence suggest that during emerging adulthood some resources that contributed to good outcomes included autonomy, planfulness, achievement motivation, and future orientation, among others (Masten et al., 2004; Masten et al., 2005). Problem-solving skills may include searching for information, analyzing situations, weighing options, and selecting a plan of action (Lazarus & Folkman, 1984).

*Social Support.* Social support may be a strategy used to assist with emotion regulation or to assist with problem solving by seeking information or assistance. Among unemployed adults, social support significantly modifies the relationship between unemployment and depression and may be a stronger protective factor than self-concept and coping (Kessler et al., 1987). Supportive relationships are among the key protective factors associated with mental health (Turner & Brown, 2010; U.S. Department of Health and Human Services, 2001). Positive social relationships may indirectly provide a buffer from stress (S. Cohen, 1988; Thoits,

2011), or the lack of social relationships may directly influence depressive symptoms through chronic strain (Needham, 2007). The inverse relationship between the existence of social support and depression is well established (Turner & Brown, 2010). As with stress, social support may indirectly or directly influence depression outcomes.

Bringing these two theories together combines the developmental focus of the resilience literature and the specific processes of the stress and coping theory into an integrative theoretical framework tailored for understanding the stress and coping processes of underemployed emerging adults with the aim of focusing on protective factors. Incorporating the stress and coping framework with resilience also addresses one of the criticisms of resilience research: lack of conceptual clarity (Sameroff & Rosenblum, 2006). The stress and coping framework provides a middle-range theoretical model that falls within the overarching resilience conceptual model (Fawcett, 1999) and builds upon a mediating model of resilience (Masten, 2001).

#### Rationale for Research

Depression is a significant public health problem that results in significant consequences to individuals, families, and society. The emerging adult timeframe is a particularly relevant life stage in which the incidence of depression is most common, including first onset and recurrent episodes. Rohde and colleagues (2012) recently called for a “primary focus” of depression research examining the period of emerging adulthood to reduce first incidence and recurrence.

*Gaps in the Literature.* Limited attention has focused on emerging adults from life

course and stress process scholars (Pearlin, 2010). Less is known about the impact of underemployment on mental health outcomes of *emerging adults*, including stress and depression. Most of the research in this area has studied European (Axelsson & Ejlertsson, 2002; Bacikova-Sleskova et al., 2007; Bjarnason & Sigurdardottir, 2003; Reine et al., 2004), Australian (Creed & Watson, 2003), and Canadian (Breslin & Mustard, 2003), unemployed emerging adults. Few studies have investigated underemployment and depression among emerging adults in the United States (Aseltine & Gore, 2005; Jager, 2011; Rosenthal et al., 2012; Tandon, Dariotis, Tucker, & Sonenstein, 2013). Additionally, conflicting findings within the underemployment and health literature suggest this is an area needing more investigation (McKee-Ryan & Harvey, 2011; McKee-Ryan et al., 2005).

Within an American emerging adult population, those who are unemployed are more likely to report they are further behind in their transition to adulthood than they expected (Aseltine & Gore, 2005). This delay in obtaining adult status may increase risk for depressive symptoms. Another study of an American population found higher rates of depressive symptoms among emerging adults who face challenging circumstances, such as unemployment (Jager, 2011). Only one study has examined protective factors, i.e., coping resources emerging adults used to mitigate the negative experience of being unemployed during this transitional period (Tandon et al., 2013). The sample for this study was African Americans attending Youth Opportunity centers to improve economic outcomes in high-poverty areas (Tandon et al., 2013). The analysis used a person-focused approach rather than a variable-focused approach and grouped depressive symptoms with other negative

health outcomes. Additional research identifying specific coping mechanisms that contribute to resilience may inform potential intervention points. Furthermore, additional research is warranted to examine how a diverse group of emerging adults experience underemployment, its relationship with depression, and the coping mechanisms emerging adults use to deal with being underemployed.

In addition to a dearth of research focusing on the relationship between underemployment among emerging adults and depression, underemployed emerging adults are an understudied population. The sampling frames for most studies focusing on the emerging adult population have drawn from academic institutions (Brody, Yu, Chen, Kogan, & Smith, 2012; Frye & Liem, 2011; Galambos et al., 2006; Gore & Aseltine, 2003; Hurd & Zimmerman, 2010; Sheets et al., 2013; Shulman, Kalnitzki, & Shahar, 2009). These samples may have limited generalizability to the broader emerging adult population.

Most emerging adulthood literature has not addressed this broader population (Côté & Bynner, 2008). In particular, individuals who are not attached to institutions are excluded from these samples; the William T. Grant Foundation defined these individuals as the “Forgotten Half” (Haggerty, 1989). This forgotten half may be at greater risk for developing depressive disorders (Gore & Aseltine, 2003). One of the challenges of researching this forgotten half is that a valid sampling frame of emerging adults who are not attached to institutions does not exist (Kogan, Wejnert, Chen, Brody, & Slater, 2011). The transitional nature of the emerging adult experience (Arnett, 2000) makes identifying individuals outside of school more difficult, but nonetheless important (Syed & Mitchell, 2013).

Furthermore, this mixed-methods study offers a novel approach to examining the protective resources underemployed emerging adults use to combat depression. A number of researchers have highlighted the need for qualitative and mixed-methods studies in resilience research (Luthar & Brown, 2007; Ungar, 2003). Luthar (2007) describes how qualitative studies could inform the contents of quantitative studies and provide deeper insight into quantitative findings. Some dimensions of resilience may have been missed in initial studies, as well as intervention evaluations (Luthar & Brown, 2007). Quantitative evidence on resilience is only available for the protective or promotive factors that researchers have assessed (Burt & Paysnick, 2012), but a number of other potential factors may also contribute to resilience. Few studies have focused on depression among emerging adults. Most studies have examined the epidemiology of depression among emerging adults, but no mixed-methods studies have been completed to provide an in-depth examination of the experiences of underemployed emerging adults.

The relationship between unemployment and depression is well-established, but much less is known about the mechanisms that may mediate (McKee-Ryan et al., 2005; Paul & Moser, 2009), as well moderate, this relationship (Rosenthal et al., 2012). Research is needed to understand the experience of underemployment among emerging adults due to their consistently high rates of underemployment (Bell & Blanchflower, 2011). Because they are just beginning to establish their economic independence, there are potential differences in the impact of a context of unemployment upon emerging adults. Furthermore, the transition to adulthood may expose emerging adults to new stressors, including discrimination. Discrimination



during emerging adulthood could increase depressive symptoms (Hurd et al., 2014). Increasing understanding about the factors that may moderate and mediate the relationship between underemployment and depression (e.g., stress, discrimination, appraisal, and coping) could inform future prevention interventions and reduce the short- and long-term consequences associated with underemployment among emerging adults. Of particular relevance for prevention are factors that protect underemployed young adult from depression, meaning factors that contribute to their resilience.

*Aims.* The purpose of this mixed-method dissertation was to advance understanding about vulnerability, protective factors, and resilience among underemployed emerging adults. Using convergent parallel mixed-methods [QUANT + QUAL], this study examined the underemployment experience of emerging adults through three separate studies that explored: (1) vulnerability and potential resilience by examining how an additional stressor of discrimination contributed to stress and depression; (2) protective processes by testing the relationships among stress, coping, social support and depression; and (3); the resilience process by examining how vulnerability and protective factors interact among underemployed emerging adults. Three independent papers comprise this dissertation. Chapter 2 presents the first paper that used mixed-methods to identify whether certain groups of underemployed emerging adults were more vulnerable to depressive symptoms, and whether some exhibited potential resilience in the face of an added stressor of discrimination. This study described the stress process associated with experiencing discrimination as an underemployed emerging adult, and identified similar levels of

perceived stress and depressive symptoms across race/ethnicity and gender.

Chapter 3 presents the second paper that tested the Transaction Model of Stress and Coping. A path analysis examined whether the relationship between perceived stress and depressive symptoms was mediated or moderated by coping self-efficacy, problem management, emotional regulation, and social support. Chapter 4 presents the third paper where a grounded theory was developed to describe the resilience process among underemployed emerging adults. Lastly, Chapter 5 presents the combined results of this study and implications for future research and practice.

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**Chapter 2: Vulnerability among underemployed emerging adults: How does race moderate relationships of discrimination, perceived stress, and depressive symptoms?**

## Abstract

**Background:** Emerging adulthood is a transitional period when many experience underemployment and discrimination. Underemployed emerging adults are at risk for depression. The relationship between discrimination and depression is well-established, and a potential mediator of this relationship is perceived stress. Limited research has examined the relationships among discrimination, perceived stress, and depressive symptoms among underemployed emerging adults and whether their experiences differ by race.

**Methods:** Participants were recruited through word-of-mouth and online methods. Eligibility criteria included being between the ages of 18 and 25 and being underemployed. This mixed-methods study used quantitative data collected through an online questionnaire and qualitative data collected through in-depth interviews from underemployed emerging adults. Both questionnaires and interviews asked about stress, discrimination, and depression. Quantitative data were analyzed using path analysis to test whether perceived stress mediated the relationship between discrimination and depression, and whether race moderated the relationship. Qualitative data were analyzed using thematic analysis. Mixed methods were used to enhance understanding of the results.

**Results:** The quantitative sample consisted of 143 participants (Black:  $n=72$ ; White:  $n=71$ ; Women:  $n=91$ ; Men:  $n=52$ ). Fully 45.5% of the sample had moderate-to-severe depressive symptoms. Depressive symptoms and perceived stress did not vary by race. Black participants (mean=14.4, standard deviation (SD)=5.9) reported higher levels of discrimination than White participants (mean=12.0, SD=4.2;  $t=2.64$ ,  $p = .009$ ). The mediation analyses indicated moderated mediation, with perceived stress significantly mediating the relationship between discrimination and depressive symptoms for White participants only. The qualitative data (Black:  $n=19$ ; White:  $n=11$ ) bolstered support for these results, suggesting that perceptions of discrimination influence how discrimination relates to depressive symptoms.

**Conclusion:** Underemployed emerging adults had high levels of depressive symptoms. Discrimination was higher among Black participants, but was only related to perceived stress and depressive symptoms among White participants for whom perceived stress mediated the relationship between discrimination and depressive symptoms. The way underemployed emerging adults perceive discrimination experiences may alter the impact of discrimination on depressive symptoms. These findings can inform strategies for reducing the impact of discrimination on depressive symptoms.

## Introduction

Stressful life events often precede the onset of major depressive episodes (MDEs) (Hammen, 2005; Kendler, Karkowski, & Prescott, 1999). Depressive disorders, among the most common mental health problems (Kessler, Chiu, Demler, Merikangas, & Walters, 2005), are a significant public health concern (Mathers & Loncar, 2006). Data from the Oregon Adolescent Depression Project, suggest that 24% of emerging adults, those transitioning from adolescence to adulthood (Arnett, 2015), experience a first incident MDE between the ages of 18 and 24 (Rohde, Lewinsohn, Klein, Seeley, & Gau, 2012). Among those who had already experienced a MDE prior to emerging adulthood, 43% had a recurrent episode (Rohde et al., 2012). Based on these results, Rohde et al. (2012) called for increased understanding of the onset of depression for emerging adults. Part of increasing understanding requires comparing who does and does not experience depression during emerging adulthood, and examining who may exhibit resilience. This could provide opportunities to examine differences in what contributes to positive and negative outcomes, and inform future prevention efforts.

### *Resilience in Emerging Adulthood*

Resilience is defined as adapting positively despite adversity (Luthar, 2006). To study resilience, researchers identify populations experiencing adversities that increase vulnerability to negative health outcomes, such as depression. Appropriate definitions of positive adaptation to these adverse experiences is debated in the literature (Luthar, Cicchetti, & Becker, 2000). In some cases, when adverse conditions increase the risk of depression, the absence of depression or presence of

emotional regulation may indicate resilience (Luthar, 2006; Masten, 2001; Masten, Obradovic, & Burt, 2005). However, demonstrating good functioning beyond just the absence of psychopathology is essential for resilience (Masten et al., 2005). Most research on resilience focuses on children (Burt & Masten, 2010; Luthar & Brown, 2007), but interest is growing in understanding resilience in adulthood (Luthar & Brown, 2007), including emerging adulthood.

Emerging adulthood is typically defined as those between the ages of 18 and 25 (Arnett, 2015). The progression through emerging adulthood varies considerably and varies based on sociodemographic factors, including race/ethnicity (P. Cohen, Kasen, Chen, Hartmark, & Gordon, 2003). While over a quarter of emerging adults report depressive symptoms during emerging adulthood (Rohde et al., 2012), for many it is a period of improved mental well-being (Ferro, Gortler, & Boyle, 2015; Schulenberg & Zarrett, 2006; Yaroslavsky, Pettit, Lewinsohn, Seeley, & Roberts, 2013). Improvements in well-being may occur for some emerging adults due to new opportunities to find healthier environments and relationships (Luecken & Gress, 2010). However, those who do not participate in or have access to these opportunities may need additional support (Masten et al., 2005).

### *Adversity in Emerging Adulthood*

Emerging adults experiencing difficulties entering the labor market may not have the opportunity to find healthier environments, but instead may experience additional adversity. The uncertainty associated with emerging adulthood along with increasing amounts of responsibilities may increase exposure to adversity

during this life stage (O'Connell, Boat, & Warner, 2009), especially for those having difficulty finding work. Economic status has long been associated with mental health outcomes, including depressive disorders (Bambra, 2010; Crowe & Butterworth, 2016; Wahlbeck & McDaid, 2012). Much of the research on employment status and mental health has focused on unemployed older adult populations. Less research has included emerging adult, as well as *underemployed* populations (Allan, Tay, & Sterling, 2017; Dooley, Prause, & Ham-Rowbottom, 2000). Underemployed populations include individuals who are unemployed and in employment situations that do not fully meet their needs, such as involuntary part-time work or in jobs that do not fully use their skills (Dooley, 2003; Jensen & Slack, 2003). Inadequately employed and unemployed people experience similar negative health consequences (Dooley et al., 2000; Friedland & Price, 2003; Rosenthal, Carroll-Scott, Earnshaw, Santilli, & Ickovics, 2012; Sadava, O'Connor, & McCreary, 2000), making underemployment a risk factor for depressive symptoms.

Emerging adults experience high levels of underemployment (Bell & Blanchflower, 2011). Historically emerging adults have the highest unemployment rate of any age group (Athar et al., 2013; Bell & Blanchflower, 2011). In 2015, rates of underemployment were also about two times greater among emerging adults (21%) compared to the overall rate (11%) (Kroeger, Cooke, & Gould, 2016). Emerging adults engage in a wide variety of employment activities during their transition to adulthood (Arnett, 2015). During this period, employment and work become more central to identity. With the increased importance of employment and work, being underemployed may be a unique stressor that many are encountering

for the first time in their lives. Instability in work may contribute to *floundering* for some emerging adults while for others it allows for growth through exploration (Krahn, Howard, & Galambos, 2015).

Social stress plays a central role in understanding health disparities and resilience (Schwartz & Meyer, 2010). Underemployment experiences may differ by sociodemographic characteristics, where some groups may be exposed to additional stressors or higher levels of adversity. Some suggest that unemployed African Americans may be in “double jeopardy” due to economic disparities and discrimination, which may reduce their ability to cope with unemployment (Strully, 2009). On the other hand, another hypothesis highlights “reverse double jeopardy” where unemployed Whites experience worse health outcomes due to potentially greater economic and status losses (Strully, 2009).

One specific stressor that may be particularly relevant for some emerging adults trying to enter the labor market is the experience of discrimination. The challenges associated with underemployment among emerging adults may vary by race/ethnicity, due to the greater likelihood of experiencing discrimination among Black emerging adults (Arnett & Brody, 2008; Gore & Aseltine, 2003). Discrimination is a well-known social determinant of health that has significant consequences for poor mental health (Lewis, Cogburn, & Williams, 2015; Ong, Fuller-Rowell, & Burrow, 2009; Paradies, 2006; Pascoe & Richman, 2009; Williams & Mohammed, 2009; Williams, Neighbors, & Jackson, 2003).

Discrimination is defined as unfair treatment based on belonging to a certain group that results in disadvantage (Krieger, 2014; National Research Council, 2004). While discrimination can occur at various levels of the social ecological model, at the interpersonal level, discrimination ranges from experiences of everyday discrimination (e.g., daily hassles) to major events (e.g., hate crimes) (Karlsen & Nazroo, 2006; Krieger, 2000, 2014). Being treated with less courtesy or respect than others is an example of everyday discrimination (Sternthal, Slopen, & Williams, 2011; Williams, Yan, Jackson, & Anderson, 1997). Some evidence suggests that more chronic discrimination, such as everyday discrimination, may be worse for mental health outcomes compared to other types of discrimination (Pascoe & Richman, 2009).

Discrimination is more commonly reported among Black adults (American Psychological Association, 2016), and most discrimination research focuses on racial/ethnic discrimination (Krieger, 2014; Pascoe & Richman, 2009). Cross-sectional and longitudinal studies indicate that perceived racial discrimination is associated with poor mental health outcomes among emerging adults (Hurd, Varner, Caldwell, & Zimmerman, 2014; Neblett, Bernard, & Banks, 2016). Poor mental health associated with discrimination may also adversely impact physical health through a cascade effect where poor mental health increases the likelihood of engaging in riskier behaviors (Brody, Chen, & Kogan, 2010). The long-term consequences of discrimination, especially when combined with internalized racial biases, may result in premature aging (Chae et al., 2014).

Discrimination also occurs for a variety of other reasons, including gender, sexuality, disability, and age, among others (Krieger, 2000, 2014). Compared to the overall population, 75% of younger adults (age 18 - 36) report experiencing everyday discrimination, whereas 61% of all adults report it (American Psychological Association, 2016). Exposure during sensitive periods, such as emerging adulthood, may influence the strength of the relationship between discrimination and negative health outcomes (Gee, Walsemann, & Brondolo, 2012).

### *Stress Appraisal and Discrimination*

The stress response to discrimination is a major pathway linking discrimination experiences to poor mental health (Pascoe & Richman, 2009). While numerous studies have identified a relationship between discrimination and stress (Pascoe & Richman, 2009), the mediating processes linking stress and discrimination are less well understood (King, 2005; Ong et al., 2009). As with other stressors, the appraisal of discrimination plays an important mediating role in the stress response (Lazarus & Folkman, 1984). Appraisal of stressors may help explain the individual variation in how discrimination influences health (King, 2005). Among young adult African Americans, prospective data suggest that perceived stress partially mediates the relationship between racial discrimination experiences and psychological distress (Sellers, Caldwell, Schmeelk-Cone, & Zimmerman, 2003). Other research finds that the appraisal of racial discrimination as stressful is what actually explains poor health outcomes among African American adults, rather than solely the exposure to discrimination (Din-Dzietham, Nembhard, Collins, & Davis, 2004). However, this



relationship has not been studied extensively (Schwartz & Meyer, 2010), especially among a diverse population of Black and White underemployed emerging adults.

#### *Race as Potential Moderator*

With the prevalence of underemployment (Athar et al., 2013; Jager, 2011) and discrimination (American Psychological Association, 2016) being more likely among Black individuals, differential exposures to these risks by race may strengthen or weaken the relationships among discrimination, perceived stress, and depressive symptoms. Additionally, some research suggests higher rates of poor mental health outcomes among unemployed Black adults compared to White adults (Alexandre, Patrick, Beauliere, & Martins, 2009; Lo & Cheng, 2014), but more research is needed (Paul & Moser, 2009).

Although underemployment, discrimination, stress, and the developmental transition to adulthood may contribute to the onset of depression, many people who are underemployed are not depressed. Instead, they exhibit resilience in the face of life transition, poor employment circumstances (Galatzer-Levy, Bonanno, & Mancini, 2010; Infurna & Luthar, 2016), and even discrimination. This study examined vulnerability among underemployed emerging adults, and whether certain groups may exhibit resilience by examining whether race/ethnicity moderates the likelihood of depression in the face of adversity from underemployment and discrimination.

## Methods

This study employed a parallel, mixed-methods [QUANT + QUAL] design in which the quantitative and qualitative portions were conducted simultaneously (Creswell & Clark, 2007; Steckler, McLeroy, Goodman, Bird, & McCormick, 1992). This design allowed for the cross-validation of findings (Steckler et al., 1992). The quantitative and qualitative results were analyzed separately, but interpreted together by comparing and contrasting the results from each portion of the study (Steckler et al., 1992). Additional descriptive statistics from the quantitative data were analyzed to contextualize the qualitative findings.

### *Quantitative Methods*

#### *Quantitative Sample*

From February 2015-December 2016, underemployed emerging adults were recruited through online advertisements and word-of-mouth. Participants were eligible if they were between the ages of 18 and 25, not currently students, living in a metropolitan area of Georgia, and underemployed. Underemployment was defined as being unemployed or inadequately employed. Inadequate employment was defined as being in a job that required less skill than the individual's training, or fewer hours than desired. Examining inadequately employed and unemployed individuals provides a more comprehensive examination of employment hardship (Dooley, 2003). As mentioned, previous studies have combined these two groups due to the similarities in negative health outcomes associated with unemployment and inadequate employment (Dooley et al., 2000; Friedland & Price, 2003;

Rosenthal et al., 2012). For the analysis, the sample was restricted to participants who self-identified as non-Hispanic Black or non-Hispanic White. These two groups were selected to maximize variability in underemployment experiences, discrimination, and stress.

#### *Quantitative Procedures and Measures*

The quantitative portion of this study consisted of an online questionnaire that was administered through Feedback Server ®, a HIPAA compliant web-based data collection service. Online data collection allowed for convenient completion of the questionnaire and may have increased the willingness of individuals to disclose sensitive information, such as depression and experiences of discrimination (Baer, Saroiu, & Koutsky, 2002). Participants received a \$15.00 incentive for their participation.

*Everyday Discrimination.* One measure of stress was the short form of the everyday discrimination scale (EDS) (Sterthal et al., 2011; Williams et al., 1997). This 5-item measure assesses experiences of chronic and routine unfair treatment. The six-point Likert scale response options range from “never” (1) to “almost everyday” (6). One question asks, “In your day-to-day life, how often...are you treated with less respect than other people are.” All items were summed to determine the score, and higher scores reflected more experiences of everyday discrimination. Cronbach’s alpha was good for this measure (alpha = .81).

*Perceived Stress.* Another measure of stress was the perceived stress scale (PSS) (S. Cohen, Kamarck, & Mermelstein, 1983). This global measure of stress includes

14-items that ask about how often in the last month participants felt stress. Response options range from “never” (0) to “very often” (4) on a 5-point Likert scale. Questions ask about how often participants “felt nervous and ‘stressed’.” One question asks, “In the last month, how often have you been upset because of something that happened unexpectedly” (S. Cohen et al., 1983). The positively worded items were reverse scored. All items were summed to determine the score. Higher scores reflected greater perceptions of stress. In this sample, the Cronbach’s alpha for PSS was good at 0.81.

*Depressive Symptoms.* The outcome variable was depressive symptoms, which were measured with responses to the PHQ-8 (Kroenke, Spitzer, & Williams, 2001; Kroenke et al., 2009). This validated measure asks about the frequency of depressive symptoms over the last two weeks. Participants report the number of days over the past 2 weeks that they experienced symptoms of depression (0-14 days) (Kroenke et al., 2009). For example, questions ask how many days over the last 2 weeks individuals had “little interest or pleasure in doing things” or “trouble concentrating on things, such as reading the newspaper or watching television.” Response options were recoded to 0 for one day or less; 1 for two to six days; 2 for seven to 11 days; and 3 for twelve or more days. Participants were categorized into those with no-to-mild depressive symptoms (scores  $\leq 9$ ) and those with moderate-to-severe depressive symptoms (scores  $\geq 10$ ). The Cronbach’s alpha for depressive symptoms in this sample was good at 0.89.

Sociodemographic variables included age, self-reported race/ethnicity, gender, education level, marital status, and current living situation. Socioeconomic status

was measured with the highest level of education obtained by their parents and a measure of subjective social status (Singh-Manoux, Adler, & Marmot, 2003).

Additional questions about *underemployment* included current and previous work experience and the amount of time for which they had been looking for a job.

Questions about *depression history* included diagnosis of depression, treatment for depression, and family history of depression.

### *Quantitative Analyses*

Descriptive statistics and bivariate analyses were used to summarize the characteristics of the sample and identify confounding variables. The expectation-maximization algorithm under the missing-at-random assumption was used to estimate missing data (Enders & Gottschall, 2011). No data were missing for the race/ethnicity variable.

The focal relationships under investigation were whether perceived stress mediated the relationship between discrimination and depressive symptoms, and whether these relationships were moderated by race/ethnicity (Figure 2.1).

Depressive symptoms were modeled as a dichotomous outcome. The mediation relationship was tested using path analysis with weighted least squares means and variance adjusted (WLSMV) estimation to account for the dichotomous outcome (Kline, 2005). Moderated mediation was tested by comparing unconstrained and constrained simultaneous group modeling for Black and White participants.

Standardized variable scores were used for all analyses. For specified models, model fit was determined by examining the  $\chi^2$  statistic, Root Mean Squared Error of

Approximation (RMSEA), the Comparative Fit Index (CFI) (Hu & Bentler, 1999), and the Weighted Root Mean Square Residual (WRMR). Hu and Bentler's (1999) fit indices criteria were used to determine good model fit (RMSEA close to .06 and CFI close to .95). The WRMR is a recommended fit index for models with dichotomous outcome variables (Yu & Muthén, 2002). The suggested values for good model fit is less than 1.0 for WRMR. Moderation was assessed prior to adding confounding variables to the final model (Kleinbaum, Kupper, Muller, & Nizam, 1998). The path analyses were completed using Mplus 7.4. (Muthén & Muthén, 2010).

### *Qualitative Methods*

#### *Qualitative Sample*

A subset of participants from the quantitative portion of this study completed a semi-structured interview for the qualitative portion. Participants for the qualitative portion were purposively selected from the quantitative sample. Participants were selected to maximize variation in the sample by race, gender, and depressive symptoms status (Creswell & Plano Clark, 2007). Thirty participants were included in the qualitative analysis.

#### *Qualitative Procedure and Measures*

Qualitative interviews were conducted at locations convenient to participants. Interviews were audio recorded and transcribed verbatim. Participants received a \$25 incentive for their participation. The interview guide comprised three main sections that focused on underemployment experiences, resilience and coping resources, and mental health. In contrast with the quantitative survey, participants

were asked about experiences with discrimination and worries about discrimination in the job market. Follow-up questions were used to ask about experiences outside of the job market too. Participants were asked primarily about experiences based on race/ethnicity and gender. However, probes on other reasons for discrimination were used as well. Additionally, participants were asked about how experiences for each of the main topics may be influenced by race and gender.

### *Analyses*

The recordings of the interviews were transcribed verbatim and were analyzed using thematic analysis. A codebook was created using inductive and deductive codes. An initial codebook was developed, and two coders applied the codebook to the transcripts from three interviews. After independently coding each interview, the coders met to discuss the coding process and refine the codebook. After the codebook was finalized, the first author coded each transcript, and a second coder independently coded every fourth transcript.

All the authors on the research team are White, which may have contributed to the interpretation of the findings. The first author, who was also the interviewer, is a doctoral candidate in behavioral sciences and health education. Her dissertation focuses on resilience and stress, and coping among underemployed emerging adults. She is a White woman in her thirties. The other authors are faculty members in behavioral sciences and health education. Their expertise includes public mental health, depression, resilience, developmental psychology, and social determinants of health, and health disparities.

### *Mixed Methods*

After the initial analyses with of the quantitative and qualitative data, additional analyses were conducted to refine the analysis (Creswell & Plano Clark, 2007). Quantitative descriptive analyses were completed to compare the quantitative data with the qualitative findings, and additional qualitative analyses were completed to refine how participants related to discrimination experiences. The quantitative responses from the qualitative participants were used to increase precision in the analysis too (Creswell & Plano Clark, 2007).

### *Ethical approval*

Ethical approval was obtained through the Emory University Institutional Review Board. Consent was obtained prior to the participants' being screened for the study. If they were eligible, they completed the online questionnaire. Written consent for the one-on-one interviews was obtained prior to the start of the interview.

## Results

### *Quantitative Results*

#### *Quantitative sample*

The quantitative sample (N = 143) consisted of 91 women (63.6%) and 52 men (36.4%) and was evenly split between Black (n = 72, 50.3%) and White (n = 71, 49.7%) participants. The mean age was 23. About a quarter of the sample was working (n = 35, 24.5%). Almost half of the sample reported moderate-to-severe depressive symptoms (n = 65, 45.5%) (Table 2.1).



*Bivariate Relationships*

The mean discrimination score was 13.2 (standard deviation (SD) = 5.5) for the quantitative sample (Table 2.2). Discrimination was significantly associated with race ( $t = 2.64, p = .009$ ). Black participants reported higher levels of discrimination (mean = 14.4, SD = 5.9) compared to White participants (mean = 12.0, SD = 4.2). Those with a college education reported lower levels of discrimination compared to those with some college education or high school education or less ( $F = 3.96, p = .02$ ). Discrimination was also significantly negatively associated with subjective social status ( $r = -0.18, p = .03$ ).

The mean perceived stress score for the quantitative sample was 30.6 (SD = 7.9) (Table 2.2). Perceived stress did not vary by race. Perceived stress was significantly negatively associated with subjective social status. Higher levels of stress correlated with lower levels of subjective social status ( $r = -0.31, p = .002$ ). It was also significantly higher for participants who previously worked at least 35 hours or more per week ( $t = -2.44, p = .02$ ), and positively associated with a diagnosis of depression ( $t = -2.73, p = .007$ ) and family history of depression ( $t = -2.09, p = .04$ ). Table 2.3 provides the bivariate relationships between discrimination and perceived stress for each variable.

Depressive symptoms did not vary by race/ethnicity. Depressive symptoms were significantly negatively associated with subjective social status ( $t = 2.48, p = .01$ ) and positively associated with having previously worked at least 35 hours or more per week ( $t = 11.32, p < .001$ ). Depressive symptoms were also positively

associated with diagnosis of depression ( $\chi^2 = 9.59$ ,  $df (1)$ ,  $p = .002$ ) and family history of depression ( $\chi^2 = 4.86$ ,  $df (1)$ ,  $p = .03$ ). Table 2.4 provides the bivariate relationships for depressive symptoms.

The three focal variables were significantly associated with each other. Discrimination was significantly higher for those with moderate-to-severe depressive symptoms (mean = 14.7, SD = 5.5) compared to those with no-to-mild depressive symptoms (mean = 12.0, SD = 5.3;  $t = -3.00$ ,  $p = .003$ ). Perceived stress was significantly higher for those with moderate-to-severe depressive symptoms (mean = 35.4, SD = 7.0) compared to those with no-to-mild depressive symptoms (mean = 26.5, SD = 6.2;  $t = -8.08$ ,  $p < .001$ ). Additionally, discrimination was significantly positively correlated with perceived stress ( $r = 0.30$ ,  $p < .001$ ).

#### *Mediation Models*

In the baseline mediation model, perceived stress was a significant mediator between everyday discrimination and depressive symptoms (Figure 2.2). The direct relationship between everyday discrimination and depressive symptoms was not significant ( $p = .27$ ). Everyday discrimination was significantly positively associated with perceived stress (standardized effect = 0.30,  $p < .001$ ). Perceived stress was significantly positively associated with depressive symptoms with a total standardized effect of 0.74,  $p < .001$ . The indirect effect between discrimination and depressive symptoms through perceived stress was significant (standardized coefficient = 0.22,  $p = .001$ ). The baseline mediation model was saturated, so fit statistics were not available.

To test moderated mediation, two simultaneous group sample path models were tested where an independent group model (no equality constraints across groups) was compared with a constrained invariance simultaneous group model where paths were set to equivalence across groups (Figure 2.3). Fit statistics for the independent group model were not available due to the model being saturated. The  $\chi^2$  for the constrained invariance simultaneous group model was significant, suggesting poor model fit ( $\chi^2 = 11.39$ ,  $df (3)$ ,  $p = .010$ ; RMSEA = .20; CFI = 0.90; WRMR = 0.90). This suggests variance across groups.

For the Black sample, perceived stress was significantly associated with depressive symptoms (standardized effect = 0.74,  $p < .001$ ). Everyday discrimination was not significantly associated with perceived stress or depressive symptoms. None of the indirect effects was significant for the Black sample. About 39% (r-square = 0.39) of the variance in depressive symptoms, and an insignificant amount of the variance in perceived stress was explained by the model.

For the White sample, perceived stress was significantly associated with depressive symptoms (standardized effect = 0.74,  $p < .001$ ). Everyday discrimination was not directly associated with depressive symptoms, but was significantly associated with perceived stress (standardized effect = 0.61,  $p < .001$ ) and indirectly associated with depressive symptoms through perceived stress (standardized effect = 0.45,  $p = .002$ ). About 67% (r-square = 0.67) of the variance in depressive symptoms and 22% (r-square = 0.22) of the variance in perceived stress was explained by the model. The moderated mediation results indicate that

perceived stress only mediated the relationship between everyday discrimination and depressive symptoms for the White sample. These findings suggest that the mediation effects in the full sample are the result of the relationships in the White sample.

A model controlling for confounding factors, including subjective social status, having a history of working 35 hours or more per week, depression diagnosis, and family history of depression, was tested. The fit of the moderated mediation model including the confounding factors was good ( $\chi^2 = 5.65$ ,  $df (6)$ ,  $p = .46$ ; CFI = 1.00; RMSEA = .00; WRMR = 0.53), and the results were similar to the initial moderated mediation model. For the Black sample, perceived stress was significantly positively associated with depressive symptoms (standardized effect = 0.71,  $p < .001$ ), and no indirect effects were significant. About 41% (r-square = 0.41) of the variance in depressive symptoms was explained by this model for Black participants.

For the White sample, perceived stress was significantly positively associated with depressive symptoms (standardized effect = 0.64,  $p < .001$ ). In the confounding model, everyday discrimination was directly associated with depressive symptoms (standardized effect = 0.33,  $p = .04$ ). Everyday discrimination was significantly positively associated with perceived stress (standardized effect = 0.47,  $p < .001$ ) and indirectly positively associated with depressive symptoms through perceived stress (standardized effect = 0.30,  $p = .001$ ). About 80% (r-square = 0.80) of the variance in depressive symptoms was explained by this model for White participants. The inclusion of the confounding factors slightly tempered the relationships between everyday discrimination and perceived stress and depressive symptoms.

## *Qualitative Results*

### *Qualitative sample*

The qualitative sample (n = 30) consisted of 16 women (53.3%) and 14 men (46.7%). The qualitative sample had more Black (n = 19, 63.3%) participants than White (n = 11, 37.7%) participants. The mean age was 23, and five participants (16.7%) were working. More qualitative participants reported moderate-to-severe depressive symptoms (n = 16, 53.3%) than no-to-mild depressive symptoms (n = 14, 46.7%). Tables 2.1 and 2.2 provide the descriptive details of each sample.

### *Thematic analysis*

The qualitative data were compared with the quantitative data to inform interpretation of the quantitative results. The qualitative findings provide a more in-depth understanding of how experiences of discrimination differ by race and depression status. Figure 2.4 provides demographic details for each participant in the qualitative sample and their quantitative scores for discrimination and perceived stress by depressive symptoms status. Qualitative descriptions of experiences and perceptions of discrimination and stress provided depth to the descriptive quantitative findings. The results were broadly consistent with the quantitative data, but some differences in discrimination experiences and perceptions of stress by depressive symptom status were identified (described in more detail below). In examining stress responses to discrimination experiences, the qualitative findings suggest that appraisals of discrimination may partially explain the moderated mediation results. Another factor that may have contributed

to the results was within-group differences that were not accounted for in the quantitative analysis.

*Discrimination Experiences.* More than half of the qualitative participants described some instance of experiencing discrimination, with a slightly greater proportion of Black participants describing these experiences than White participants (12 of 18 Black participants and 6 of 11 White participants; Figure 2.5). Reasons for experiencing discrimination included race, gender, age, sexuality, weight, and physical appearance. One participant described having to work hard for jobs based on race, stating:

*“Basically, if I want this same position I have to work 10 times harder, be maybe 10 times as qualified as maybe a White person or something like that.”* – Black Man, no-to-mild depressive symptoms

Another participant described feeling discriminated against based on her weight, stating:

*“I haven't gotten work because of my weight, and that's been very frustrating, because there's been places I go where I talk on the phone and they hear that I'm a, you know, lovely woman, and then I come in and then they're like oh. And that's very frustrating, because it's like, are you hiring me for my brain or are you hiring me to look at?”* – White Woman, moderate-to-severe depressive symptoms

These reports of experiencing discrimination broadly corresponded with responses to the everyday discrimination scale on the quantitative survey. For

instance, 10 of 12 Black participants and all the White participants who described instances of discrimination also reported moderate to high levels of everyday discrimination.

Two Black participants whose scores were low for everyday discrimination in the quantitative survey described past experiences of discrimination at the workplace during the qualitative interview. One of these participants was a Black man, who described being fired from a job due to his sexuality. However, his low score on the everyday discrimination scale matched a follow-up comment he made about discrimination, saying: *"It's rare. I hardly ever feel like I'm being discriminated against, hardly ever."* (Black Man, no-to-mild depressive symptoms).

Over a third (7 Black and 5 White) of the qualitative participants did not think of discrimination as a problem or had not personally experienced it. Six of the seven Black participants and four of the five White participants who did not have experience with discrimination also reported low everyday discrimination scores.

*Perceptions of Stress.* All participants reported perceptions of stress. Variation in stress perceptions in the qualitative analysis broadly aligned with variation in stress in the quantitative analysis (Figure 2.6). About three-fifths of Black and White participants perceived moderate-to-high levels of stress. The main difference between those describing moderate-to-high stress perceptions compared to low stress perceptions was depressive symptoms status rather than race/ethnicity, which aligns with the quantitative results. For instance, one Black man with moderate-to-severe depressive symptoms described how he feels *"like I'm-a always*

*be stressed. Like no matter what.*” Another Black man described high perceptions of stress, too, saying:

*“I just get even more stressed thinking about all the more problems, and how time is just going and slipping through my fingers as I’m just wasting and wasting and wasting more time, and I don’t know what to do. It’s constantly on my brain that I’m just not doing enough or that I’m wasting time, but that’s generally what’s stressing me out always.”* – Black Man, moderate-to-severe depressive symptoms

Similarly, two White women with moderate-to-severe depressive symptoms described moderate to high perceptions of stress with one saying, *“I’m so stressed out and depressed,”* and the other saying, *“I’m always moderately stressed about everything.”*

Differences in the qualitative and quantitative results came from four Black women and one White man. For most in this group their stress perceptions were lower in the qualitative interview compared to the quantitative responses. However, one Black woman described significant stress, but reported low stress levels on the quantitative survey. Three in this group described how their stress levels have improved or fluctuated. One Black woman with moderate-to-severe depressive symptoms said, *“I haven’t been as stressed”* since completing the questionnaire.

Other participants also described improving stress levels over time, especially among those with no-to-mild depressive symptoms. For instance, one Black man with no-to-mild depressive symptoms said, *“I’m not stressed out anymore.”* A Black



woman with no-to-mild depressive symptoms described how her stress has fluctuated, saying: *“There were times it was high and then it got low.”* White participants also described improving stress levels with one White woman saying:

*“[My stress] went up and then it went back down a little bit. Right now I’m feeling pretty good.”* – White Woman, no-to-mild depressive symptoms

*Appraisals of Discrimination.* Descriptions of discrimination and thoughts about discrimination were examined to identify differences in how Black and White participants described their appraisal and response to discrimination. A subtle difference that emerged between the descriptions was that some Black participants externalized the response to discrimination whereas some White participants internalized the response.

### *Black Participants*

#### *Cognitive Appraisal: Limited Experience of Discrimination, Don’t let it get to me*

As described above, seven Black participants described not experiencing discrimination, all of whom had no-to-mild depressive symptoms and reported lower everyday discrimination scores. Six of these participants also described not being worried about discrimination. For these cases, the salience of discrimination as a potential stressor was low. For instance, one Black woman, stated:

*“I don’t really let ethnicity and race issues get to me. One, because I’ve never really experienced it. And then two, because I know what I can give you no matter what color I am. I know how hard of a worker I am. I know what it is I*

*can do for your company aside from what you can do for me, so it's not really an issue for me.” – Black Woman, no-to-mild depressive symptoms*

*Cognitive Appraisal: Uncertainty about Discrimination, Some Worry*

About a third of Black participants, who varied in depressive symptom status, described uncertainty about having experienced discrimination related to their underemployment experience, and more broadly. For instance, one participant described that he was not really worried about experiencing discrimination on the job market, stating:

*“I wouldn’t really say worried...I do know that discrimination is real and my people do experience it, but I’ve never felt I was in such a situation where it was blatantly based on my race or ethnicity.” – Black Man, no-to-mild depressive symptoms*

Another participant thought her name could be a contributor for why she has had trouble finding a job, but was unsure about it.

*“The only thing that sometimes I feel like holds me back is my name and because my name is just so out there and sometimes they just like don’t -- That’s just my personal opinion, though I’ve never had someone say that to me, that’s just sometimes how I feel. Maybe it’s my name or maybe it’s because I’ve only completed high school or maybe it’s because I don’t have a lot of work history. I don’t know. I’m just guessing, but I’ve never had someone tell me that this is why they won’t hire me.” - Black Woman, moderate-to-severe depressive symptoms*

Even though she recognized that her name may have contributed to limiting opportunities, she said *“I don’t think I’ve ever – experienced [discrimination]”* and she was not worried about it, saying: *“I don’t let it stop me or anything. It’s like okay, your loss.”* (Black Woman, moderate-to-severe depressive symptoms). However, she reported high levels of everyday discrimination in her quantitative survey, which contrast from these qualitative data.

*Cognitive Appraisal: Can’t Change How Someone Thinks*

Another Black woman used the phrase *“your loss”* when describing experiences with discrimination. With these responses, some Black participants described being aware of discrimination and/or experiencing discrimination, but cognitively adjusting their response to it. About a third of Black participants would externalize experiences of discrimination. As one participant said, *“You have to let people be people.”* Another Black participant stated:

*“I just feel like if I can't change how someone thinks about me, so it's not my business to care about what they think. Either I'm going to show them my character and they're going to accept it and their perception of what they thought Black people were is going to change or it's never going to change and that's not my business.”* – Black Man, no-to-mild depressive symptoms

Additionally, one Black participant described how the way other people look at him does not influence his mood, saying:

*“The way they look at me, it doesn't make me look at myself differently, it just makes me think they're ignorant.”* – Black Man, no-to-mild moderate depressive symptoms

Externalizing the reasons for discrimination highlighted some level of mindful acceptance that discrimination was part of life, and as mentioned above, recognition of an inability to control others' behaviors. Over half of Black participants described how, in certain employment situations, they would expect different treatment based on race, gender, or another factor. For instance, one participant stated:

*“I just know that it's just how some people are. I know I'm going to come across some people like that regardless.”* - Black Woman, moderate-to-severe depressive symptoms

These responses appeared to lessen the stress associated with discrimination by deflecting the perception of it as a stressor. For instance, one Black man explained that focusing on discrimination would *“take away [his] feeling of control”* by *“blaming everything on that.”*

### *Changing Behavior in Response to Discrimination*

In addition to adjusting their appraisal of discrimination, Black participants described engaging in certain behaviors in response to it. About a third of Black participants described actions that they take to combat discrimination. Depressive symptom status varied in this group. One Black participant, described the behaviors she engages in to combat stereotypes, saying:

*“I know I have two strikes against me because I’m African American – minority-ish, African American-ish – and I’m a woman. So I know I have two strikes against me, but I always go in making sure that I’m not that stigma or that stereotype to where they wouldn’t want to hire me. So if I’m a woman, I’m not going in there like, all emotional, like, oh, I can’t do this. Like, I make sure I hold my weight. And number two, being black and the stereotypes that come with being African American – well, seen as an African American is kind of like, you know, certain things that they have – oh, they have an attitude, they’re always mad, they want to fight, whatever the case may be. Coming in, knowing my stuff, being on top, and knowing that my intelligence speaks beyond what you think on the outside.”* - Black Woman, moderate-to-severe depressive symptoms

In some cases, Black participants described overcompensating to combat discrimination. For instance, one Black participant stated:

*“I’ve never left something and said like oh, they didn’t like me because of my race or my gender. So it’s never been like that. Like overwhelming like in my face. But I think it’s always like in the back of my mind, like something that I have to worry about or overcompensate for.”* – Black Woman, moderate-to-severe depressive symptoms

### Discrimination Getting to Them

For some participants, the amount of discrimination experienced may “start to get to” them. Two Black participants with moderately severe depressive symptoms

described how multiple experiences of discrimination get “inside” or “under your skin.” They still described “laughing” or “shrugging” off experiences of discrimination, however. For example, these participants described:

*“The grocery store I was working with, they called me big shawty. Or Baby Dee, because when they say Baby Dee, it's like reference to the movie Friday, there was a big girl that want to eat. Yeah. So it's like, I laugh it off, but really inside, like for real, and then when you do it front of customers and people start laughing. Uh-uh.”* – Black Woman, moderate-to-severe depressive symptoms

*“Generally, a lot of racial problems will tend to arise either with the coworkers or with the -- you know, the customers, and there's nothing, you know, you can't shrug off, you know? It really does get offensive. It does crawl under your skin, but when it comes to that type of stuff, you know, I just try and just work and not think about it and not deal with it, you know?”* – Black Man, moderate-to-severe depressive symptoms

In the quantitative survey, both participants reported higher levels of everyday discrimination. However, one participant reported a higher level of perceived stress, whereas the other participant reported a lower level of perceived stress.

### *White Participants*

#### *Limited Experience of Discrimination, I'm privileged*

Five White participants (three men and two women) described not experiencing discrimination, four of whom reported low everyday discrimination scores. One White woman had a low-to-moderate everyday discrimination score. Two had no-

to-mild depressive symptoms and three had moderate-to-severe depressive symptoms. These participants recognized their privilege. For instance, one participant described: *“Some people ignore privilege, and I’m a White male, so it’s very easy like -- majority of the time it’s going to be easy for me to find a job.”* (White Man, moderate-to-severe depressive symptoms).

*Cognitive Appraisal: Worry*

The cognitive appraisals of experiences of discrimination that White participants used differed slightly compared with Black participants. About a third of White participants did not externalize the experience of discrimination. Instead, they internalized discrimination experiences by describing how it made them *“self-conscious”* or *“worried.”* One participant stated how others’ perceptions of her being young and underemployed were stressful to her, saying:

*“It’s more stressful how everyone else perceives it because everyone thinks like, oh, you don’t have a job. You’re just lazy, and you mooch off of everyone, and you’re not trying hard enough. And so it’s a little more stressful how people see it.”* - White woman, moderate-to-severe depressive symptoms

Later in the interview, she said:

*“People are really angry at my generation. So, they’re always just like, oh, you’re just a lazy teenager. But especially if you don’t have a job, then everyone is like, well, why don’t you have a job? But it’s like, especially so my age, people just -- people don’t like millennials. And then not having a job, people think*

*you're lazy and not trying hard enough or you just don't care or you're a mooch.*" - White woman, moderate-to-severe depressive symptoms

In addition, another White participant described worry about discrimination based on her sexual orientation, saying: *"Sexual orientation, it's definitely something I've been worried about."* (White Woman, no-to-mild depressive symptoms).

In contrast to other White participants, one participant described feeling he experienced racial discrimination, and described feeling penalized for being White, stating:

*"I don't know why I have to be penalized for things I didn't do because I'm a certain color."* – White Man, moderate-to-severe depressive symptoms

*Cognitive Appraisal: Can't Change How Someone Thinks*

Only one White man described an externalizing response to his perception of discrimination that he attributed to his appearance. He had many visible tattoos that he thought contributed to people judging him due to the *"stigma of tattoos"*. He described how he has come to accept judgements that he receives from others. His response was similar to the responses described above by Black participants, but he expressed some regret because he made the choice to get tattoos when he was younger:

*"It used to bother me a lot. It used to spark my temper pretty avidly, but not anymore...I've just gotten used to it. Just people don't like what they don't like...You just get over it, you know."* -White Man, moderate-to-severe depressive symptoms



### Changing Behavior in Response to Discrimination

White participant discussed changing behavior in response to discrimination in limited detail. However, one White woman described how she tries to “hide” her sexuality during initial meetings to reduce the possibility of discrimination by stating:

*“Any time I’ve had like an informational interview or something like that, I’ve definitely coded my dress more like – certainly professional but tried to go a little more straight girl if you will.”* –White Woman, no-to-mild depressive symptoms

### *Within-Group Differences*

In addition to appraisals of discrimination, within-group differences in expectations about finding a job and experiencing discrimination participants may have contributed to the null findings of relationships between discrimination, stress, and depressive symptoms among Black participants. Black and White participants described a variety of characteristics contributing to differential treatment, including the combination of gender and race, sexual minority status, physical appearance and stature, and socioeconomic status. Half of the Black men described how their physical appearance contributed to people treating them differently. For instance, one Black man described how it was more difficult for him to apply to customer service positions based on a variety of factors, including gender and appearance:

*“People are just more inclined to talk to women, and then so being Black and a guy is really hard for those types of jobs to get unless you do have a certain appearance, or look, or demeanor to you.”* - Black Man, moderate-to-severe depressive symptoms

Descriptions of within-group differences were limited among White participants. As described above, White men acknowledged their “privilege” at being White and being a man. On the other hand, a White woman with no-to-mild depressive symptoms described her concern when interacting with others due to “the double issue of being an interracial queer couple.”

These within-group differences may have contributed to different experiences of discrimination within the groups of Black and White participants, which could have influenced how discrimination was related to perceptions of stress and depression. Figure 2.7 provides a summary of the quantitative results for the reasons the qualitative sample selected for experiences of everyday discrimination.

#### *Additional Quantitative Descriptive Data*

After completing the qualitative analysis, additional descriptive analyses were conducted to contextualize the qualitative findings (Table 2.5). For the whole sample, the most commonly selected reason for experiencing everyday discrimination was age, followed by race and gender. While those who selected race as a reason for discrimination were more likely to be Black, over 20% (n =20) were White. This corresponds with the qualitative response from one White man who thought he experienced discrimination based on race. Additionally, more than half

of the sample selected more than one reason for experiencing everyday day discrimination, which suggests heterogeneity in the reasons people experience discrimination.

### Discussion

The relationships of everyday discrimination, perceived stress, and depressive symptoms varied between Black and White participants. The findings suggest that the appraisal of discrimination experiences contributes to depressive symptoms. Among underemployed emerging adults, reports of everyday discrimination were higher among Black participants compared to White participants, which corresponded with the qualitative data. Both Black and White underemployed emerging adults had high levels of perceived stress. Overall, the levels of perceived stress reported by this sample were much higher than national estimates for 18- to 24-year-olds (S. Cohen & Janicki-Deverts, 2012). In 2009, using the 10-item PSS, 18- to 24-year-olds reported perceived stress scores of 16.8 (SD = 6.9) (S. Cohen & Janicki-Deverts, 2012), which is considerably lower than the scores reported by the sample in this study (mean PSS-10 = 22.6 (SD = 6.8)). Underemployment status may have contributed to higher stress levels. In addition to perceived stress, both groups reported high rates depressive symptoms. Other research on emerging adults report similar findings, wherein rates of depressive symptoms are similar for Black and White emerging adults during this life phase (Frye & Liem, 2011).

The moderated mediation analysis indicated that the relationship of discrimination to depressive symptoms through perceived stress was significant only for White participants. Additionally, the mediation model explained a large

portion of the variance in depressive symptoms for White participants, but much less for Black participants. While Black participants reported similar rates of perceived stress and depressive symptoms compared with White participants, other factors beyond everyday discrimination may have contributed to these two measures and the relationship between them. Alternatively, Black participants may be exhibiting some resilience due to their greater exposure to discrimination but similar levels of perceived stress and depressive symptoms compared to White participants (Luthar et al., 2000).

Together with the literature, the qualitative findings from this mixed-methods study suggest two potential explanations for the quantitative moderated mediation results. These include that: (1) appraisal related to discrimination may be an important contributor to perceived stress and depressive symptoms; and (2) variation in experiences and responses due to within-group differences may have obscured relationships between everyday discrimination and perceived stress and depressive symptoms. The summary of the qualitative findings, along with relevant literature are described below.

The way underemployed emerging adults perceive experiences of discrimination may contribute to resilience and alter the impact of discrimination, stress, depressive symptoms, and overall mental health. About half of the sample, including both Black and White participants described limited experiences with discrimination. Among those who described some experiences, Black participants described more salient experiences. Black participants with less salient experiences described some uncertainty in whether they experienced discrimination. In many

cases, discrimination experiences may be subtle and hard to recognize (Lewis et al., 2015). Minimization bias may have contributed to lower levels of perceived stress related to everyday discrimination among Black participants. Minimization bias occurs when people underestimate, fail to notice, or deny that they may have experienced discrimination (Kaiser & Major, 2006). One of the reasons people engage in minimization bias is to reduce psychological distress associated with reporting it (Lewis et al., 2015).

As an alternative to minimization bias, Black participants may have re-framed their responses to potential discrimination experiences to reduce stress appraisal associated with it. In the qualitative data, Black participants often qualified their responses to discrimination with statements that may have lessened the perceived stress associated with discrimination experiences. Compared with White participants, Black participants identified that discrimination occurs due to external factors beyond their control (e.g., not being able to control how someone else thinks), which may have allowed them to deflect some of the stress associated with experiences of discrimination. White participants generally internalized experiences of discrimination, which may have magnified the association with perceived stress in the full quantitative sample.

Different responses to discrimination may contribute to resilience to some discrimination experiences among Black participants. From a resilience perspective, protective processes, such as appraisal of discrimination, may reduce risk by re-adjusting the meaning of a discrimination experience (Rutter, 1987). Although findings are mixed, racial identity may influence the impact of the exposure to

discrimination on poor health (Brondolo, Brady Ver Halen, Pencille, Beatty, & Contrada, 2009; Chae et al., 2014; Kogan, Yu, Allen, & Brody, 2015; Lee & Ahn, 2013). For instance, knowledge about the social position of one's own group may help some individuals externalize rather than internalize experiences of discrimination by attributing the encounter to social injustice rather than a personal deficit (Brondolo et al., 2009; Lee & Ahn, 2013).

These beliefs may have contributed to the mindful acceptance that some Black participants described for certain situations, which may have reduced their stress response through engaging in non-judgmental thoughts and awareness (Carmody & Baer, 2008). A cross-sectional study found that trait mindfulness moderated the relationship between perceived discrimination and depressive symptoms, suggesting that mindfulness may be a protective factor (Brown-Iannuzzi, Adair, Payne, Richman, & Fredrickson, 2014). Furthermore, stress inoculation opportunities, or experiences handling manageable exposure to adverse events, such as discrimination (Rutter, 1987), may increase the resources that Black emerging adults have to cope with discrimination. Unfortunately, these negative events occur earlier in development for Black populations (Grollman, 2012; Seaton, Caldwell, Sellers, & Jackson, 2008) providing an opportunity to develop coping responses to use for future incidents.

The findings from this study support the conjecture of Schwartz and Meyer (2010) that the appraisal of structural stress may be a key contributing factor to poor mental health outcomes, or conversely, to resilience. Williams (2009) has suggested that assessments of perceived discrimination may need to include

markers related to the stressfulness of the experience. The measure used in this study only assessed frequency. Including a measure of associated stress related to discrimination may allow the identification of appraisal factors that may mitigate the stress of a discrimination experience and lead to a better understanding of resilience.

The second potential explanation for the moderated mediation results may be related to within-group differences. For instance, the relationship between perceived stress and discrimination may be stronger for Black participants who perceive discrimination to be associated with race and socioeconomic status rather than just one factor. Furthermore, Black emerging adults may have developed ways of dealing with discrimination related to race, but not socioeconomic status. Some have called for a more refined examination of social stress, such as discrimination, by exploring its relationship with intersectionality (Krieger, 2012; Lewis et al., 2015; Schwartz & Meyer, 2010). The qualitative findings suggest that some participants may experience discrimination events based on gender, sexual minority status, physical appearance and stature, and/or socioeconomic status that may contribute to additional discrimination-related stress. In a study examining multiple disadvantages, such as race, gender, weight, and sexual orientation, those with “double disadvantage” reported worse mental and physical health outcomes (Grollman, 2014). Similar findings have been reported for young adults (Grollman, 2012). Analyzing the intersection of race and gender, for instance, may result in different quantitative relationships between discrimination and perceived stress and depressive symptoms.

Combining these two potential explanations, a cross-sectional study of African American young adults examined whether the association between appraisal and frequency of discrimination was moderated by gender and socioeconomic status (Neblett et al., 2016). Participants reported the frequency of various microaggressions (e.g., being ignored, not given service) and how bothered they were by the experiences (e.g., stressfulness of the experience). The findings suggest that regardless of gender or socioeconomic status, racial discrimination bother was consistently associated with poor mental health functioning. However, young men of lower socioeconomic status and women of higher socioeconomic status reported worse mental health outcomes associated with more frequent racial discrimination (Neblett et al., 2016). While frequency and bother were correlated with each other, these findings suggest that the relationship between frequency of racial discrimination and poor mental health may be stronger for specific groups of African American young adults (Neblett et al., 2016).

Lastly, despite the quantitative findings, discrimination clearly influenced stress and mental health outcomes for Black and White participants. Two participants from the qualitative portion of the study described how discrimination experiences have gotten “under their skin.” Additionally, some Black participants described overcompensating in reaction to potential discrimination experiences. This “high-effort coping” or “striving” used by Black participants may deteriorate health over the longer term due to sustained efforts used to cope (Hudson, Neighbors, Geronimus, & Jackson, 2016; James, 1994). Among older adults, high-effort coping is associated with depressive symptoms (Hudson et al., 2016). For emerging adults



striving may contribute to resilience that is only “skin-deep” (Brody, Yu, Miller, & Chen, 2016). Furthermore, experiences of discrimination may worsen health outcomes with repeated exposure or over a longer latency period (Gee et al., 2012).

### *Limitations*

The limitations of this study should be noted. As with many cross-sectional studies of self-reported discrimination, perceived stress, and depressive symptoms, confounding issues with the perception of discrimination and stress and the outcome of depression may influence the relationships (Hammen, 2005). In this sample, White participants with depressive symptoms may perceive more experiences of discrimination and stress, and Black participants with depressive symptoms may perceive more stress. Another limitation pertains to the discrimination measure. The EDS may operate differently for different races (Lewis, Yang, Jacobs, & Fitchett, 2012). Therefore, the findings related to the cross-racial comparisons should be taken with caution (Lewis et al., 2012). Furthermore, some research distinguishes the EDS as a measure of unfair treatment rather than discrimination experiences (Chae et al., 2008). The results from the mixed-methods analysis suggest that additional cognitive interviewing of how participants interpret the EDS is warranted (Lewis et al., 2012).

For the in-depth, one-on-one interviews, a White woman conducted the interviews, and some Black and White participants may have responded differently to an interviewer of a different race/ethnicity (Krysan & Couper, 2003). A number of steps were taken to enhance the validity of the qualitative data collection and

analysis (Maxwell, 2013). The interviewer was conscious and reflexive about her race, gender, age, and educational status throughout data collection and analysis. After the qualitative data were analyzed, the quantitative data were used to compare and contrast findings. The responses from the quantitative data for the qualitative sample broadly aligned with the qualitative findings. The figures presented included a mix of qualitative and quantitative data and were used to increase precision in the discussion of the results. Finally, the quantitative and qualitative data were discussed with a Black faculty member to inform the interpretation of the findings.

This study examines the experiences of discrimination, stress, and depressive symptoms among a diverse sample of underemployed emerging adults, a population that is not frequently studied (Côté & Bynner, 2008). The findings add to the underemployment literature which is a relatively new area of investigation (Dooley et al., 2000). This study also adds to the resilience literature by identifying vulnerability and potential resilience among underemployed emerging adults. Lastly, the combination of the quantitative and qualitative methods allowed for triangulation of the findings, and the strengths of qualitative and quantitative methods combined to address weaknesses specific to each method (Creswell & Clark, 2007).

#### *Implications and Future Directions*

Numerous studies have identified the negative impact of discrimination on physical and mental health outcomes (Pascoe & Richman, 2009; Schmitt,

Branscombe, Postmes, & Garcia, 2014). The findings from this study suggest that the appraisal of discrimination may influence its impact on mental health outcomes suggesting a potential resilience factor related to perception of discrimination experiences. The qualitative findings suggest that Black participants may have developed some resilience to discrimination experiences by engaging in cognitive and mindful responses that may allow them not to internalize the experiences.

Additional research is needed to understand how perceptions, or appraisals, of discrimination experiences may relate to stress and depressive symptoms. From a stress and coping perspective, the appraisal of a stressful event is an important mediating factor that contributes to stress responses and mental health outcomes (Folkman & Lazarus, 1986). To assist in these investigations, future work should focus on refining measures of discrimination to include an assessment of the amount of stress participants perceive related to discriminatory experiences (Williams & Mohammed, 2009). Furthermore, gaining a better understanding of various subgroups who may be at greater risk for discrimination and depressive symptoms is warranted (Grollman, 2012), including among underemployed individuals (Norstrom, Virtanen, Hammarstrom, Gustafsson, & Janlert, 2014). Developing interventions for this group that incorporate effective appraisal processes, such as mindfulness, could protect against some of adverse effects of discrimination.

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Table 2.1. Description of quantitative and qualitative sample

	Quantitative Sample		Qualitative Sample	
	n	%	n	%
Gender				
Women	91	63.6	16	53.3
Men	52	36.4	14	46.7
Race				
Black, not Hispanic	72	50.4	19	63.3
White, not Hispanic	71	49.7	11	36.7
Education				
Less than High School or GED	8	5.6	1	3.3
High School or GED	32	22.4	8	26.7
Some College	45	31.5	10	33.3
College Graduate or More	58	40.6	11	36.7
Underemployment Status				
Currently Working	35	24.5	5	16.7
Not currently working	108	75.5	25	83.3
Depression Status				
No - Mild Depression	78	54.6	14	46.7
Moderate - Severe Depression	65	45.5	16	53.3

Table 2.2. Description of stressors

	Quantitative Sample Mean (Standard Deviation)	Qualitative Sample Mean (Standard Deviation)
Stressors		
Discrimination	13.2 (5.5)	14.2 (5.9)
Perceived Stress	30.6 (7.9)	32.5 (8.5)

Table 2.3. Bivariate relationships for everyday discrimination and perceived stress

	n	Everyday Discrimination		Perceived Stress	
<b>Sociodemographic variables</b>					
		Correlation	Significance	Correlation	Significance
Age	143	-0.15	ns	-0.07	ns
		Mean (SD)		Mean (SD)	
Black, not Hispanic	72	14.4 (5.9)	$t = 2.64,$ $p = .009$	30.2 (6.7)	ns
White, not Hispanic	71	12 (4.9)		30.9 (9)	
Women	91	12.7 (5.2)	ns	30.8 (7.8)	ns
Men	52	14 (6.1)		30.1 (8.1)	
High school graduate or GED or less	40	14.5 (6)	$F = 3.96,$ $p = .02$	31.8 (7.1)	ns
Some college or technical school	45	14 (6.1)		29.8 (8.1)	
College graduate	58	11.7 (4.4)		30.3 (8.4)	
Alone	16	12.5 (5.1)	ns	29.4 (8.2)	ns
With partner (including husband/wife)	31	10.7 (5.1)		30.1 (8.5)	
With parents	46	14.3 (5.3)		31.1 (6.6)	
With roommate or friends	29	13.9 (6.6)		29.7 (7.5)	
Other	21	14 (4.7)		32.0 (10.1)	
Married	8	11.6 (6.1)	ns	26.4 (7.5)	ns
Divorced, widowed, separated	3	14.3 (7.4)		25.7 (2.9)	
Never married/single	99	13.4 (5.4)		30.3 (7.3)	
A member of an unmarried couple	33	12.9 (5.9)		32.8 (9.4)	

Table 2.3. Bivariate relationships for everyday discrimination and perceived stress, continued

<b>Socioeconomic status variables</b>					
Dad's education			ns		ns
Some high school or GED	20	15.9 (5.3)		30.8 (5.3)	
High school or GED	48	13.2 (6.2)		30.8 (7.1)	
Some college	24	12.0 (6.0)		29.8 (8.6)	
College graduate	51	12.7 (4.6)		30.5 (9.3)	
Mom's education			ns		ns
Some high school or GED	10	14.0 (7.2)		30.6 (2.1)	
High school or GED	40	12.1 (4.7)		30.4 (6.7)	
Some college	49	13.8 (6.1)		29.8 (8.2)	
College graduate	44	13.2 (5.3)		31.5 (9.4)	
		Correlation		Correlation	
Subjective Social Status	143	-0.18	p = .03	-0.31	p < .001
<b>Underemployment variables</b>					
Not currently working	108	13.5 (12.4)	ns	30.2 (7.6)	ns
Currently working	35	12.2 (10.4)		31.8 (8.7)	
Never worked 35+ hours per week	52	12.8 (5.6)	ns	28.4 (7.0)	t = -2.44, p = .02
Ever worked 35+ hours per week	91	13.4 (5.5)		31.8 (8.2)	
Looking for a job <6 months	91	12.8 (5.1)	ns	29.8 (7.7)	ns
Looking for a job ≥ 6 months and < 1 year	30	13.5 (5.8)		31.6 (9.3)	
Looking for a job ≥ 1 year	22	14.5 (6.8)		32.2 (6.7)	

Table 2.3. Bivariate relationships for everyday discrimination and perceived stress, continued

<b>Depression history variables</b>					
No previous depression/ Don't know	100	12.8 (5.5)	ns	29.4 (7.5)	$t = -2.73,$ $p = .007$
Previous depression	43	14.2 (5.6)		33.2 (8.2)	
No current treatment/ Don't know	124	13.1 (5.5)	ns	30.2 (7.8)	ns
Current treatment	19	13.9 (5.7)		32.8 (8.7)	
No family history of depression/ Don't know	95	12.9 (5.5)	ns	29.6 (7.4)	$t = -2.09,$ $p = .04$
Family history of depression	48	13.9 (5.6)		32.5 (8.6)	

SD: standard deviation; ns: not significant

Table 2.4. Bivariate relationships for depressive symptoms

	No – Mild Depression		Moderate – Severe Depression		Significance
	Mean (SD)		Mean (SD)		
<b>Sociodemographic variables</b>					
Age	23.0 (1.6)		22.6 (1.9)		ns
	n	%	n	%	
Black, not Hispanic	39	50.0	33	50.8	ns
White, not Hispanic	39	50.0	32	49.2	
Women	49	62.8	42	64.6	ns
Men	29	37.2	23	35.4	
High school graduate or GED or less	18	23.1	22	33.9	ns
Some college or technical school	24	30.7	21	32.3	
College graduate	36	46.2	22	33.9	
Alone	12	15.4	4	6.2	ns
With partner (including husband/wife)	17	21.8	14	21.5	
With parents	27	34.6	19	29.2	
With roommate or friends	15	19.2	14	21.5	
Other	7	9.0	14	21.5	
Married	5	6.4	3	4.6	ns
Divorced, widowed, separated	2	2.6	1	1.5	
Never married/single	57	73.1	42	64.6	
A member of an unmarried couple	14	18.0	19	29.2	



Table 2.4. Bivariate relationships for depressive symptoms, continued

<b>Socioeconomic status variables</b>					
Dad's education					ns
Some high school or GED	13	16.7	7	10.8	
High school or GED	25	32.1	23	35.4	
Some college	15	19.2	9	13.9	
College graduate	25	32.1	26	40.0	
Mom's education					ns
Some high school or GED	7	9.0	3	4.6	
High school or GED	20	25.6	20	30.8	
Some college	30	38.5	19	29.2	
College graduate	21	26.9	23	35.4	
	Mean	SD	Mean	SD	
Subjective social status	4.4	1.6	3.7	1.7	t = 2.48, p = .01
<b>Underemployment variables</b>					
	n	%	n	%	
Currently working	17	21.8	18	27.7	ns
Ever worked 35+ hours per week	40	51.3	51	78.5	$\chi^2 = 11.32$ , df (1), p < .001
Looking for a job <6 months	48	61.5	43	66.2	ns
Looking for a job $\geq$ 6 months and < 1 year	20	25.6	10	15.4	
Looking for a job $\geq$ 1 year	10	12.8	12	18.5	
<b>Depression history variables</b>					
Diagnosis of depression	15	19.2	28	43.1	$\chi^2 = 9.59$ , df (1), p = .002
Current treatment	9	11.5	10	15.4	ns
Family history of depression	20	25.6	28	43.1	$\chi^2 = 4.84$ , df (1), p = .03
	Mean	SD	Mean	SD	
Discrimination Sum	12	5.3	14.7	5.5	t = -3.00, p = .003
Perceived Stress	26.5	6.2	35.4	7	t = -8.08, p < .001

SD: standard deviation; ns: not significant

Table 2.5. Reasons for discrimination by race/ethnicity

	Whole Sample (n=143)		Black (n = 72)		White (n = 71)	
	n	%	n	%	n	%
Age	60	42.0	24	40.0	36	60.0
Gender	53	37.1	19	35.8	34	64.2
Race	47	32.9	37	78.7	10	21.3
Education or Income Level	43	30.1	20	46.5	23	53.5
Some other Aspect of Physical Appearance	40	28.0	18	45.0	22	55.0
Weight	26	18.2	14	53.8	12	46.2
Height	20	14.0	12	60.0	8	40.0
Ancestry or National Origins	16	11.2	12	75.0	4	25.0
Sexual Orientation	16	11.2	8	50.0	8	50.0
Religion	12	8.4	3	25.0	9	75.0
Other	16	11.2	8	50.0	8	50.0
N/A	26	18.2	13	50.0	13	50.0
Counts of Discrimination Reasons						
One reason	25	17.5	13	52.0	12	48.0
Two reasons	29	20.3	13	44.8	16	55.2
Three reasons	26	18.2	13	50.0	13	50.0
Four reasons	13	9.1	4	30.8	9	69.2
Five reasons	23	16.1	15	65.2	8	34.8
N/A or zero reasons	27	18.9	14	51.9	13	48.1

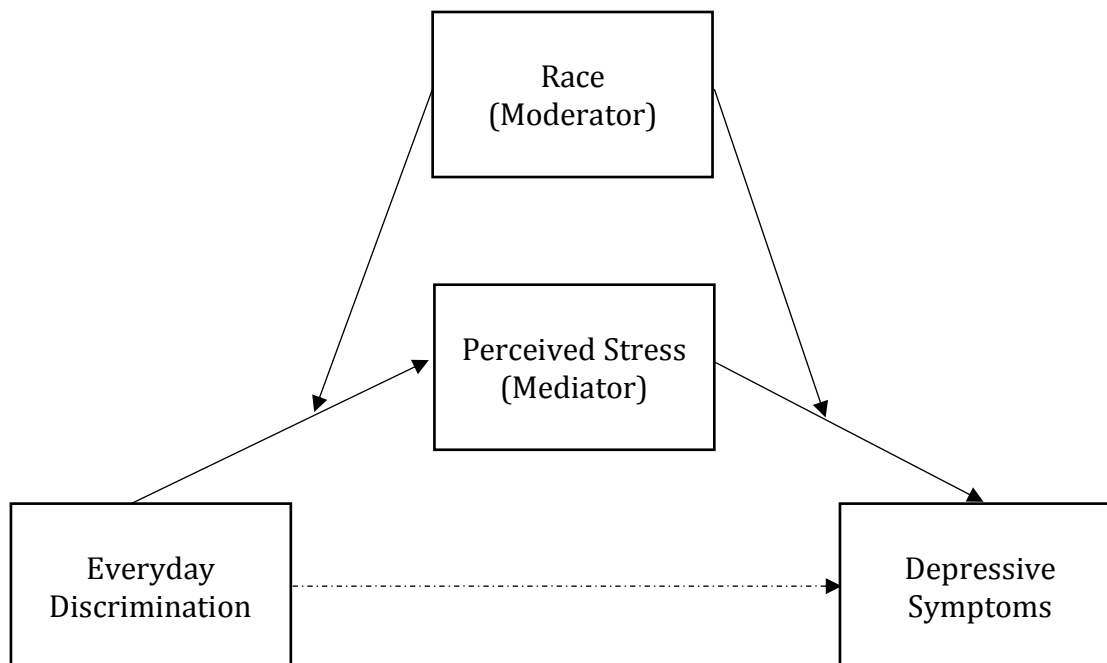


Figure 2.1. Hypothesized moderated mediation model

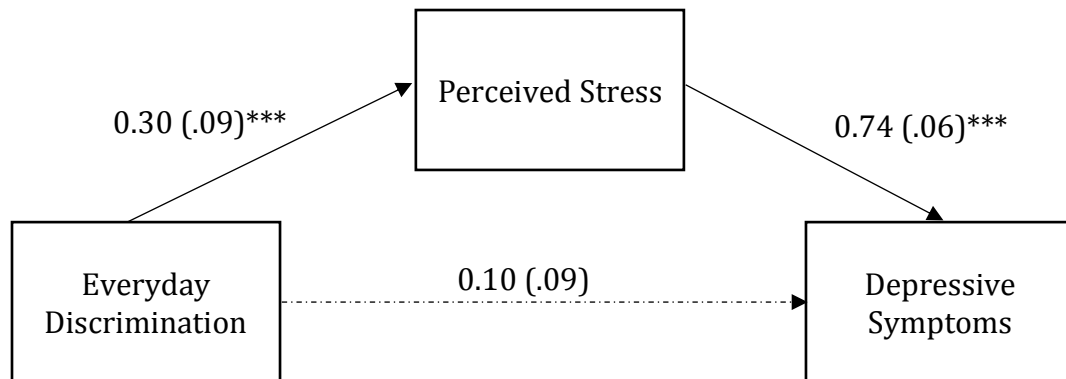
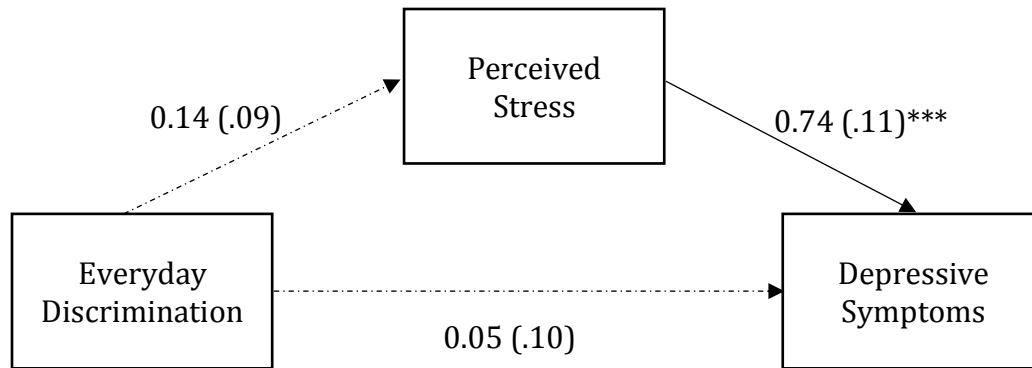
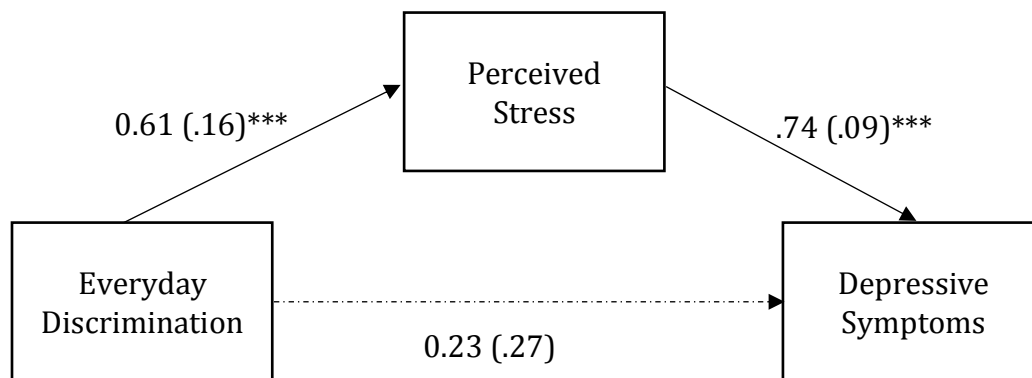


Figure 2.2. Mediation model, full sample, standardized coefficients (standard errors); \*\*\*  $p < .001$



(a) Black participants



(b) White participants

Figure 2.3. Mediation model, independent simultaneous group model between (a) Black participants and (b) White participants, standardized coefficients (standard errors); \*\*\*  $p < .001$

Race	Gender	Everyday Discrimination	Perceived Stress Scale
<b>No-to-Mild Depressive Symptoms</b>			
Black	Man	Low	Low
Black	Woman	Low	Low
Black	Woman	Low	Moderate
White	Man	Low	Moderate
Black	Man	Low	Moderate
Black	Man	Low	Low
Black	Woman	Low	Moderate
Black	Woman	Low	Moderate
White	Woman	Moderate	Low
Black	Man	Moderate	Low
White	Woman	Moderate	Low
Black	Man	Moderate	Moderate
Black	Man	High	Moderate
Black	Man	High	Low
<b>Moderate-to-Severe Depressive Symptoms</b>			
White	Man	Low	Low
White	Man	Low	Moderate
Black	Woman	Low	High
White	Woman	Low	High
White	Man	Moderate	High
Black	Woman	Moderate	Moderate
White	Woman	Moderate	Moderate
Black	Woman	Moderate	High
White	Woman	Moderate	High
Black	Woman	Moderate	Moderate
Black	Woman	High	Low
Black	Man	High	Moderate
Black	Woman	High	High
White	Woman	High	High
White	Man	High	Moderate
Black	Man	High	Moderate

Figure 2.4. Qualitative sample details describing race, gender, discrimination, and stress; \*The figure cells are shaded on a color scale with dark green being the lowest score relative to the other scores and dark red being the highest score relative to the other scores for each scale.

Race /Gender	Discrimination Experience: Qualitative Findings+	Everyday Discrimination*	Depressive Symptom Status+
Black Men (n =9)	No experience	Low	No-to-Mild
	No experience	Low	No-to-Mild
	Sexuality	Low	No-to-Mild
	No experience	Moderate	No-to-Mild
	Race, Gender, Appearance	Moderate	No-to-Mild
	Race, Appearance	High	No-to-Mild
	Race, Gender, Appearance	High	No-to-Mild
	Race, Appearance	High	Moderate-to-Severe
	Race	High	Moderate-to-Severe
Black Women (n = 10)	No experience	Low	No-to-Mild
	No experience	Low	No-to-Mild
	No experience	Low	No-to-Mild
	No experience	Low	No-to-Mild
	Race, Pregnancy	Low	Moderate-to-Severe
	Race	Moderate	Moderate-to-Severe
	Sexuality	Moderate	Moderate-to-Severe
	Race, Class	Moderate	Moderate-to-Severe
	Race, Weight	High	Moderate-to-Severe
	Race	High	Moderate-to-Severe
White Men (n = 5)	No experience	Low	No-to-Mild
	No experience	Low	Moderate-to-Severe
	No experience	Low	Moderate-to-Severe
	Race, Gender	Moderate	Moderate-to-Severe
	Appearance	High	Moderate-to-Severe
White Women (n = 6)	Sexuality; Interracial relationship	Moderate	No-to-Mild
	No experience	Moderate	No-to-Mild
	No experience	Low	Moderate-to-Severe
	Age, Gender	Moderate	Moderate-to-Severe
	Age, Class	Moderate	Moderate-to-Severe
	Weight	High	Moderate-to-Severe

Figure 2.5. Mixed-methods results for discrimination and depressive symptoms by race/gender; \*The figure cells are shaded on a color scale with dark green being the lowest score relative to the others and dark red being the highest score relative to the others. +Green indicates no discrimination experience or no-to-mild depressive symptoms; Red indicates discrimination experience and moderate-to-severe depressive symptoms

Race /Gender	Stress Perceptions: Qualitative Findings+	Perceived Stress Scale*	Depressive Symptom Status+
Black Men (n =9)	Low stress perceptions, improving	Low	No-to-Mild
	Low stress perceptions	Low	No-to-Mild
	Low stress perceptions	Low	No-to-Mild
	Low stress perceptions	Low	No-to-Mild
	Moderate - High stress perceptions	Moderate	No-to-Mild
	Moderate - High stress perceptions	Moderate	No-to-Mild
	Moderate - High stress perceptions, improving	Moderate	No-to-Mild
	Moderate - High stress perceptions	Moderate	Moderate-to-Severe
	Moderate - High stress perceptions	Moderate	Moderate-to-Severe
Black Women (n = 10)	Low stress perceptions	Low	No-to-Mild
	Low stress perceptions, fluctuating	Moderate	No-to-Mild
	Moderate - High stress perceptions, improving	Moderate	No-to-Mild
	Low stress perceptions	Moderate	No-to-Mild
	Moderate - High stress perceptions	Low	Moderate-to-Severe
	Moderate - High stress perceptions, fluctuating	Moderate	Moderate-to-Severe
	Moderate - High stress perceptions	Moderate	Moderate-to-Severe
	Moderate - High stress perceptions	High	Moderate-to-Severe
	Low stress perceptions, improving	High	Moderate-to-Severe
Moderate - High stress perceptions	High	Moderate-to-Severe	

Figure 2.6. Mixed-methods results for perceived stress and depressive symptoms by race/gender; \*The figure cells are shaded on a color scale with dark green being the lowest score relative to the other scores and dark red being the highest score relative to the other scores. +Green indicates low stress perceptions or no-to-mild depressive symptoms; Red indicates moderate to high stress perceptions and moderate-to-severe depressive symptoms.



Race /Gender	Stress Perceptions: Qualitative Findings+	Perceived Stress Scale*	Depressive Symptom Status+
White Men (n = 5)	Moderate - High stress perceptions	Moderate	No-to-Mild
	Low stress perceptions	Low	Moderate-to-Severe
	Low stress perceptions, improving	Moderate	Moderate-to-Severe
	Moderate - High stress perceptions	Moderate	Moderate-to-Severe
	Moderate - High stress perceptions	High	Moderate-to-Severe
	Low stress perceptions	Low	No-to-Mild
White Women (n = 6)	Low stress perceptions, fluctuating	Low	No-to-Mild
	Moderate - High stress perceptions	Moderate	Moderate-to-Severe
	Moderate - High stress perceptions	High	Moderate-to-Severe
	Moderate - High stress perceptions	High	Moderate-to-Severe
	Moderate - High stress perceptions	High	Moderate-to-Severe
	Moderate - High stress perceptions	High	Moderate-to-Severe

Figure 2.6. Mixed-methods results for perceived stress and depressive symptoms by race/gender, continued;  
 \*The figure cells are shaded on a color scale with dark green being the lowest score relative to the other scores and dark red being the highest score relative to the other scores. +Green indicates low stress perceptions or no-to-mild depressive symptoms; Red indicates moderate to high stress perceptions and moderate-to-severe depressive symptoms.

<b>Race/ Gender</b>	<b>Depressive Symptom Status+</b>	<b>Discrimination Experience: Qualitative+</b>	<b>Everyday Discrimination*</b>	<b>Reason for Everyday Discrimination: Quantitative*</b>
Black Men (n =9)	No-to-Mild	No experience	Low	N/A
	No-to-Mild	No experience	Low	Education or Income Level
	No-to-Mild	Sexuality	Low	Sexual Orientation
	No-to-Mild	Race, Gender, Appearance	Moderate	Physical Appearance; Sexual Orientation
	No-to-Mild	No experience	Moderate	Gender; Race
	No-to-Mild	Race, Appearance	High	Race; Other: Jealousy from family members
	No-to-Mild	Race, Gender; Appearance	High	Ancestry/National Origins; Race; Age; Height; Physical Appearance; Other: Facial Hair
	Moderate-to-Severe	Race, Appearance	High	Race
	Moderate-to-Severe	Race	High	Ancestry or National Origins; Gender; Race; Age; Height; Physical Appearance
	Moderate-to-Mild	No experience	Low	N/A
Black Women (n = 10)	No-to-Mild	No experience	Low	Education or Income Level
	No-to-Mild	No experience	Low	N/A
	No-to-Mild	No experience	Low	Other: Home
	Moderate-to-Severe	Race, Pregnancy	Low	Physical Appearance
	Moderate-to-Severe	Race, Class	Moderate	Gender; Race; Age; Physical Appearance
	Moderate-to-Severe	Race	Moderate	Gender; Race
	Moderate-to-Severe	Sexuality	Moderate	Gender; Age; Religion; Weight; Sexual Orientation; Education or Income Level
	Moderate-to-Severe	Race	High	Education or Income Level
	Moderate-to-Severe	Race, Weight	High	Race; Weight

Figure 2.7. Mixed-methods results for discrimination experiences and depressive symptoms by race/gender; \*The figure cells are shaded on a color scale with dark green being the lowest score relative to the other scores and dark red being the highest score relative to the other scores for each scale. +Green indicates no discrimination experience or no-to-mild depressive symptoms; Red indicates discrimination experience and moderate-to-severe depressive symptoms.

Race/ Gender	Depressive Symptom Status+	Discrimination Experience: Qualitative+	Everyday Discrimination*	Reason for Everyday Discrimination: Quantitative*
White Men (n = 5)	No-to-Mild	No experience	Low	Gender, Height
	Moderate-to-Severe	No experience	Low	N/A
	Moderate-to-Severe	No experience	Low	Education or Income Level
	Moderate-to-Severe	Race, Gender	Moderate	Ancestry/National Origins; Gender; Race; Age; Sexual Orientation; Education/Income Level
	Moderate-to-Severe	Appearance	High	Physical Appearance
	Moderate-to-Severe	No experience	Low	Physical Appearance
White Women (n = 6)	No-to-Mild	No experience	Moderate	Gender; Age; Physical Appearance
	No-to-Mild	Sexuality; Interracial relationship	Moderate	Sexual Orientation; Other: Interracial Relationship
	Moderate-to-Severe	Age, Class	Moderate	Gender; Age; Education or Income Level; Other: Intelligence / Wealth
	Moderate-to-Severe	Age, Gender	Moderate	Age; Weight; Physical Appearance; Other: Harassed by family members
	Moderate-to-Severe	Weight	High	Gender; Age; Religion; Weight; Education or Income Level; Other: Mental illness
	Moderate-to-Severe	Weight	High	Gender; Age; Religion; Weight; Education or Income Level; Other: Mental illness

Figure 2.7. Mixed-methods results for discrimination experiences and depressive symptoms by race/gender, continued; \*The figure cells are shaded on a color scale with dark green being the lowest score relative to the other scores and dark red being the highest score relative to the other scores for each scale. +Green indicates no discrimination experience or no-to-mild depressive symptoms; Red indicates discrimination experience and moderate-to-severe depressive symptoms.

**Chapter 3: Resilience among underemployed emerging adults: How stress  
and coping relate to depressive symptoms**

## Abstract

**Background:** Underemployed emerging adults are at increased risk for depression. Limited research has examined resilience and how coping processes may influence depression in this population. The Transactional Model of Stress and Coping proposes that coping mediates perceptions of stress and depression. This study tested whether coping self-efficacy (CSE), emotional regulation, problem-solving, and social support mediate the relationship between perceived stress and depression among underemployed emerging adults.

**Methods:** The sample consisted of 193 underemployed emerging adults between 18 and 25 years old. Participants were recruited through word-of-mouth and online methods. Data were collected through an online questionnaire that asked about stress, coping, and depression. Path analysis tested the theoretical model. Since coping may play a buffering role in reducing the impact of stress on depression, moderation between stress and coping variables was tested.

**Results:** The sample was diverse, consisting of Black (37%), White (37%), and other race/ethnicity (26%) respondents. The prevalence of clinical depression was 21%. The proposed mediating model did not fit the data well. Of four interaction terms tested, one was significant (perceived stress x CSE) ( $p = .043$ ). The unstandardized simple slope for one standard deviation (SD) below the mean, the mean, and one SD above the mean of CSE was 2.54, 2.12, and 1.72, respectively. As CSE increased, the relationship between perceived stress and depression decreased.

**Conclusion:** The test of the mediation model was not supported. However, consistent with the resilience framework, the interaction results suggest that CSE buffers the relationship between perceived stress and depression. Additional research on resilience factors in this population is needed.

## Introduction

Demographic changes that have occurred during the past half century have contributed to a lengthening of the transition into adulthood from adolescence (Arnett, 2000). With this in mind, Arnett proposed the theory of emerging adulthood, which describes individuals who are transitioning from adolescence to adulthood (Arnett, 2000). Where adolescence is a period of dependency and young adulthood is a period of stability, emerging adulthood is characterized by the transitional and exploratory nature of the time period (Arnett, 2000). This transition is a complex developmental phase that is characterized by uncertainty and instability (Arnett, 2015).

Longitudinal studies have identified potential “turning points” that influence the direction of an individual’s life when events occur, such as finding a mentor, joining the military, or leaving a negative peer group (Masten, 2001). The transition to adulthood offers the opportunity for such a “turning point” that can influence long-term outcomes. These opportunities may depend on the resources and support systems available (Obradovic, Burt, & Masten, 2006). For those without these opportunities, this transition period may increase vulnerability (Obradovic et al., 2006).

Entering the labor market as a young person is challenging, and unemployment and underemployment are high among emerging adults (Arnett, 2015) with historically high rates during the Great Recession (Bell & Blanchflower, 2011). While more research has been conducted on unemployment and health, *underemployment* contributes to similar negative mental health effects (Dooley,

2003). For the current study, the term underemployed individuals refers to those who are unemployed and employed in jobs below their full working capacity (Dooley, 2003; McKee-Ryan & Harvey, 2011). Frequent job changes are among the series of changes that occur during emerging adulthood. Unemployment during this transition period can have long-term impacts that persist into adulthood, particularly for mental health (Fergusson, McLeod, & Horwood, 2014; Thern, de Munter, Hemmingsson, & Rasmussen, 2017). For instance, the experience of unemployment during this transitional period may contribute to “scarring” (Daly & Delaney, 2013; Strandh, Winefield, Nilsson, & Hammarstrom, 2014) effects that impact employment and socioeconomic prospects (Hammarstrom & Janlert, 2002), as well as mental health (Mossakowski, 2009; Strandh et al., 2014).

#### *Depression and Emerging Adults*

Over 10% of people ages 18-25 report having at least one major depressive episode (MDE) each year (Center for Behavioral Health Statistics and Quality, 2016), and unemployed emerging adults are over three times more likely to report depression compared with employed emerging adults (McGee & Thompson, 2015). The emerging adult timeframe is a particularly relevant life stage wherein the incidence of depression is most common, including first onset and recurrent episodes (Rohde, Lewinsohn, Klein, Seeley, & Gau, 2012). Rohde and colleagues called for a “primary focus” of depression research examining the period of emerging adulthood to reduce first incidence and recurrence (Rohde et al., 2012). This focus highlights the importance of understanding what protects against depression during emerging adulthood.

The uncertainty associated with transition to adulthood and associated changes to social support systems could potentially increase social isolation (Arnett, 2000; Schulenberg, Sameroff, & Cicchetti, 2004), while consistent support during this period could be protective. Additionally, emerging adults are exposed to novel stressors during this transition, which may require developing new coping skills (Aldwin & Werner, 2009; Lazarus & Folkman, 1984). Without these supports and coping skills, the stressors of transitioning to adulthood may manifest in depressive disorders, especially if symptoms were subthreshold during adolescence (Klein et al., 2013; Schulenberg et al., 2004). While some floundering during emerging adulthood may contribute to development (Schulenberg et al., 2004), it may also contribute to depressive symptoms by adding confusion and discomfort (Schwartz et al., 2011), particularly for emerging adults having difficulty finding adequate employment.

Due to the transitional nature of this life stage, the consequences of depression could be significant (Elovainio et al., 2012; Yaroslavsky, Pettit, Lewinsohn, Seeley, & Roberts, 2013). In addition to increasing the risk for a future episode of depression (Yaroslavsky et al., 2013), results from a longitudinal study from mid-adolescence to age 30 suggest that depressive symptoms at this time contribute to the erosion of personal and social resources (Yaroslavsky et al., 2013). More specifically, depressive symptoms during this period impact socioeconomic outcomes (Elovainio et al., 2012) and interfere with achieving developmentally important milestones, such as establishing romantic relationships (Reinherz, Paradis, Giaconia, Stashwick, & Fitzmaurice, 2003).



*Transactional Model of Stress and Coping.*

Stress commonly precedes depression, especially first-onset episodes (Hammen, 2005; Monroe, Slavich, & Gotlib, 2014). Lazarus and Folkman's (1984) Transactional Model of Stress and Coping focuses on the coping process used in reaction to stressful experiences. The model proposes that the impact of an external stressor depends on the appraisal of the situation and the psychological and social resources available (Lazarus & Folkman, 1984). Stress and coping theory is one of the most commonly applied frameworks related to depression and underemployment (Dooley, 2003). However, limited research has examined how this model may be applied to underemployed *emerging adults*, though they consistently experience among the highest rates of underemployment of any US population (Bell & Blanchflower, 2011). The model provides a useful framework for examining resilience in this population by identifying coping processes that may contribute to positive adaptation, i.e., lower depressive symptoms, when experiencing stress.

For this study, experiencing underemployment during emerging adulthood is a stressful life event that may challenge adaptive capacity (Dooley, 2003). The Transactional Model of Stress and Coping suggests that the impact of stress on emotional outcomes is mediated by the cognitive appraisal of the situation and the coping resources available to deal with the situation (Folkman & Lazarus, 1986; Lazarus & Folkman, 1984). First, individuals evaluate a potential stressor, such as being underemployed during emerging adulthood. Then, individuals use secondary appraisal to assess their ability to manage the situation and the reaction to the

stressor (Folkman & Lazarus, 1988), which influences the coping mechanisms used to manage stressful encounters (Folkman & Lazarus, 1988). Coping self-efficacy (CSE) is the confidence someone has in his or her ability to cope effectively, and it determines whether the person engages in coping behaviors (Benight & Bandura, 2004; Chesney, Neilands, Chambers, Taylor, & Folkman, 2006). The confidence that an individual has in exercising some control in coping with a stressor contributes to resilience (Benight & Bandura, 2004). Recent studies have demonstrated that CSE may mediate the association between stressful life events and mental health outcomes (Bosmans, van der Knaap, & van der Velden, 2016; Singer, Humphreys, & Lee, 2016).

After a stressful event is cognitively appraised, individuals use coping to manage the demands of the stressful event. These coping processes include cognitive and behavioral resources to manage a situation appraised as stressful, such as problem management, emotional regulation, and social support (Lazarus & Folkman, 1984). Folkman and Lazarus (Folkman & Lazarus) suggest that coping mediates the relationship between appraisal and the emotional response to a stressful situation. The coping mechanisms individuals apply depend on the situational context, as well as individual characteristics (Lazarus, 1996; Lazarus & Folkman, 1984). Problem-focused coping may consist of planning or problem solving (Folkman & Lazarus, 1986, 1988; Glanz & Schwartz, 2008). Emotion-focused coping may consist of emotional regulation through emotional processing or expression (Austenfeld & Stanton, 2004). Among emerging adults, for example,

some may focus attention on positive aspects of being underemployed, such as the increased availability of free-time (Bacikova-Sleskova et al., 2007).

Social support is a coping resource that contributes to specific coping strategies or directly to mental health outcomes (Taylor & Stanton, 2007). Positive social relationships may indirectly provide a buffer from stress (Cohen, 1988; Thoits, 2011), or the lack of positive social relationships may directly influence depressive symptoms through chronic strain (Needham, 2007). Supportive relationships are among the key protective factors associated with mental health (Turner & Brown, 2010). For emerging adults, greater levels of social support are associated with fewer depressive symptoms (Galambos, Barker, & Krahn, 2006; Hurd & Zimmerman, 2010).

Some research suggests that those with more symptoms of depression do not necessarily appraise stressful encounters more negatively than those with fewer symptoms of depression (Folkman & Lazarus, 1986). However, those with more symptoms of depression evaluate stressful situations as more impactful than those with fewer symptoms of depression (Folkman & Lazarus, 1986). Therefore, those with more symptoms of depression may be more vulnerable to stressful situations (Folkman & Lazarus, 1986).

In contrast, some people appear able to adapt successfully to life in the face of adverse conditions and the associated stress (Masten, 2001). Resilience is the process of positive adaptation despite adversity (Luthar, 2006). With the two components, adversity and positive adaptation, resilience is not directly measured (Luthar, 2006). Instead, the process of resilience is examined by measuring levels of

adversity, the presence protective factors (i.e., coping processes and social support), and their influence on outcomes. Although stressful life events often precede the onset of depression, most people experiencing stressful life events will not experience depressive symptoms (Hammen, 2005).

While considerable research has focused on stress processes and their relationship with depression, emerging adults are a group that has received limited attention from life course and stress process scholars (Pearlin, 2010). Additionally, limited research has examined the development of coping during this time period and throughout the life course (Zimmer-Gembeck & Skinner, 2011). This study seeks to fill this gap by studying the process of resilience by testing protective factors that may contribute to lower levels of depressive symptoms in a population of underemployed emerging adults. Understanding protective factors that may contribute to better mental health outcomes in this population could inform preventive interventions. The purpose of this study was to test whether the factors of secondary appraisal (coping self-efficacy) and coping contribute to resilience among underemployed emerging adults. It was hypothesized that resilience through the factors of coping self-efficacy, problem management, emotional regulation, and social support would mediate the relationship between perceived stress and depressive symptoms among unemployed emerging adults. Figure 3.1 illustrates the hypothesized relationships.

### Methods

The data for this analysis come from a mixed-methods study that included quantitative and qualitative data collection with the purpose of understanding

resilience among underemployed young adults. This analysis focuses on the quantitative data and the relationships among stress, coping, and depressive symptoms.

### *Sample*

The sample consisted of underemployed emerging adults from urban areas of a southeastern state in the United States. Study eligibility criteria included being between 18-25 years old and being underemployed. Underemployment was defined as not currently working, or working in a job for fewer hours than desired or that required less skill than qualified for. Current students were excluded from the study. Participants were recruited through advertisements posted in online forums and by word-of-mouth.

### *Procedure*

Interested participants provided informed consent and completed a screening form to assess eligibility. If they were eligible, they completed an online, self-report questionnaire. Participants received a \$15.00 gift card for completing the questionnaire. The study was approved by Emory University's Institutional Review Board.

Data were collected via an online questionnaire administered through Feedback Server®, a HIPAA-compliant, web-based data collection service. Collecting data over the internet can increase the likelihood of individuals disclosing sensitive information, such as depressive symptoms, and allowed respondents to answer the questionnaire at a convenient location for them (Baer, Saroiu, & Koutsky, 2002). The

online questionnaire was piloted with five respondents who met the eligibility criteria. The questionnaire took about 30 minutes to complete.

### *Measures*

The constructs of the Transactional Model of Stress and Coping were measured with a series of previously validated measures. The dependent variable was depressive symptoms with lower levels of depression indicating resilience.

*Depressive symptoms.* Depressive symptoms was measured with responses to the Patient Health Questionnaire (PHQ-8) (Kroenke, Spitzer, & Williams, 2001; Kroenke et al., 2009) The PHQ-8 asks about the frequency of depressive symptoms over the last two weeks; respondents provide the number of days over the past 2 weeks that they experienced symptoms of depression (Kroenke et al., 2009). For example, questions ask how many days over the last 2 weeks individuals had “little interest or pleasure in doing things” or “trouble concentrating on things, such as reading the newspaper or watching television.” Response options ranged from 0 to 14. A depressive symptom severity score was calculated as a continuous variable by summing the responses to each question. Scores ranged from 0 to 112 (Dhingra, Kroenke, Zack, Strine, & Balluz, 2011). Lower scores indicated lower depressive symptoms.

*Perceived Stress.* Primary stress appraisal was measured with the perceived stress scale (PSS) (Cohen, Kamarck, & Mermelstein, 1983). This widely-used, global measure of stress consists of 14-items and uses a 5-point Likert scale (0 = “never” to 4 = “very often”) (Cohen et al., 1983). One question asks, “In the last month, how often have you been upset because of something that happened unexpectedly.”

Responses were summed to determine the score with higher scores indicating higher levels of perceived stress.

*Coping Self-Efficacy.* Secondary appraisal was measured using the validated coping self-efficacy (CSE) scale (Chesney et al., 2006; Colodro, Godoy-Izquierdo, & Godoy, 2010), which measures the confidence respondents have in dealing with stressful events (Chesney et al., 2006). The scale consists of 26 items and uses an 11-point response scale (0 “cannot do at all” to 10 “certainly can do”). The items ask about confidence related to engaging in problem-focused coping, emotional-focused coping, and seeking social support. One question asks, “when things aren’t going well for you, or when you’re having problems, how confident or certain are you that you can...sort out what can be changed, and what cannot be changed.” The ratings were summed to create one score. Higher scores indicated higher levels of CSE.

*Coping processes* were assessed with the COPE inventory and the emotional coping assessment (EAC) (Austenfeld & Stanton, 2004; Carver, Scheier, & Weintraub, 1989). Both validated scales use the same 4-point Likert scale as response options (1 = “I usually don’t do this at all” to 4 = “I usually do this a lot”). The COPE inventory includes 12 subscales of 4-items each to measure various coping strategies (Carver et al., 1989; Clark, Bormann, Cropanzano, & James, 1995). Two subscales of active coping and planning provided measures for problem management. Items state, “I concentrate my efforts on doing something about it,” and “I make a plan of action.” The EAC scale consists of 8-items to assess emotional regulation with two subscales: emotional processing and emotional expression (Austenfeld & Stanton, 2004). Items state what the respondent does to cope with

stress, for instance, “I take time to figure out what I’m really feeling,” or “I let my feelings come out freely.” The EAC may be embedded within the COPE inventory (Austenfeld & Stanton, 2004; Carver et al., 1989). The items for these scales were summed to create scores for problem solving and emotional regulation. Higher scores indicated use of more coping processes.

*Social Support.* The Multidimensional Scale of Perceived Social Support (MPSPSS) is a 12-item, validated scale that asks about sources of available social support (Zimet, Dahlem, Zimet, & Farley, 1988; Zimet, Powell, Farley, Werkman, & Berkoff, 1990). Response options range from 1 (“very strongly disagree”) to 7 (“very strongly agree”) (Zimet et al., 1988; Zimet et al., 1990). Items assess support from family, friends, and significant others. For instance, items include the following: “My family really tries to help me”; “I can count on my friends when things go wrong”; and “There is a special person who is around when I am in need”. The items were summed to compute a score for overall support. Higher scores indicated greater levels of perceived social support.

#### *Statistical Analyses*

Prior to data analysis, missing data were estimated using the expectation-maximization algorithm under the missing-at-random assumption (Enders & Gottschall, 2011). Less than 6% of the data were estimated for each variable. Potential outliers were screened using Mahalanobis distance (Tabachnick & Fidell, 2001). No outliers were detected. Descriptive statistics including means, standard deviations, skewness, kurtosis, range, and Cronbach’s alphas were examined.



Mediation between perceived stress and depressive symptoms was assessed using path analysis. The baseline model examined whether CSE, problem management, emotional regulation and social support mediated the relationship between perceived stress and depressive symptoms. All variables were modeled as continuous. Model fit was determined by examining the  $\chi^2$  statistic, the Standardized Root Mean Squared residual (SRMR), Root Mean Squared Error of Approximation (RMSEA), and the Comparative Fit Index (CFI). Hu and Bentler's (1999) fit indices criteria were used to determine good model fit (SRMS close to .08, RMSE close to .06, and CFI close to .95). The path analyses were completed using Mplus 7.4 (Muthén & Muthén, 2010).

#### *Post-Hoc Moderation Analyses*

After testing the mediating model of stress and coping in underemployed emerging adults, moderating variables were considered. Coping processes and resources may interact with stress to buffer the relationship with depressive symptoms. Interaction terms between perceived stress and the mediation variables were tested to examine the buffer hypothesis.

## Results

#### *Description of the Sample*

The data for all the theoretical constructs were normally distributed, and the reliability of each scale was good, with the Cronbach's alpha for each being greater than .80 (Table 3.1). The stress, coping, social support, and depressive symptoms variables were significantly correlated with each other as well (Table 3.2).

Depressive symptoms and perceived stress were negatively correlated with the coping variables. All variables were mean centered for the analysis.

The sample (N = 193) consisted of 114 women (59.1%) and 79 men (40.9%). About one-third of the sample were non-Hispanic African American (n = 72, 37.3%) and one-third were non-Hispanic White (n = 71, 36.8%). The rest of the sample comprised respondents from other races/ethnicities (n = 50, 25.9% including Asian or Pacific Islander, n = 24, 12.4% and Hispanic, n = 15, 7.8%). The mean age of the sample was 22.9 (Standard Deviation (SD) = 1.7). The majority of participants were not currently working (n = 142, 73.6%), and the remainder were working in jobs for fewer hours than desired or that required less skills than qualified for (n = 51, 26.4%). The prevalence of clinically significant depression was 21.8% (n = 42).

#### *Path Model*

Based on the descriptive results, the data from the path model were treated as normally distributed. The baseline model tested the proposed mediating coping variables (CSE, problem management, emotional regulation, and social support) between PSS and depressive symptoms. Additionally, problem management, emotional regulation, and social support were proposed mediators between CSE and depressive symptoms. The baseline model did not fit the data well,  $\chi^2 = 88.13$ , df (2),  $p < .0001$  (SRMR = .11; RMSEA = .47; and CFI = .72). Due to the proposed model not fitting the data well, post-hoc modifications were made to the model to examine whether coping variables interacted with perceived stress to buffer the relationship with depressive symptoms.

#### *Interaction Model*

The buffering hypothesis was tested with moderation. Four interaction terms were tested for PSS and each of the mediating variables. The interaction between PSS and CSE was significant ( $p = .04$ ).

For the interaction model, paths from PSS and CSE to depressive symptoms were added to the baseline model along with the interaction term to account for the interaction. The interaction model fit the data well,  $\chi^2 = 7.40$ ,  $df (4)$ ,  $p = .12$  (SRMR = .04; RMSEA = .07; and CFI = .99). PSS, CSE, and the interaction term between these two variables were significantly associated with depressive symptoms indicating, that CSE moderated the relationship between PSS and depressive symptoms (described in more detail below). Emotional regulation, problem management, and social support were not significantly associated with depressive symptoms. CSE was significantly associated with problem management (standardized coefficient = 0.55,  $p < .001$ ), emotional regulation (standardized coefficient = 0.38,  $p = .002$ ), and social support (standardized coefficient = 0.55,  $p < .001$ ). The relationships between the variables were in the expected direction. PSS was significantly associated with CSE (standardized coefficient = -0.53,  $p < .001$ ). The residual covariance between emotional regulation and problem management was significantly associated (standardized coefficient = 0.22,  $p < .001$ ).

The total standardized effect for PSS and depressive symptoms was 0.63 ( $p < .001$ ) and the indirect effect was 0.08 ( $p = .03$ ). The path from PSS to CSE to depressive symptoms was significant (standardized coefficient for indirect effect = 0.10,  $p = .02$ ). PSS also directly impacted depressive symptoms. One standard deviation increase in PSS increased depressive symptoms by a standard deviation of

0.55 (direct effect,  $p < .001$ ). The total standardized effect for CSE and depressive symptoms was  $-0.15$  ( $p = .03$ ). The indirect effect was not significant. The direct effect of CSE on depressive symptoms was  $-0.18$  ( $p = .02$ ) meaning that an increase in CSE decreased depressive symptoms. About 43.3% ( $r\text{-square} = 0.43$ ,  $p < .001$ ) of the variance in depressive symptoms was explained by the model. Figure 3.2 presents the model and standardized coefficients.

For the interaction between PSS and CSE, the slopes were plotted with five lines ( $\pm 2$  SD,  $\pm 1$  SD, and the mean of CSE) in SAS 9.4 (Figure 3.3). The beta coefficients for all five slopes were statistically significant. The slope was steepest for those with the lowest CSE. The unstandardized simple slope for two SD and one SD below the mean of CSE was 2.92 ( $p < .001$ ) and 2.54 ( $p < .001$ ) respectively. The unstandardized simple slope for the mean of CSE was 2.12 ( $p < .001$ ). The unstandardized slope for two SD and one SD above the mean was 1.72 ( $p < .001$ ) and 1.33 ( $p = .004$ ). The slopes gradually decreased as CSE increased.

### Discussion

Our data did not support the main study hypothesis in that, among the underemployed participants in this study, the proposed mediators CSE, problem management, emotional regulation, and social support did not fully mediate the relationship between perceived stress and depressive symptoms. Although the bivariate analyses indicated significant correlations between each of the mediators and depressive symptoms, in the path model primary appraisal of perceived stress and secondary appraisal of CSE overwhelmed the other potential mediators in predicting depressive symptoms. Hence, the associations between perceived stress

and depressive symptoms was better accounted for via direct effects of perceived stress and CSE rather than being mediated by emotional regulation, problem management, and perceived social support.

A number of factors may potentially explain these findings. For example, perhaps other critical factors that are not traditionally operationalized as part of the Transactional Model of Stress and Coping may act as mediators, such as mindfulness or social skills. The model proposes that effective coping relies on the use of situation specific coping processes (Lazarus & Folkman, 1984). Likewise, perhaps there are better ways to assess the mediators used in the model that would overlap less with perceived stress and CSE. For instance, the Ways of Coping Scale asks participants to report the coping processes they used during a recent stressful event (Lazarus & Folkman, 1984). The problem management and emotional regulation scales used in this study focused on ways to deal with stress more generally, which could overlap with CSE.

The finding that social support neither mediates nor moderates the association between perceived stress and depressive symptoms corresponds with other research among emerging adults that did not find a significant relationship between social support from family and friends and depression during young adulthood (Klein et al., 2013). In contrast, research frequently finds main effect and buffering effects for social support and mental health outcomes (Cohen & Wills, 1985), including buffering effects among emerging adults (Colman et al., 2014). For emerging adults, the *type* of support and *provider* of support may be particularly relevant (Adam et al., 2011). Individuals who report worse relationships with their

parents have higher levels of depression (Adam et al., 2011). While emotional support from parents contributes to better mental health outcomes among unemployed emerging adults, receiving parental advice and instrumental support may contribute to higher levels of psychological distress (Bjarnason & Sigurdardottir, 2003). Therefore, more precise measures of social support that assess the type and quality of support may provide a more complete understanding of how social support is related to perceived stress and depressive symptoms.

According to the Transactional Model of Stress and Coping, appraisal and coping processes interact with each other to contribute to an overall coping process. Although the model identifies problem-focused and emotion-focused coping as separate contributors mediating the impact of stress on health outcomes, Lazarus (1996) suggests that both constructs interact and influence each other. Therefore, these coping strategies are not mutually exclusive. For this analysis, the variables were significantly correlated with each other, supporting this proposition.

Emerging adulthood is a period of growth, including development of more adaptive coping processes (Wingo, Baldessarini, & Windle, 2015). As CSE develops over time (Bosmans & van der Velden, 2015), underemployed emerging adults may start to engage in more coping processes. In the final model, CSE was directly associated with lower levels of depressive symptoms. Additionally, CSE was significantly associated with the coping processes of social support, emotional regulation, and problem management. However, these coping processes did not significantly contribute to lower levels of depressive symptoms. Emerging adults may be beginning to establish coping behaviors and their CSE may contribute to

further development of coping resources. Folkman et al. (1987) have examined age differences in coping processes, but less research has focused on the development of coping over the life course (Zimmer-Gembeck & Skinner, 2011).

The Transactional Model of Stress and Coping recognizes the transactional relationship between primary and secondary appraisal (Lazarus & Folkman, 1984). It also proposes a mediational model in which coping processes mediate the relationship between the stressful experience and health outcome (Lazarus & Folkman, 1984). The resilience theoretical framework uses a variety of approaches, including variable-focused analyses, that examine mediation and/or moderation (Masten, 2001). In moderation models, a protective factor buffers the relationship between risk and negative outcomes (Masten, 2001). However, few studies have been able to identify significant interaction effects related to resilience in variable-focused analyses (Masten, 2001). In this study, the significant interaction between CSE and PSS suggests that CSE moderates how perceived stress relates to depressive symptoms. As CSE increased, the relationship between perceptions of stress and depressive symptoms decreased.

Coping skills are known to increase as people evolve from childhood to adolescence, but much less is known about the further development of coping skills during emerging adulthood (Zimmer-Gembeck & Skinner, 2011). Since many emerging adults are just starting to navigate finding employment, this new stressor may require unique coping skills that they have not yet had the opportunity to develop. Furthermore, the models and definitions of coping with stressors are

“borrowed from work with adults” (Skinner & Zimmer-Gembeck, 2007, p. 121), and they may not account for the developmental transitions.

### *Limitations*

The results of this study should be considered in light of several limitations. As with many studies, this study relied on self-reported data. Using a biological measure of stress would provide a more objective measure of stress. Additionally, causality between the relationships cannot be determined due to the cross-sectional design. Assessments of perceived stress could be confounded by depressive symptoms. Disentangling depressive symptoms from perceptions of stress, especially in cross-sectional studies, is difficult (Monroe & Simons, 1991). For instance, someone who is depressed may be more likely to perceive a situation as stressful compared with someone who is not depressed (Monroe & Simons, 1991). On the other hand, Folkman (1986) found that people with more depressive symptoms did not appraise stressful encounters more negatively than those with fewer depressive symptoms.

Additionally, depressive symptoms could influence the coping response in which individuals engage. The coping literature describes the intertwined nature of perceptions of stress, confidence in the ability to deal with stress, coping processes, social support, and outcomes (Skinner, Edge, Altman, & Sherwood, 2003). For example, someone who copes with unemployment by withdrawing from social relationships and avoiding the problem, will likely interpret the situation as more stressful and have lower confidence in their ability to deal with the situation. Lastly,



the convenience sample used to identify participants limits the generalizability of the results.

The strengths of this study include that it was theory-driven and uses valid and reliable measures. The study was designed to test the Transactional Model of Stress and Coping within a new population of understudied emerging adults, and fills a gap in the literature by examining stress and coping processes at a significant transition point.

#### *Implications and Future Directions*

Results suggest that the Transactional Model of Stress and Coping may not be as applicable for this population of underemployed emerging adults as for other populations, due to the limited attention to the development of coping processes. Alternative ways of coping beyond problem management, emotional regulation, and social support may be more relevant for underemployed emerging adults. Results from a recent review of the coping literature called for improved developmental frameworks related to coping (Zimmer-Gembeck & Skinner, 2011).

With this in mind, qualitative research could inform understanding of the coping mechanisms that confer resilience and reduce depressive symptoms among emerging adults, including underemployed emerging adults. Potential coping mechanisms that could be included in future studies include a sense of mastery (Crowe & Butterworth, 2016) and meaning-based coping (Glanz & Schwartz, 2008). Lastly, future studies should examine how the three factors of coping self-efficacy (i.e., problem management, emotional regulation, and social support) relate to the use of specific coping strategies (Chesney et al., 2006).

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Table 3.1. Descriptive details about the scales used in the path analysis

	Mean (SD)	Skewness	Kurtosis	Range	Alpha
Depressive symptoms	43.7 (31.1)	0.53	-0.76	0-112	.91
Perceived Stress (PSS)	30.7 (8.0)	0.00	0.16	9-54	.82
Coping Self-Efficacy (CSE)	151.9 (53.7)	-0.05	-0.26	5-260	.97
Emotional Regulation	21.1 (5.5)	-0.05	-0.19	8-32	.86
Problem Management	24.2 (4.9)	-0.28	-0.25	11-32	.88
Social Support	57.1 (17.4)	-0.59	-0.26	12-85	.94

Table 3.2. Correlations among independent and dependent variables

	Depressive symptoms	PSS	CSE	PM	ER	SS
Depressive symptoms	-					
PSS	0.63***	-				
CSE	-0.45***	-0.53***	-			
PM	-0.21**	-0.30***	0.58***	-		
ER	-0.20**	-0.20**	0.39***	0.44***	-	
SS	-0.23**	-0.30***	0.33***	0.24**	0.21**	-

\*\*\* p < .001; \*\* p < .01 \* < .05; PSS: Perceived Stress Scale; CSE: Coping Self-Efficacy Scale; PM: Problem Management; ER: Emotional Regulation; SS: Social Support

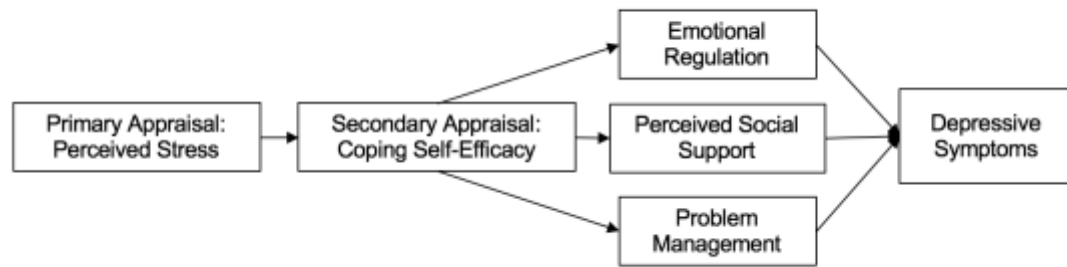


Figure 3.1. Proposed path analysis

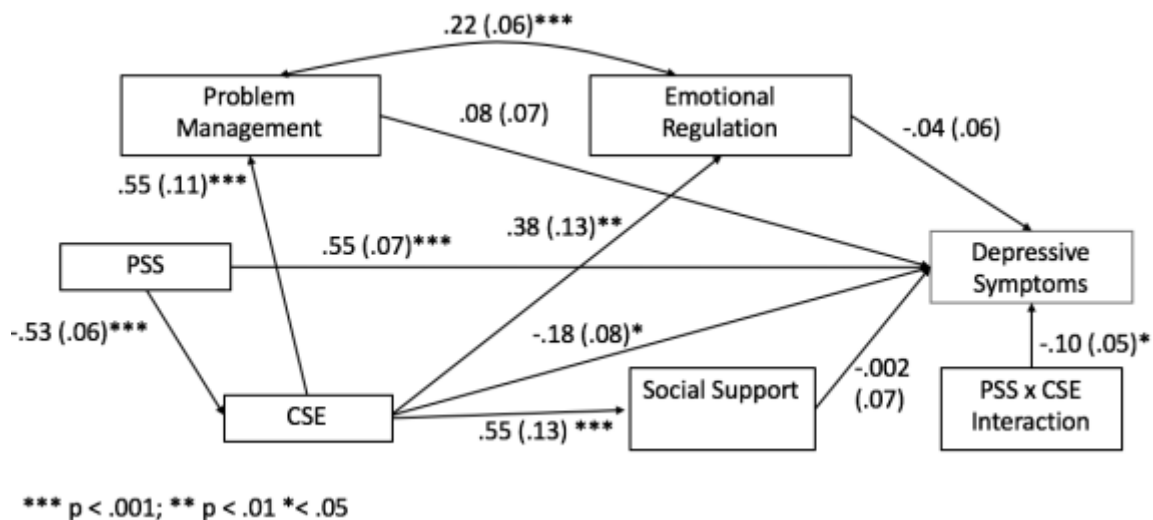


Figure 3.2. Modified path analysis, standardized estimates; Non-significant covariance relationships not shown; PSS: Perceived Stress Scale; CSE: Coping Self-Efficacy Scale



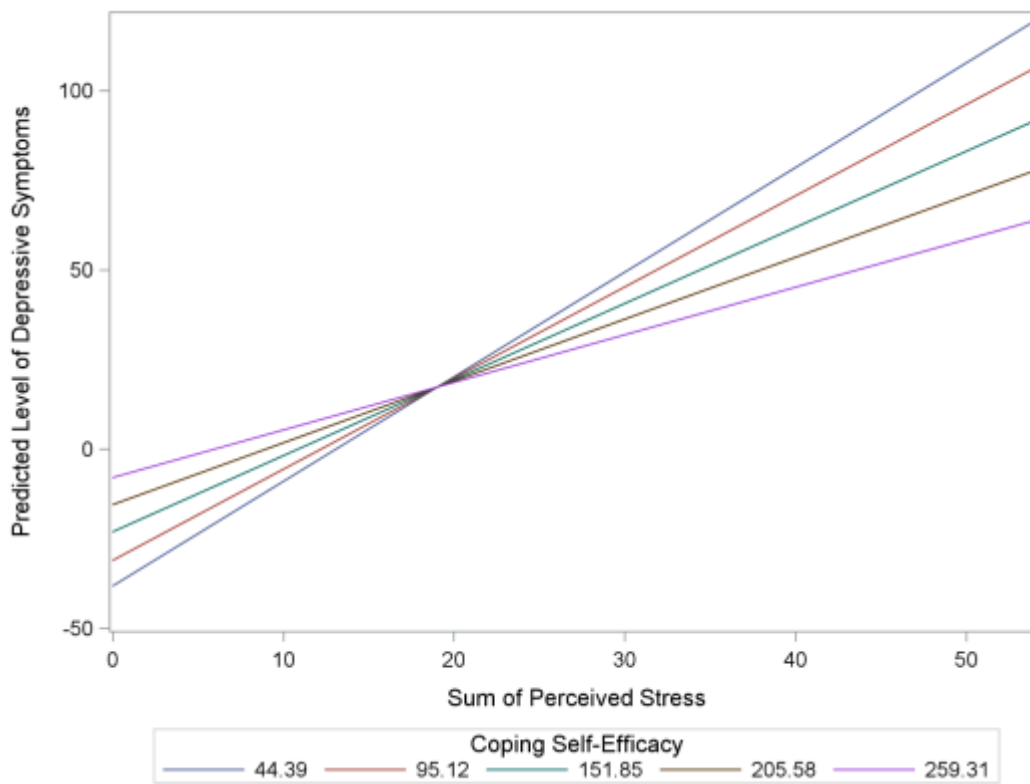


Figure 3.3. Interaction between PSS and CSE predicting depressive symptoms

**Chapter 4: Resilience among underemployed emerging adults: developing  
a model of vulnerability and protective processes**

## Abstract

**Background:** Depression during emerging adulthood is a significant public health problem, and those who are underemployed may be at increased risk for depressive symptoms. Identifying what contributes to resilience among emerging adults may help inform future prevention interventions.

**Methods:** Qualitative data were collected through in-depth one-on-one interviews from underemployed emerging adults (18-25). Using quota sampling, participants were selected who had few (none to mild) depressive symptoms and who had elevated depressive symptoms (moderate to severe depressive symptoms). The interviews were audio-recorded, and participants were asked about stress, coping, support, and depression. Data were transcribed verbatim and analyzed using modified grounded theory to inform a model of resilience. Constant comparisons between those with few depressive symptoms and with elevated depressive symptoms grounded the development of the theory.

**Results:** Thirty-two participants completed the one-on-one interviews. Half the sample had elevated depressive symptoms. Vulnerability factors included financial strain, relationship stress, underemployment status stressors, and previous mental or behavioral health problems. Protective processes included agency, optimism, coping flexibility, and supportive relationships. The interaction between vulnerability and protective processes resulted in five groups of participants: *Struggling, Needing Support; Demonstrating Resilience; Inoculating Stress; Lacking Protective Factors; and Building Promotive Factors*. Participants with few depressive symptoms were primarily grouped in the *Demonstrating Resilience* or *Inoculating Stress* groups. Participants with elevated depressive symptoms were primarily grouped in the *Struggling, Needing Support* or *Lacking Protective Factors* groups.

**Conclusion:** Underemployed emerging adults experienced additional vulnerabilities stemming from their underemployment status. For some underemployed emerging adults who engaged in protective processes, the impact of these vulnerability factors was reduced. The five groups of underemployed emerging adults that were identified provide improved understanding about the process of resilience among underemployed emerging adults. These findings can inform longitudinal studies and prevention interventions to enhance resilience among underemployed emerging adults.

## Introduction

Depressive disorders are a significant public health concern (Kessler, Chiu, Demler, Merikangas, & Walters, 2005). Depression is a leading cause of disability (Ferrari et al., 2013; Mathers & Loncar, 2006; Whiteford et al., 2013). In 2015, it was the second leading cause of disability in the United States (Global Burden of Disease 2015 Disease and Injury Incidence and Prevalence Collaborators, 2016). Depressive disorders contribute to lower quality of life (McKenna, Michaud, Murray, & Marks, 2005) and worse physical health (Merikangas et al., 2007). Additionally, they are among the most expensive health conditions due to the costs related to treatment, comorbidities, and lost productivity (Greenberg, Fournier, Sisitsky, Pike, & Kessler, 2015).

Emerging adulthood, a term coined by Arnett (2015) to describe the transition between adolescence and adulthood, is an important developmental period with a high incidence of depression (Rohde, Lewinsohn, Klein, Seeley, & Gau, 2012). Compared with other adults, emerging adults have an increased prevalence of major depressive episodes (MDEs). Annually, 10.3% of emerging adults (ages 18-25) report having at least one MDE (Center for Behavioral Health Statistics and Quality, 2016). For adults ages 26 to 49, and 50 or older, the annual rate of MDE is 7.5% and 4.8%, respectively (Center for Behavioral Health Statistics and Quality, 2016). The consequences of depressive disorders during emerging adulthood are significant, including an increased risk for a future episode of depression (Reinherz, Giaconia, Hauf, Wasserman, & Silverman, 1999; Yaroslavsky, Pettit, Lewinsohn, Seeley, & Roberts, 2013), erosion of personal and social resources (Yaroslavsky et al., 2013),

reduced socioeconomic outcomes (Elovainio et al., 2012) and delayed achievement of developmentally important milestones, such as establishing romantic relationships and identifying suitable career development and employment opportunities (Reinherz, Paradis, Giaconia, Stashwick, & Fitzmaurice, 2003).

In order to reduce the burden of depressive disorders increased attention on protective factors that promote mental health is needed (O'Connell, Boat, & Warner, 2009). By focusing on strengths, resilience theory provides a health promotion orientation to mental health (Windle, 1999). Resilience is the process of “bouncing back” from adverse or stressful events (Rutter, 1987) and depends on two components: significant adversity or trauma (risk) and positive adaptation (Luthar, 2006). The process of resilience is examined by identifying adversity and how the presence of assets and protective factors influence outcomes (Luthar, 2006). Additionally, resilience provides a multi-level framework for understanding protective processes (Skinner & Zimmer-Gembeck, 2007).

The definition of significant adversity differs greatly in resilience research (Kaplan, 1999). Significant adversity is comprised of risk factors and vulnerability, including modifiable characteristics that precede the development of depression (Kraemer et al., 1997; Mrazek & Haggerty, 1994). Risk and vulnerability factors are not mutually exclusive (Rutter, 1987). For example, if someone loses a job, unemployment is a risk factor for depression, and someone who does not have a job may be more vulnerable to other life events (Rutter, 1987). Vulnerability factors exacerbate the negative effects of a risk factor (Luthar & Cicchetti, 2000). For emerging adults, the normative experience of transitioning to adulthood, while

stressful, does not constitute enough adversity unless it is compounded by other events (Masten, Obradovic, & Burt, 2005).

One potential stressful event that increases vulnerability is the experience of underemployment. Underemployment is defined as employment that does not use peoples' full working capacity, including unemployment, involuntary part-time work, and over-qualification for a job (Dooley, 2003; Jensen & Slack, 2003; McKee-Ryan & Harvey, 2011). The negative health consequences of underemployment are significant (Dooley, Prause, & Ham-Rowbottom, 2000; Friedland & Price, 2003; Rosenthal, Carroll-Scott, Earnshaw, Santilli, & Ickovics, 2012; Sadava, O'Connor, & McCreary, 2000). Among emerging adults in particular, less research has examined the broader concept of underemployment (Allan, Tay, & Sterling, 2017; Dooley et al., 2000), but unemployed emerging adults have worse physical (Gallup, 2016) and mental health outcomes (McGee & Thompson, 2015). Along with the disadvantages associated with underemployed, emerging adults' experiences of social exclusion may also increase (Côté & Bynner, 2008). For instance, the scaffolding provided through structured employment may contribute to growth and support emerging adults in making the transition to adulthood (Masten et al., 2005). However, those who do not participate in or have access to this structure may need additional support (Masten et al., 2005). Furthermore, underemployed emerging adults may have fewer opportunities to make choices about their trajectory into adulthood (Luyckx, Schwartz, Goossens, & Pollock, 2008), which could increase depressive symptoms (Ritchie et al., 2013).

Protective processes reduce risk and vulnerability by reducing exposure or re-

adjusting the meaning of an event (Rutter, 1987). Protective factors are the focus of resilience research when they interact with risk factors to reduce the likelihood of negative outcomes (Luthar, 2006; Luthar, Sawyer, & Brown, 2006). Some distinguish between 'protective' and 'promotive factors' (Burt & Paysnick, 2012). Protective factors are defined by offering protection from stressful experiences, whereas promotive factors are used more generally without experiencing stressful events (O'Connell et al., 2009). Protective factors may be located within an individual, an asset, or externally, a resource (Fergus & Zimmerman, 2005). Examples of assets include coping skills and self-efficacy, whereas examples of resources include social support and mentoring (Fergus & Zimmerman, 2005). Assets and resources interact where self-efficacy may be developed through secure relationships and successful achievement experiences (Bandura, 1997; Rutter, 1987). During emerging adulthood assets and resources that contribute to good outcomes include autonomy, planfulness, achievement motivation, future orientation, coping skills, and adult support (Masten et al., 2004; Masten et al., 2005).

In contrast to research on risk factors for depression, limited research has examined protective factors among emerging adults (Schubert, Clark, Van, Collinson, & Baune, 2017), and especially underemployed emerging adults. Among unemployed populations, protective factors include maintenance of a social support system, financial resources, time structure, re-employment expectations, problem-focused and emotional-focused coping strategies (McKee-Ryan, Song, Wanberg, & Kinicki, 2005). For depressive symptoms more generally, protective factors include

coping (Aldao, Nolen-Hoeksema, & Schweizer, 2010) and social support (Galambos, Barker, & Krahn, 2006; Kawachi & Berkman, 2001). During the transition to adulthood, a sense of mastery and high self-esteem, protect against depression (Colman et al., 2014). Gaining a better understanding of how protective processes operate within an emerging adult population is important, since evidence suggests that developmental factors play a role in coping processes (Skinner & Zimmer-Gembeck, 2007; Wingo, Baldessarini, & Windle, 2015) and support systems (Garipey, Honkaniemi, & Quesnel-Vallee, 2016)

Tandon et al. (2013) investigated resilience among a predominantly underemployed and African American population. Using cluster analysis, they identified three clusters: high risk and high protective; moderate risk and moderate protective; and moderate risk and low protective. The high risk and high protective cluster reported the highest levels of four coping strategies (i.e., active coping, avoidance, distraction, and support seeking). They also reported high levels of emotional and financial support. The majority of participants belonged to the moderate risk and moderate protective cluster. They reported slightly lower scores for coping, but higher scores for financial and emotional support compared to the high risk and high protective cluster. The moderate risk and low protective cluster had the lowest scores for coping and social support. Depressive symptoms were high across all three clusters, but highest for the high risk and high protective group. Because this group is at high risk and could benefit from targeted interventions, they recommend future research examine multiple-factor coping models (Tandon et al., 2013).



*Qualitative Research.* Qualitative studies can provide valuable data about different types of coping and resources this population uses. Additionally, qualitative studies are needed in resilience research (Luthar & Brown, 2007; Ungar, 2003). Luthar (2007) suggests qualitative studies could provide insight into important protective factors and inform measures used for quantitative studies. This is needed because some dimensions of resilience may have been excluded in initial studies (Luthar & Brown, 2007). Quantitative data on resilience are only available for the protective factors that researchers have assessed (Burt & Paysnick, 2012). While resilience research has evolved over the years (Bonanno & Diminich, 2013), the deductive approach to understanding resilience has resulted in gaps in knowledge (Johnson, Panagioti, Bass, Ramsey, & Harrison, 2017). Taking an inductive approach to examining resilience may identify nuances not captured currently. For instance, qualitative methods may be helpful in understanding relevant categories of coping (Skinner, Edge, Altman, & Sherwood, 2003) or types of supportive relationships (Martinez-Hernaez, Carceller-Maicas, DiGiacomo, & Ariste, 2016) relevant to underemployed emerging adults. Furthermore, resilience during emerging adulthood is an understudied (Burt & Masten, 2010), complex topic that could benefit from an in-depth emic perspective.

*Research Question.* With the understanding that not all underemployed emerging adults have negative health outcomes, the purpose of this paper is to examine the process of resilience among underemployed emerging adults by comparing individuals with and without depression. The main question this study sought to

examine was: What are the protective processes that underemployed emerging adults use to deal with stress, and how does this differ by depression status?

### Methods

The data used for this study come from the qualitative portion of a parallel, mixed-methods study. Participants responded to a quantitative questionnaire, and a sub-set of individuals participated in the one-on-one qualitative interviews. The purpose of the study was to examine resilience among underemployed young adults. Using modified grounded theory, this analysis developed a model of resilience among underemployed emerging adults by comparing how experiences of coping with underemployment differ by depression status.

*Sample:* The qualitative sample was recruited from the quantitative sample. To be eligible for the quantitative sample, study participants met the following criteria: (1) were between the ages of 18 and 25, (2) were not current students, (3) were underemployed, as defined by not being employed or inadequately employed by not working enough hours or in a position that does not use their skills and training, and (5) lived in a metropolitan area of Georgia. To be eligible for the qualitative study, participants met two additional criteria: (1) self-identified as Black or White and (2) lived in the Atlanta-metropolitan area. Using quota sampling, we recruited qualitative participants who had few depressive symptoms and had elevated depressive symptoms to examine factors that contribute to resilience. We also sought variation among participants based on race and gender to maximize variation in experiences of underemployment.

Confidential one-on-one in-person interviews took place in a convenient location to the participant (e.g., local libraries and coffee shops). Participants received \$25 for their participation in the study.

*Data Collection Instrument.* The interview guide for the semi-structured interviews corresponded with major sensitizing concepts (e.g., stress, coping, depression) relevant to study aims (MacFarlane & O'Reilly-de Brun, 2012; Patton, 2002). The guide comprised three main sections that focused on: (1) experiences of being underemployed, (2) resilience and coping resources, and (3) mental health. The domains explored during the interviews are listed in Table 4.1. The semi-structured format allowed participants to respond openly. Probes were used to obtain richer responses to the questions (Patton, 2002). As data were collected, the interview guide was refined to explore emerging themes in more depth, such as onset of mental health problems. Interviews lasted on average about 65 minutes (range: 23 minutes to 131 minutes).

*Data analysis.* Using data from the quantitative questionnaire, the qualitative sample was stratified based on depression status, race, and gender. Depression status was determined with responses from the Patient Health Questionnaire-8 (Kroenke, Spitzer, & Williams, 2001; Kroenke et al., 2009). Categories of depression were created by classifying participants into two groups: few depressive symptoms (no-to-mild depressive symptoms, scores less than or equal to 9) and elevated depressive symptoms (moderate-to-severe depressive symptoms, scores greater than or equal to 10). The demographic descriptive data were analyzed using frequencies and means.

For the qualitative data, the interviews were audio-recorded and transcribed verbatim for analysis. Qualitative data were analyzed using modified grounded theory techniques. Three types of coding were employed: open coding, axial coding, and selective coding (Ponterotto, 2010). During open coding each line of data and defining actions within it were coded (Charmaz, 2000). Axial coding was used to identify and organize connections between categories and subcategories (Charmaz, 2000; Ponterotto, 2010). Selective coding identified the conceptual categories that accounted for most of the data (Charmaz, 2000; Ponterotto, 2010) by abstracting how the identified codes related to each other (Strauss & Corbin, 1994). For example, descriptions of coping were explored to identify social and emotional resources used by underemployed emerging adults (Strauss & Corbin, 1994). The patterns identified contributed to the development of a conceptual model describing the processes associated with experiences of underemployment that contribute to and protect against depressive symptoms (Strauss & Corbin, 1994). Constant comparisons between those with few versus elevated depressive symptoms were made throughout the analysis to ground the development of the theory (Strauss & Corbin, 1994).

An initial codebook was developed with the interview guide and content of the interviews. Using the codebook two researchers coded three transcribed interviews separately. The researchers compared the coded interviews, discussed discrepancies in assigned codes, and reached consensus on the coding. The codebook was simplified based on these discussions and revised to include inductive codes (e.g., “keep moving forward,” “work / career network”). One

researcher independently coded the remaining transcripts. The second coder independently coded every fourth transcript. Intercoder agreement was evaluated to ensure the codebook was applied consistently (Hennink, Hutter, & Bailey, 2010; Patton, 2002). The initial agreement between the coders was good (Kappa = 0.80). Discrepancies in coding were reviewed and coding was refined. Memos were written to elaborate identified processes and examine connections among categories (Charmaz, 2000). Relevant quotes were added to the memos, so they could be examined directly (Charmaz, 2000). MAXQDA qualitative software was used to manage the data, coding, and analysis (MAXQDA, 2013).

## Results

### Sociodemographic characteristics of the sample

Thirty-two underemployed emerging adults participated in this study. Half of the sample had few depressive symptoms and half the sample had elevated depressive symptoms. Table 4.2 provides a description of the sample by depressive symptoms status, race/ethnicity, and gender. The mean age of participants was approximately 23. Participants with elevated depressive symptoms (n = 16) were slightly younger (mean = 22.5, range = 18-25) than participants with few depressive symptoms (n = 16, mean = 23.4, range 21-25). Most had received at least some college education and six had children (Table 4.3).

### Overview of Findings

The two major constructs to emerge from participants' descriptions of their underemployment experience were ***vulnerability*** and ***protective processes***.

Vulnerabilities consisted primarily of stressors, such as *financial strain* and

*relationship stress*. Being underemployed also increased vulnerability for some due to the *status of underemployment* and frustration with the job search process. In addition, vulnerability increased with these stressors combined, along with *previous experience with behavioral or mental health problems*. Protective processes consisted of *agency, optimism, coping flexibility, and social support*. These two major constructs interacted to contribute to resilience in underemployed emerging adults. Figure 4.1 provides a representation of the conceptual model developed during the analytic process. One group of participants (n=10) with few depressive symptoms demonstrated resilience by managing vulnerability through protective processes. Another group of participants with elevated depressive symptoms (n=12) did not manage vulnerability through protective processes. The remaining participants fell into two other groups due to lower levels of vulnerability and differences in the use of protective processes. A more detailed description of the two major constructs is provided below, with the groupings of the participants for each construct.

#### Vulnerability

As mentioned above, vulnerability among underemployed emerging adults included two major stressors, financial strain and relationship stress. Participants also described vulnerability associated with their underemployment status. Previous experiences with behavioral or mental health problems increased vulnerability, too. Vulnerability from a combination of stressors created “interactive vulnerability” wherein stressors added on to each other to hit a tipping point.

Financial Strain. All participants described *some level* of financial strain, which ranged from worrying about having enough food to not being able to afford “*filet*

*mignon.*” This variation in financial strain contributed to variation in the level of vulnerability participants experienced. Participants with more financial strain described stress resulting from worry over finances. Almost two-thirds of participants with elevated depressive symptoms described significant financial strain, whereas only three participants with few depressive symptoms described significant financial strain. Significant financial strain consisted of worrying about food, housing, transportation, and paying bills. Participants with significant financial strain described experiencing other minor financial limitations, as well. One participant described his worries related to food, transportation, housing, and bills:

*“How am I going to pay my car bills? How am I going to pay my normal bills? How am I going to eat? How am I going to get some food or something like that or – Because, you know, I was running a little broke after I quit. I wasn't too bad, but it was probably like only enough money to get me through at least a week or two, and it was really difficult...How am I even going to pay for rent and hopefully not being kicked out was one of my main focuses. Being kicked out would be a really bad thing. I'd have like nowhere to go, so that was a really big deal.”* – Black Man, elevated depressive symptoms

Another participant with significant financial strain due to not having a job described the stress she felt.

*“But I know if I had a job, I wouldn't struggle with trying to get food, trying to find somewhere to let -- you know... Or even get gas. Or just, you know, on -- even on a weekend, we sit in the house all day because we don't have the funds to go nowhere. I've got to worry about having that gas then, you know, get*

*[daughter] to school. So being unemployed is real stressful, like not having your own money, because it's nothing like your own."* – Black Woman, elevated depressive symptoms

As the quotes above describe, these significant financial strains contributed to stress, but they also contributed to depressive symptoms. For example, one participant described:

*"You're in debt. You still have to pay off this person. You have to pay that one. You owe these people that. And just it keeps just spiraling down to like a cyclone of depression and self-hate."* – Black Woman, elevated depressive symptoms

In contrast to those with significant financial strain, participants with less significant financial strain described more minor stress resulting from inconveniences and disappointments. These participants described not being able to afford "extras" like travelling, going to concerts, eating out, or buying desired items. A participant with less financial strain described the difference between levels of financial strain by comparing her situation with her friends' situation.

*"I don't have a ton of bills right now. Like I have to eat, but like I have no large like monthly bills that I'm worried about with underemployment. So, like I'm not stressed about financially like surviving. So, I think that people that who -- like I have some friends who are like paying rent and underemployed. And so I think that is a lot -- it's a very different type of financial stress. Whereas I'm like stressed that I can't like do fun things."* – Black Woman, elevated depressive symptoms



While these financial strains were not as significant as worrying about paying rent they contributed to stress. They also impacted participants' quality of life. For example, one participant described:

*"It's affected my personal life as far as you know, social gatherings and things that I would normally do or, you know, getting my car wash and detailed and all of that good stuff and going shopping and just hey, let's go for a brunch, have a couple of drinks and margaritas or something. I can't do all of that anymore because, you know, the life that I did have, that you know, I was able to just do that, I can't no more, because I don't -- where does the money come from?"* – Black Man, few depressive symptoms

Relationship Stress. These financial strains and pressures placed strains on relationships too. Participants described some impact on their relationships, including changes to relationships due to their underemployment status. Participants described feeling pressure to find full employment, feeling too dependent on others, and negative judgements from others due to stigma associated with underemployment.

Overall, most relationship stress stemmed from family relationships. Family relationship stress grew from participants feeling pressure from family members to find full employment. In some cases, this pressure focused on encouraging participants to become independent. One participant who felt pressure from her parents described:

*“With my parents, they would be like hey, you should like start paying for your own things. You need to learn how to like be independent and live on your own, and I'm not there yet.”* – White Woman, elevated depressive symptoms

In other cases, participants described nagging or questions from family members that caused stress. This family relationship stress also contributed to negative feelings about transition to adulthood.

*“My aunt will try to be like well, have you found a job yet or anything? If I found a job, trust me, you would know....Sometimes it gets on my nerves. Sometimes it's like obviously I want a job. Obviously I don't want to sit here all day. Obviously I want to support myself, so if I had a job, everyone in this world would know, so if you keep asking me, it's like going to keep pounding in my head, and I don't like that, so sometimes I just tune it out completely, because I don't want to think about it.”* – Black Woman, elevated depressive symptoms

Some of the family stress was not directly related to participants' underemployed status. About a third of participants with elevated depressive symptoms described long-term poor relationships with family, with one participant describing her relationship with her mom like *“vinegar and oil. We never mix”* (Black Woman, elevated depressive symptoms) and another participant stating: *“I can't stay in the same house as my mom. There is a reason why I left when I was 18.”* (White Woman, elevated depressive symptoms).

Relationship stress also occurred in romantic relationships. About a third of participants, mostly women, described difficulties within romantic partnerships. Participants who felt pressure from family members and romantic relationships

described feeling frustrated, because they were working hard to find better employment. For instance, after being “*lectured*” about finding a job, one participant was “*annoyed, because I know that I’m doing something, not just sitting there*” (Black Woman, elevated depressive symptoms).

In addition to some pressure to find a job from romantic relationships, participants described stress due to feeling too dependent on others. In some cases, participants felt they were not contributing to relationships by “*not being able to be self-sufficient*” (Black Man, few depressive symptoms) and “*being a burden*” (Black Woman, elevated depressive symptoms). These feelings of dependence occurred primarily in romantic relationships. One participant stated:

*“A lot of pressure from my fiancé, you know, have you applied, have you heard back? Oh, you should apply here, I heard about this opening. And it's stressful. Especially because, you know, he's -- we split most of the things down the middle. But there is a strain because he does take on more of a financial responsibility than I do. And it's tough and I don't want -- I don't want that and that's stressful, so I feel that pressure.”* – White Woman, few depressive symptoms

Feelings of dependence also cascaded into family and friendships for a few participants. For instance, one participant described how depending on friends has strained relationships: “*You'd always have to be the one, like, using them for money, and people don't want to pay for you to do everything.*” (White Woman, elevated depressive symptoms). However, descriptions of strains on friendships were limited. Less than half of participants described friendship relationship stress, with

the majority of participants with elevated depressive symptoms being the ones reporting it. In these cases, participants described not being able to see their friends as much due to scheduling differences, feeling like a burden in social interactions, losing friends, or being treated differently. For instance, one participant described how “*all [her] friends went away*” (White Woman, elevated depressive symptoms) and another participant described being “*a lot closer to my friends*” (Black Woman, elevated depressive symptoms) before becoming underemployed.

Being underemployed contributed to challenges in developing or, as suggested in the last two quotes, maintaining relationships. Participants described the stigma of being underemployed reducing their motivation towards social relationships. For example, one participant described not wanting to talk to others about being underemployed. Another participant described how negative judgments from others contributed to changes in relationships, stating:

*“People just looking at my situation saying oh, you're not applying yourself and stuff like that, when I know how hard I work and how hard I pursue trying to you know, better myself so for them to even say something out of their mouth like that is just -- You know, it hurts the relationship and make some look at them differently, like you know, you don't even really know what's going on, or you don't care to know what's going on, and then they're looking down on me, so it just kind of ruins that relationship.”* – Black Man, few depressive symptoms

Underemployment Status Stressors.

*Status.* Stressors associated with being underemployed, including lacking a sense of purpose and the job search process also contributed to vulnerability. About two-fifths of participants, regardless of depressive symptoms status described how lacking a sense of purpose contributed to stress. These participants described stress from “*always having free time,*” not “*feeling useful,*” or boredom. For example, one participant described:

*“But just sitting at home and like not finding joy in the things you typically find joy in because they’re respites, not having respites because your entire life is just one long sabbatical. Sabbatical sounds like you’re – It’s a thing you’re willing to do, not that you have to do, but yeah, it’s just boredom.”* – White Man, elevated depressive symptoms

This stress from lacking purpose also occurred for those who were working, where participants described how the types of jobs they had contributed to stress. One participant explained:

*“It kind of feels I don’t know, like I got a little less worth to me, like I’m not – like I’m not really anything important. Like I’m just someone working. I’m not doing anything. Like everyone else my age group is doing stuff, and you know, even the ones who are working at jobs with me, they’ll usually be managers, and they’ll be my age, and I’ll feel terrible, like what the hell am I doing. I must not be doing anything. And even if they’re not working, they’re in college getting closer and closer to their degree, and I’m just like here wasting space.”* – Black man, elevated depressive symptoms

*Job Search.* More common across the sample was frustration with the job search process. Participants described how the job search process was stressful. For example, one participant described:

*“Like when I go and apply for jobs online, it gives me headaches because it’s frustrating to look for jobs every day.”* - Black Man, few depressive symptoms

Another participant also responded that one of the stressful parts of being underemployed was:

*“Just the length of timing and filling out applications. You know, sometimes you’ll fill out and they’ll ask you like the survey question or personality questions. And it will take a long time. And afterwards, you still never get interviews. So, I think that’s very frustrating.”* - Black Woman, elevated depressive symptoms

Prior Behavioral and Mental Health Problems. Participants with few and with elevated depressive symptoms described experiences earlier in their lives that indicated previous behavioral or mental health problems. Almost all the participants (13 out of 16 participants) with elevated depressive symptoms described experiences prior to underemployment that may have contributed to poor mental health, including depressive symptoms. For those with elevated depressive symptoms, their poor mental health from childhood or adolescence appears to have continued during emerging adulthood. For instance, one participant described how *“I was depressed back then, still depressed now.”* (Black Man, elevated depressive symptoms). Participants also described mental health problems while in school,

difficulties in school and during childhood, and health issues. One participant described:

*“I did some classes on home study because I have really bad anxiety and social anxiety, which is part of why it's so hard to get a job.” – White Woman, elevated depressive symptoms*

A minority of participants with few depressive symptoms described factors that contributed to mental health problems prior to experiencing underemployment. One person linked his previous experience with his current underemployment status, stating:

*“My stepdad is very verbally abusive towards me. Like he would always tell me that I wasn't going to amount to anything, and that I wasn't going to be anything -- you know, it really had an effect on me. I was 10, 11, 12 years old hearing this from some adult, you know? So I really think that is why I'm here now.” – Black Man, few depressive symptoms*

Interactive Vulnerability. Stressors interacted with each other to make vulnerability greater. Many participants talked about how stress piled on them or was constantly there. For example, one participant with elevated depressive symptoms described how the multiple sources of stress, such as finances, housing, childcare, and finding a job hits her *“from every direction”* (Black Woman, elevated depressive symptoms). Stress being constantly around was described by another participant:

*“Like once one wall break down you've got to break down another one? Like every time something -- Like you could just get -- Let's say like this, all right, you*

*fix something on your car, and as soon as you fix it you be like okay, I'm back on a roll, then the next thing you know, boom, something else happens, like dang, dang, like now I've got to fix this, so now you you back off road again. So, it's just like it's always something, so it's like always something.” – Black Man, elevated depressive symptoms*

One participant described his threshold for the amount of stress he could handle before he needed to engage in coping processes. He described:

*“I'm the type of person, I guess, it takes a lot, so it may -- This thing may hit me. This thing may hit me, this thing may hit me. By the 10th thing that hit me, I'm like all right, let me -- That's when I know that okay, I have to go -- I have to have an outlet. I need to go run... That's when I know I need to go take some time or something, because if you don't, it's just, like I said, it can keep on building up and building up.” – Black Man, few depressive symptoms*

*Differences by Race/Ethnicity and Gender for Vulnerability Factors.*

*Financial Strain.* Participants with the most significant financial strain were four Black men and women who had elevated depressive symptoms. Three of these participants were worried about their housing situations, and the fourth was in significant debt. While White participants with elevated depressive symptoms described significant financial strain, they were not as worried about food and housing. Almost one-third of White participants described low levels of financial strain regardless of depressive symptom status.

The differences in levels of financial strain, did not vary by gender. However, some participants described how experiences of financial strain may be lower for



women due to more traditional gender roles. For instance, one Black woman described how the financial strain may be less for her, “*because I’m a female, so I can be more dependent*” (Black Woman, few depressive symptoms). Conversely, financial strain may be greater for men as one Black man said:

*“I guess sometimes I feel like women almost have a default backup plan that they can just like find a man that will provide for them almost. Not that I think that that’s something that people should do, but I do sometimes feel like because I am a man, I get put in the role of having to be able to provide for stuff.”* – Black Man, few depressive symptoms

*Relationship Strain.* Race/ethnicity and gender contributed subtly to differences in relationship strain. About half of the women in partnered relationships described some relationship strain from feeling dependent (four of nine women in relationships). Most men in partnered relationships did not describe relationships strain from feeling dependent. However, one man in a partnered relationship described some pressure to provide financially.

*Underemployment Status Stressors.* Both Black and White participants reported underemployment status stress. More men than women described stress from their status of being underemployed. These men varied in their depressive symptom status. All of the women who described underemployment status stress had elevated depressive symptoms. Job search stress did not vary by race/ethnicity, gender, or depressive symptom status.

*Prior Mental and Behavioral Problems.* For those with elevated depressive symptoms, about half of the Black participants described prior mental and

behavioral problems, whereas most of the White participants described prior mental and behavioral problems that may have contributed to their underemployment situation.

### Protective Processes

As described above, four protective processes contributed to resilience among underemployed emerging adults. The major protective processes included agency, optimism, coping flexibility, and social support. Each protective factor is described in more detail below.

Agency. Participants described agency, including control and confidence, in their ability to cope with stressful situations associated with underemployment. Those with few depressive symptoms consistently described confidence and control in their ability to cope with underemployment and stressful situations. The following comment captures the meaning of agency:

*“I have the “to-do” that you know, anything I put my mind up to do, I can do and I can be very successful and that's why I'm so successful today.”* – Black Man, few depressive symptoms

Those with agency had confidence in their ability to overcome their underemployment situation. For some this confidence stemmed from past experiences of successfully dealing with difficulties. For example:

*“I know that I could achieve things. I know what I've done in the past, you know, just proving people wrong type of thing, so I just have confidence that I'll figure it out and be a whole lot better in a little while.”* – Black Man, few depressive symptoms

Similarly, confidence contributed to the ability to see opportunities that may be available, which strengthened feelings of control. For instance, one participant described how his view on the world motivates him.

*“I’m always the person to say, you know, nothing is impossible. You can keep trying. You can keep going. But just put a little bit more effort into it. Put a little more thought into it. Don’t bully yourself about it. Just, you know, be motivated, say hey, this is what I want. Start walking in that position.”* – Black Man, few depressive symptoms

Control contributed to agency and confidence too. For instance, one participant described how having control contributed to positive feelings:

*“I mean, I guess I definitely have seen like marked positive trend since then, I guess, or just knowing that I feel better or knowing that I feel like I have control over stuff.”* – Black man, few depressive symptoms

Those lacking agency described passively waiting for something to happen or not knowing what to do. For instance, one participant described: *“But I don’t know. I just hope something will jump up and like get in my face, like this is what you need to do”* (White Woman, elevated depressive symptoms). Similarly, another participant stated, *“I don’t really know how to stop being stressed”* (Black Man, elevated depressive symptoms).

In addition to not knowing what to do or passively waiting for something to happen, participants with elevated depressive symptoms did not feel as though they had control.

*“To an extent, I don’t really have control over my like emotions that say what I feel like doing that day. Yeah, I think a lot of what I do is like —would you say reaction? It’s like a reaction to what my emotion is that day.”* – White Woman, elevated depressive symptoms

Participants with elevated depressive symptoms consistently used language related to not knowing what to do, indicating a lack of confidence or control in their ability to cope with underemployment. Almost every participant with elevated depressive symptoms had low agency in their ability to find a job or cope with stress from underemployment. Over two-thirds of participants with elevated depressive symptoms had both low control and low confidence. Three other participants with elevated depressive symptoms described either higher levels of confidence or some more control over their situation, but not the combination of the two. One participant with elevated depressive symptoms had a high level of agency.

Optimism. Optimism and hopefulness contributed to agency, as well. Almost two-thirds of participants were optimistic, hopeful, or *“staying positive.”* Although almost half of participants with elevated depressive symptoms described some hopefulness or positive outlook, almost all participants with few depressive symptoms described hopefulness or a positive outlook. Optimism contributed to confidence about finding a job or resulted from positive feedback about a potential job. For example, one participant stated: *“I’m getting more interviews, so that’s definitely a good thing. So, I’m more hopeful.”* (Black Woman, few depressive symptoms). Similarly, another participant described how she had one foot in the door so her stress had decreased:

*“It's not as stressful anymore, because like I said, I am in the process of doing a background check contract. So that's kind of like a hope for me. It's like okay, my fingers are crossed... Got like one foot in. Just got to get the next foot in. So, the stress level has decreased.”* – Black Woman, few depressive symptoms

Trying to stay positive also contributed to motivating participants to engage in the job search. For example, one participant described how thinking positively contributed to his re-engaging in the job search process.

*“I'll have a low for a couple of days, maybe a week. And then like I'll just get to a point where I'm like I have to pull myself out of it and find my focus again, stay positive about what it is that I'm trying to do and you know, get back into the search or the job and the this and the that. Then I'll find something that's super interesting or that I like and then I'll go work on my resume for a couple of hours to tailor it to the ad and turn it in and you know, go that way.”* – Black Man, few depressive symptoms

*Coping Flexibility.* Coping flexibility included having several coping processes available and a positive balance of using coping processes that helped reduce stress rather than contribute to more stress. Coping processes included cognitive and behavioral processes, with each containing passive and active processes. Those with elevated depressive symptoms tended to engage in passive cognitive and behavioral processes more than active cognitive and behavioral processes, compared with those with few depressive symptoms.

*Cognitive processes* ranged from reactive to proactive processes. Both participants with elevated depressive symptoms and those with few depressive

symptoms engaged in reactive and proactive processes, but participants with few depressive symptoms engaged in more proactive than reactive cognitive processes.

Reactive cognitive processes included social comparison and rumination. Over half of participants compared their situation to others that they knew. In many of these cases participants felt as if they were lagging behind. Social comparisons were often linked with negative feelings. Over two-thirds of participants with elevated depressive symptoms made downward social comparisons along with negative feelings. For example, one White Woman stated:

*“I don't have a job that I'm like thinking about all the other people that are doing what I want to be doing right now. And excuse me. I'm just like, just feeling very down on myself.”* – White Woman, elevated depressive symptoms

Additionally, another participant said:

*“Most of my life it's like a little bit of self-loathing, comparing myself to other people, and not liking who I am compared to who they are.”* – White Man, elevated depressive symptoms

About two-fifths of participants with few depressive symptoms also described downward social comparisons. For example, one participant described being both happy and jealous about a friend finding a job.

*“Just last Friday, a friend of mine who had been like in the same boat, I was like trying to help her out by like hooking her up with my headhunting agency. She just got like a really good job, like the exact job that she wanted and it was like on the one hand, like I'm so happy for her, I gave her a big hug and that's awesome. But then inside, there's like oh, I'm so jealous (laughs), like – you*

*know. Like I don't know that it – I don't think I'm petty enough to let it affect our like friendship or anything, but you know, it does exist.” – White Woman, few depressive symptoms*

The other reactive cognitive process that participants engaged in was rumination, with over a half of participants, those with few and with elevated depressive symptoms, describing dwelling on thoughts. They also described how it may have contributed to feeling stressed and depressed. Participants recognized how engaging in ruminating activities was not effective for helping them cope effectively. For example, one Black Woman with few depressive symptoms described:

*“Least effective? I guess it's like just staying discouraged and you know, meditating on the same thought that -- about the job” – Black Woman, few depressive symptoms*

Proactive cognitive processes included mindful acceptance, processing thoughts, and changing thoughts or managing expectations. About two-thirds of participants, including those with few and with elevated depressive symptoms, described mindful acceptance of their situation by letting things “*roll off their back*”, acknowledging that they were doing the “*best that they can*”, or recognizing that “*everything is going to be all right*”. For instance, one White woman described difficulty of being underemployed, but how she has learned to accept her situation:

*“It's okay if they're hard. That's life. So, I've just developed a sort of like everything is going to be okay. I just have to keep working hard. And that's the*

*best that I can do at the moment.*” – White Woman, elevated depressive symptoms

About half of participants, including those with and with few depressive symptoms, described using a variety of ways to help process thoughts, including writing them down or talking about them with others. One participant described how writing out her thoughts helped her stop thinking about it:

*“But when I have a thought or something that I really wanted to share or something or it's something that I want to get out of my head, I'll write it down and it's gone.”* – Black Woman, elevated depressive symptoms

For changing thoughts or managing expectations, about two-thirds of the participants described engaging in this proactive cognitive process. More participants with few depressive symptoms used changing thoughts or managing expectations than those with elevated depressive symptoms. Participants described how they actively choose to change their thoughts. For instance, one Black woman with elevated depressive symptoms described *“maybe if I just change my mindset, maybe that would help to create something.”* A Black man with few depressive symptoms described a similar experience: *“When you change your perception, how you look at yourself is just a totally different aspect of it. It's really that easy, and I didn't think about it like that.”*

A subtle difference between the two groups was that those with elevated depressive symptoms tended to more negatively manage their expectations than those with few depressive symptoms. For instance, one participant with few



depressive symptoms described learning about adulthood and managing expectations.

*“You have to understand that everything you want or everything that you expect isn't really going to happen. And being an adult, you have to learn how to adapt to those things and like just use them in a positive way to just be better and I guess kind of just be more careful of future situations and not really getting your hopes up.”* – Black Woman, few depressive symptoms

On the other hand, some participants with elevated depressive symptoms had lowered their expectations considerably. One participant described how her dreams were different now.

*“My dreams have whittled down. Like before, like when I was little, I was like, I'm going to be the president, I'm going to be an astronaut, I'm going to be a president astronaut. And I'm Pocahontas. It will be awesome. But like, and now it's just all like, now I just want an apartment with a cat and with Wi-Fi.”* –

Black Woman, elevated depressive symptoms

In addition to cognitive processes, underemployed emerging adults used behavioral processes to manage stress. These behavioral processes included withdrawing from activities and engaging in activities. Similar to cognitive processes, participants with few depressive symptoms described engaging in activities more than withdrawing from activities. Regardless of depressive symptom status, most participants described engaging in some level of escapism to take their mind off stressful experiences. Escapism combined withdrawing from actively

working toward solving a problem with engaging in something with the aim of reducing stress.

Over two-thirds of participants described withdrawing from activities to reduce stress from underemployment. Withdrawal was consistently used by participants with elevated depressive symptoms. Additionally, over half of participants with few depressive symptoms described some instances of withdrawing from social interactions. Because they did not have the financial resources, some participants described having to stay home rather than socialize with friends. For instance, one Black woman with elevated depressive symptoms described:

*“Sometimes I can feel bad, like I would stay -- rather like stay home and just sulk, I guess, instead of, you know, just going out when friends would invite me to places, and I'm like okay, but I'm low on funds. I don't want to tell them that I'm low on funds, so I'm just like okay, I'll just sit this one out.”* – Black Woman, elevated depressive symptoms

Participants also described withdrawing from social situations to avoid talking with people about their employment situations. For instance, one participant shared:

*“It makes me disappointed because you know, when I see some other family members, they kind of expect me to you know, have everything figured out and already be at a stage when I'm already settled and I'm not, so it kind of made me kind of I guess distance myself from them. So, I don't have to talk too much about you know, like my personal life, such as you know, career and everything.”* – Black Woman, few depressive symptoms

Almost all participants engaged in activities to cope with stress related to underemployment. However, two participants with elevated depressive symptoms did not describe active engagement strategies. Participants who engaged in activities sought “gigs” to make money, went after job opportunities, worked on self-improvement, engaged in hobbies, exercised, and scheduled time to create a routine for their day. Two-thirds of participants also described creating plans and working to solve problems related to their underemployment experience. Engaging in these activities helped reduce stress and created a sense of accomplishment. One participant described how feeling a sense of accomplishment made her feel better:

*“Like I’ve been using like this app to sell like random things online, like trying to clear out the house. If I’m feeling bad and I put just like one or two things up, I feel like – I mean, that’s so minor but you feel like I did something, like I – you know, I’m not a waste of space (laughs), like I did something proactive, like it’s okay. And then I usually snap out of it.”* – White Woman, few depressive symptoms

Creating a schedule was helpful for some participants to ensure they accomplished something. This sense of accomplishment and feeling of productivity was used by participants with few and with elevated depressive symptoms. For example, one participant with elevated depressive symptoms described how doing something productive contributed to feeling better.

*“Like having a routine, kind of like knowing what the routine should be and sticking to it. Because then I feel like I’ve accomplished some things. Like days*

*are better are like the days that I have like a sense of accomplishment for the day.” – Black Woman, elevated depressive symptoms*

Doing something productive contributed to solving problems, which also helped to reduce stress. For example, one participant described:

*“When you know, I have a problem, instead of just saying oh, it’s a problem, it’s a problem, I try and figure well, how can I solve this problem. How can I get rid of this problem? And they can like that often helps me just not stress about it, because I’m thinking on how I could overcome instead of just thinking this is what it is.” – Black Man, few depressive symptoms*

Similarly, another participant described how he actively engaged with others to solve problems.

*“I learn to assess the situation. I’ve got to figure out a lot of variables that’s going on, what I need to do, what I’m capable of doing, and then I’m talking to different people, asking them how they had their little situations.” – Black Man, few depressive symptoms*

Participants described coming up with plans for managing their job search activities. Some learned to set goals for the number of applications or amount of time applying for jobs. Accomplishing these goals contributed to a sense of accomplishment too.

*“I like to write lists, I like to mark things off and it is the most gratifying thing when you get through a day and you’ve marked everything for the day off... it seems small but it’s just like – it shows how much you’ve accomplished. And even if it’s little things, if you have to break it down into smaller components,*

*like it's so gratifying and makes you feel like okay, yeah, I'm not employed but look at all the steps I took today to get me there, or the steps I took this week to get me there."* – White Woman, few depressive symptoms

Almost all participants described escapism by engaging in activities to take their mind off stress from being underemployed. These activities included exercise, sleep, watching movies, listening to music, hanging out with friends, playing video games, and cleaning. Participants described using escapism to balance their time.

*"Just relaxing I would say. Watching a movie or playing music. Just, you know, hanging out with friends. If there is anything to take my mind off of it, it helps."*  
– Black Woman, few depressive symptoms

While participants recognized that this did not change their circumstance by being a *"Band-Aid solution rather than changing...the way you think"* (White Woman, few depressive symptoms), it may have helped to take a break and *"step away from the computer, go do something else"* (White Woman, few depressive symptoms).

As described above, coping flexibility required using a balance of coping processes. Participants, including those with few and with elevated depressive symptoms, recognized the value of using a variety of coping mechanisms to help relieve stress from their underemployment situation. For instance, one participant described how using a variety of coping helped him:

*"I feel like it's important to combine them instead of you know, just looking at one is more important than the other. I really need all of them to defeat my stress."* – Black Man, few depressive symptoms

Social Support. Social support was the fourth major protective factor that contributed to improved mental health among underemployed emerging adults. All participants described receiving some social support, and particularly, instrumental support. Instrumental support included receiving financial, housing, or transportation support from family or significant others. Those with few depressive symptoms were more likely to describe receiving instrumental support and other support, such as emotional or informational support, from family, significant others, or friends. For instance, one participant described how his family supports him.

*“They send me money as well, but they’re basically there -- they talk to me whenever I’m feeling bad, and they’re like a shoulder to lean on, even though they’re not here. I can just call them up. As long as they’re there, that’s enough support.”* – Black Man, few depressive symptoms

Similarly, another participant described how friends and family have provided instrumental, emotional, and motivational support.

*“They’ve been very supportive, both sort of verbally, emotionally, that sort of thing they’ve been, you know, regularly telling me not to worry, regularly telling me they’re willing to help me out if I need it. They’ve been regularly sort of giving me – you know, let’s say meaningful advice.”* – White Man, few depressive symptoms

Having multiple people to reach out to contributed to strong social support. One participant described his layers of support:

*“I have like my different like layers of like people. Like I said, I like have my super close -- like my girlfriend, she’s like the person I always like confide into,*

*and then I have my best friend, and then I have my family, and then I have my other friends, and like it just kind of layers it out, and it helps me.” – White Man, elevated depressive symptoms*

Alternatively, about a third of participants described needing more support than available. One participant described how she doesn't *“have anybody to talk to about certain problems or certain stuff.”* (Black Woman, elevated depressive symptoms).

Additionally, another participant described his desire for more support.

*“I don't get any support aside from financial. I get financial from my parents, but emotionally zero-- because there's really -- and I can't really talk to my parents about my problems, because one, they don't have the time, and two, they're stressed from their jobs...I need some help, like not even financially, but just emotionally, right now, I need somebody to talk to and vent on and to tell me that I'm not completely insane, that this is not only me going through this. That kind of thing. Or even just be there for me. Like even if you can't do anything, just be there for somebody.” – White Man, elevated depressive symptoms*

Not having a support system contributed to stress experienced while underemployed. For example, one participant described how his lack of a support system contributed to additional stress.

*“Like sometimes you don't have like a support system, people that's around to talk to, because doing this, like going through this stuff, like you need somebody you can really talk to.” – Black Man, elevated depressive symptoms*

Differences in Protective Processes by Race/Ethnicity and Gender

Depressive symptom status was the primary characteristics that differentiated people's use of the four protective processes. Three subtle differences by race/ethnicity and gender emerged for agency, optimism, and social support. No consistent differences emerged for coping flexibility.

*Agency.* Black participants described more agency in their ability to find a job or cope with stress, with over half of Black participants describing agency and fewer than half of White participants describing agency. However, this may be related to the variation in depressive symptoms status by race/ethnicity and gender, too.

*Optimism.* Three men with few depressive symptoms were low on optimism, including one Black man and two White men. As opposed to the other participants with few depressive symptoms, these participants did not describe hopefulness for finding a job soon.

*Social Support.* Only three participants with few depressive symptoms described low levels of social support, and these participants were Black men. These men also described their roles in supporting others. For instance, one participant stated:

*"I've always been the person, I always paid back what I do. I have to. I don't know, it's just a thing. I have to, but other people just, like I said, they do things differently, so yeah."* – Black man, few depressive symptoms

Cycles

Stress, protective processes, and depressed mood influenced each other. Participants recognized that stress can reduce engagement in coping processes,



which then contributes to feelings of stress and depression. For example, one participant described:

*“When there’s so much stress piling on, I feel like you want to kind of escape from it, and go do something else that you shouldn’t be doing.”* – White Woman, few depressive symptoms

Similarly, another participant described:

*“It all kind of feels like it’s piling up. It’s almost like – it’s like I start to lose the ability to compartmentalize stressors”* – White Woman, few depressive symptoms

In another instance, a participant described how not getting up to apply for jobs contributed to more stress:

*“But it’s like very overwhelming for me to like think up the idea of like getting up and applying for jobs. I would rather like — I would rather sleep in and be like oh, I slept until 10:00. I have to be at work at 12:00 so I don’t have time to job search today. I mean, that’s kind of like — And then, I’m more stressed because I know that I should have done it, but like I can use sleeping to cope with stress. And so again, it’s like that cycle on.”* – Black Woman, elevated depressive symptoms

Certain coping processes can “contribute to [their] own stress” by being “too hard” (Black Man, few depressive symptoms) on themselves, or by avoiding doing anything about their situation through sleep or procrastination. As described above with behavioral coping processes, some participants withdrew from relationships to

cope with their underemployment situation, but this behavior may have also strained relationships.

This negative cycle contributed to depression with participants describing feeling depressed and stuck at times. For example:

*“Well, it's kind of a cycle, because I feel depressed about it, so I don't want to do anything, and then I feel depressed about it more, and I don't want to do anything. It's just cycles.”* – White Woman, elevated depressive symptoms

*Vulnerability, Protective Processes, and the Resilience Process*

*Vulnerability Groups*. Four groups of participants emerged from the four vulnerability factors (financial strain, relationship stress, underemployment status stressors, and prior behavioral or mental health problems). The racial/ethnic and gender composition for each of these groups was diverse unless noted otherwise. Figure 4.2 provides the descriptive details for each group.

1) Significant vulnerability: The biggest group was a vulnerable group that had higher financial strain and relationship stress, as well as prior behavioral or mental health problems. Most in this group reported underemployment status stressors too. This group was comprised of 12 participants with 10 having elevated depressive symptoms.

2) Moderate vulnerability: The second group was comprised of ten participants who had at least two of the four vulnerability factors. Some in this group also reported underemployment status stressors too. Three from this group had elevated depressive symptoms. More women comprised this group than men. Financial strain was present for most participants.

3) Mild vulnerability: The third group comprised nine participants who had one-to-two vulnerability factors and included three participants with elevated depressive symptoms. Most participants in this group were Black, but three White men also were in this group. Two of the White men had elevated depressive symptoms and prior behavioral or mental health problems. They did not describe significant financial or relationship strain though they did describe stress from their underemployment status.

4) Minimal vulnerability: One White woman with few depressive symptoms did not have a vulnerability factor beyond some stress from her underemployment status.

Protective Processes Groups. The constellation of the protective processes combined to help emerging adults cope with stressors due to underemployment. For most people, these protective processes operated in a compensatory fashion, resulting in four groupings of participants. The racial/ethnic and gender composition for each of these groups was diverse unless noted otherwise (Figure 4.2).

1) Significant Protective Processes: Eight participants demonstrated agency, optimism, coping flexibility, and social support. Seven of the eight were in the group few depressive symptoms. One participant with elevated depressive symptoms also demonstrated high agency, optimism, coping flexibility, and social support.

2) Moderate Protective Processes: Ten participants demonstrated agency along with optimism, coping flexibility, or social support. Nine of the people in this group comprised over half the participants with few depressive symptoms. One

participant with elevated depressive symptoms also demonstrated moderate agency, coping flexibility, and instrumental social support.

3) Mild Protective Processes: Three participants with elevated depressive symptoms described using at least one of the protective processes consistently. One Black woman with elevated depressive symptoms described balancing several different coping mechanisms, which were weighted toward active cognitive and behavioral mechanisms. However, she described a lack of agency and difficulty with her family and other social relationships. A White man with elevated depressive symptoms described significant partner, family, and peer support, including financial, emotional, and informational support. However, he described limited agency and needing significant encouragement to actively search for a job and a limited coping flexibility. A Black woman with elevated depressive symptoms described having agency in how she approached coping with underemployment. While she had limited coping flexibility and support, she had grown to realize she had some control in dealing with underemployment.

4) Minimal Protective Processes: The last group was comprised of 11 people with elevated depressive symptoms. They did not have a strong protective factor. While they were not completely lacking in protective processes, they did not have a strength or a combination of strengths.

Intersections between vulnerability and protective processes were examined to identify the resilience process. Five groups were created: Struggling, Needing Support; Demonstrating Resilience; Lacking Protective Factors; Inoculating Stress;

and Building Promotive Factors. Figure 4.2 provides the demographic and depressive status descriptive details for each group.

1) *Struggling, Needing Support*: Twelve participants had significant vulnerability and minimal protective processes. All participants in this group had elevated depressive symptoms. One participant who had prior behavioral and mental health issues described his vulnerability from financial strain and challenges in reaching out to people. He also described how he has not created a schedule to provide a sense of routine.

*"If you're unemployed, you have no money, and you also have no purpose and in addition to that, you don't have a regular schedule so I mean, like you're waking up different times of the day. You're doing different things at different times of the day, so if somebody does want to hang out, you can't be like -- you can't have a regular schedule with them, because most likely if you're unemployed the people you hang out with are also going to be unemployed, because other folks don't want to have anything to do with you. Misery loves company. And other folks know that. If you've got a job, you don't want to be hanging around all these unemployed people, because they're going to sap the strength out of you, you know? And I get that. I get it."* – White Man, elevated depressive symptoms

2) *Demonstrating Resilience*: In contrast to this group, ten participants had significant-to-moderate vulnerability and significant-moderate protective processes. Nine participants had few depressive symptoms and one participant had elevated depressive symptoms. Despite describing financial strain, relationship

stress, underemployment status stressors, and/or prior behavioral and mental health problems, these participants described a variety of protective processes that may have contributed to reducing depressive symptoms. For instance:

*“So money is stressful but we’re staying hopeful and we – we’re just – it’s a coping mechanism. We’re just – we’re hopeful, we know it’s going to work out. It’s all going to work out.”* – White Woman, few depressive symptoms

In another example, she described finding ways to engage in pleasurable activities despite not being able to afford certain activities.

*“I don’t feel like I can do as much as I would like to do, just because I know I have to be frugal. But I feel like I stay happy by finding things that I can do that either don’t cost a lot of money or that are free, whether it’s going to a park or just going to the gym.. I can still go for free right now...Going to spoken word. I do that with my partner most Sundays.. Going to the library. Playing a lot of games, like we – we like to find some board games and just be childish and – yeah. I don’t know. Things like that. Just the free things that you can enjoy, especially nature. We’re really into just going – like the preserves and things like that.”* – White Woman, few depressive symptoms

This quote also demonstrates the social support she has available. Another participant also describes the emotional and instrumental support she receives when she is feeling financial strain.

*“Yeah. He’s there for me. Like he doesn’t -- he knows that I’m kind of like not happy with not being at work. I’ll mention something or it feels like a time where he has to pay the bill and he might want to go out or something and*

*can't do it. I kind of like apologize for it. And he's like, don't worry about it. Like there is nothing wrong with what's going on. It's just how the situation is. And he's there for me emotionally when I have my moments where I'm kind of like down and out of it. He's just kind of like there. He's uplifting when it comes to those times.”* – Black Woman, few depressive symptoms

3) Lacking Protective Factors: The third group included two participants with mild vulnerability but limited protective processes. The group included one Black woman and one White man, both with elevated depressive symptoms. Both participants described feeling minor financial strain from not being able to afford extras. The Black woman also described more significant relationship strain from family and others. For example, a negative interaction with her parents contributed to not following a routine:

*“I mean, like one bad day, when I talk to my parents about, it's like super stressful like that morning. And I just like can't do anything just like choose and like instead of like encouraging me. And it just makes me frustrated and not do anything. Then that can like get me off for a day which kind of gets like that much harder to get back in the rhythm the next day.”* – Black Woman, elevated depressive symptoms

Both also described engaging in social comparisons with others, which may contribute to depressive symptoms. For instance,

*“And it's also hard to see people like in social media just like updating LinkedIn and like being on Facebook like with jobs and stuff. And it's just like oh, still don't have that.”* – Black Woman, elevated depressive symptoms

The White man in this group also described the negative feelings associated with social comparison.

*"I compare myself a lot ... I compare myself to people a lot, so just like people being my age or people coming from the same places I did and succeeding, I'm like I did something wrong. There's nothing good I can say with. No outside element screwed me over. Like it was something that I did, and that sucks, blaming yourself like that. Yeah."* – White Man, elevated depressive symptoms

4) Inoculating Stress: The fourth group comprised seven participants with mild vulnerability in addition to being underemployed and significant-to-moderate protective processes. The group included six participants with few depressive symptoms and one participant with elevated depressive symptoms. Their experience was similar to the previous group, but they described less vulnerability. For instance, one participant described how her mother helped her manage financial strain by helping pay for diapers.

*"I might be running low on diapers, even though my mom, I could call and say well, I need to give the baby some diapers, need to give the baby some milk."* – Black Woman, few depressive symptoms

Another participant described how his financial strain motivated him to look for a job, describing:

*"I don't have a job right now, so I don't have no extra money to, you know, go out and party and do this or buy this and do this and drive my car here. I don't. So it just -- it really stuck in like --I thought I was going to do these things, but*



*me and losing my job kind of impacted those things that I used to do as well. So it just motivated me a little bit more just to, you know, every day, I wake up, I don't care if I'm in the car doing stuff, try to put in like 15, 20 applications.” –*

Black Man, few depressive symptoms

5) *Building Promotive Factors*: One participant fell into a fifth group that was characterized as having low levels of vulnerability. This White woman described little vulnerability and strong protective processes. While she was most closely aligned with the *Inoculating Stress* group, she had fewer stressors and strains. She lived comfortably with her parents and husband. She described agency, coping flexibility, and optimism as well.

*Trends*. As described above, the two major groups *Struggling, Needing Support* and *Demonstrating Resilience* aligned with depressive symptom status. Those with elevated depressive symptoms comprised the *Struggling, Needing Support* group, and those with few depressive symptoms comprised the *Demonstrating Resilience* group. However, in two instances, despite protective processes reducing the impact of significant to moderate vulnerability, the participants still had elevated depressive symptoms. They were included in the *Demonstrating Resilience* and *Inoculating Stress* groups. Both participants had prior behavioral or mental health problems. One of these two participants, a White woman, described an additional vulnerability factor from significant relationship strain from her family. She had recently moved away from them and described the change as positive. She also received significant instrumental financial support from them for housing. The other participant with elevated depressive symptoms was in active recovery from bipolar

disorder. This White man received strong treatment support that he employed to help him cope with underemployment. He also had a potential job within reach.

### Discussion

This study examined the resilience process among underemployed emerging adults. Using modified grounded theory, an interactive model of vulnerability and protective processes that contributed to resilience emerged. Vulnerability factors consisted of additional strains coming from or exacerbated by being underemployed. Protective processes included individual- and interpersonal-level factors. Overall, participants with high levels of protective processes exhibited lower levels of depressive symptoms despite increased vulnerability.

*Vulnerability Factors.* The vulnerability experienced by underemployed emerging adults in this sample resonates with the broader stress and unemployment literature. In accordance with the Pearlin's stress proliferation hypothesis (Pearlin, 2010; Pearlin, Lieberman, Menaghan, & Mullan, 1981), underemployment conferred additive financial and relationship stress, along with other stressors related to underemployment status. This also aligns with the resilience framework wherein vulnerability exacerbates the negative effects of risk factors, such as underemployment status (Luthar & Cicchetti, 2000). Among emerging adults, stress and vulnerability from multiple life domains increases risk for depressive symptoms (Estrada-Martinez, Caldwell, Bauermeister, & Zimmerman, 2012). In this sample, the vulnerabilities of financial strain, relationship stress, underemployment status, and prior mental and behavioral problems correspond with other literature about the cascading impact of underemployment and the

consequences of early life mental and behavioral problems. Experiences of financial strain among emerging adults are diverse, as the results from this study suggest. Financial strain, which is common among unemployed populations (McKee-Ryan et al., 2005), ranged from significant to less significant.

Some research suggests that irrespective of financial situation, feelings of financial strain are associated with depressive disorders (Dijkstra-Kersten, Biesheuvel-Leliefeld, van der Wouden, Penninx, & van Marwijk, 2015). Among underemployed emerging adults, financial strain is a common experience when making the transition from school to work (Aronson, Callahan, & Davis, 2015), and emerging adults who report financial stress are more likely to report depression (Colman et al., 2014). Similar to other research, the findings from this study suggest that financial strain can cascade to create other stressors (Price, Choi, & Vinokur, 2002).

The results demonstrating that relationship stress contributes to vulnerability aligns with other research that finds social undermining or social negativity as risk factors for depression among unemployed populations (Crowe & Butterworth, 2016; Ibarra-Rovillard & Kuiper, 2011; Vinokur & Vanryn, 1993). Social undermining and negativity include interactions in which someone criticizes or demonstrates insensitivity to an individual (Ibarra-Rovillard & Kuiper, 2011; Vinokur & Vanryn, 1993). Participants in this study described feeling dependent or receiving negative judgements from others. Feeling dependent upon others during emerging adulthood may contribute to additional stress from not being able to progress along the transition to adulthood. Stress from relationships may also

contribute to poor mental health outcomes. For instance, young adults who report worse relationships with their parents have higher levels of depression (Adam et al., 2011).

The status of being underemployed was also a challenge for some participants. Some research suggests that unemployment during emerging adulthood may delay adult identity formation and status, as well as independence (Reine, Novo, & Hammarstrom, 2004). Emerging adults who are not able to explore employment options due to unemployment may not progress with their identity development (Schwartz et al., 2011). The financial strain described by participants may limit their ability to engage in activities beyond employment that could further their development. This delay could contribute to increased incidence of depression (Aseltine & Gore, 2005; Schwartz et al., 2011).

A minor stress identified by participants as frustration associated with underemployment status dealt with filling out job applications and waiting to hear back from employers. The stress and rejection involved in searching for jobs may increase vulnerability (McKee-Ryan et al., 2005; Wanberg, 2012), especially when coupled with other stressors. This is addressed in one of the few intervention studies on unemployed individuals. The Michigan Prevention Research Center's (MPRC) job-search program, aims to assist with re-employment by focusing on motivating and empowering participants to effectively search for jobs (Vuori & Vinokur, 2005). The results suggest the intervention is effective in increasing re-employment and reducing poor mental health outcomes (Vuori & Vinokur, 2005).

While there is considerable debate about whether unemployment causes poor

mental health (i.e., causation hypothesis) or poor mental health causes unemployment (i.e., selection hypothesis or healthy worker effect) in adult populations (Paul & Moser, 2009), little is known about the relationship for emerging adults. A prospective study based on an Australian population of young adults tested and found support for both hypotheses (Fergusson, McLeod, & Horwood, 2014). The results from this study suggest also support both hypotheses. Prior mental and behavioral health problems may have contributed to underemployment status and poor mental health, and being underemployed contributed to increased vulnerability and poor mental health. Poor psychological well-being during adolescence, and prior to unemployed influences outcomes, especially during difficult economic times (Egan, Daly, & Delaney, 2016).

*Protective Processes.* The protective processes emerging from the data for study correspond well with a meta-analysis that identified psychosocial correlates associated with better mental health among unemployed people (McKee-Ryan et al., 2005). These correlates include social support, financial resources, structured time, expectations about finding a job, and coping strategies (McKee-Ryan et al., 2005). Protective processes identified by participants in this study included agency, optimism, coping flexibility, and supportive relationships. Each of these protective processes has been described in the literature in relation to reducing poor mental health outcomes.

Agency is an important determinant reducing the risk of depressive symptoms for unemployed populations (Crowe & Butterworth, 2016). However, being underemployed can erode agency (Schoon & Mortimer, 2017). In this study, the

*Building Resilience* group maintained high levels of agency despite their underemployment status. Agency during the transition to adulthood enhances development by increasing engagement in exploration, flexible commitment, and deliberate choice making (Schwartz, Cote, & Arnett, 2005), whereas young adults who do not have agency demonstrate more avoidance-based strategies (Côté & Bynner, 2008; Schwartz et al., 2005). Some in this sample described agency due to previous experiences dealing with stressful situations. This aligns with the literature on the development of self-efficacy (Bandura, 1997) and resilience (Bonanno, Westphal, & Mancini, 2011).

Another protective factor that emerged from the data was a sense of optimism. Agency also contributed to feelings of optimism, and optimism may reflect confidence (Carver, Scheier, & Segerstrom, 2010). The optimism in this study was more common among those with few depressive symptoms. Optimism has been proposed as an additional factor to consider when studying stress and coping (Carver & Connor-Smith, 2010; Carver et al., 2010). In relation to resilience, optimism may also indicate an ability to remain confident and persistent when facing adversity (Carver et al., 2010).

Coping flexibility contributed to resilience, as well. Coping flexibility recognizes that a variety of coping processes are needed and applying the right coping process at the right time may reduce psychological distress (Bonanno & Diminich, 2013; Cheng, Lau, & Chan, 2014). Coping flexibility is associated with reduced psychological distress (Cheng et al., 2014). It may be particularly relevant for emerging adults who are experiencing many changes in their environment and

require a variety of tools to cope. In a study of 16- to 24-year olds, who were predominantly underemployed, participants who were classified as more resilient used a wide-range of coping strategies, including active, avoidance, distraction, and support seeking activities, and received financial and emotional support (Tandon et al., 2013).

Social support was identified as a resource that reduces the impact of vulnerability factors. In accordance with the results from this study, other research has found that social support moderates the relationship between financial strain and psychological distress among unemployed adults (Milner, Krnjacki, Butterworth, & LaMontagne, 2016) and young adults (Creed & Watson, 2003). High financial strain among those with low and high, but not moderate, levels of social support was associated with higher levels of psychological distress (Creed & Watson, 2003). The authors suggest that being unemployed may impact access to social support or the ability to engage in social activities (Creed & Watson, 2003), which corresponds with the findings from this study.

Various types of social support have been identified in the literature, including emotional (expressions of love and trust), instrumental (tangible aid and services), and informational (advice) (Heaney & Israel, 2008). Most of the research on the types of social support has focused on emotional support (Umberson, Crosnoe, & Reczek, 2010). In this context, instrumental support appeared significant in contributing to better mental health outcomes (Uchino, Bowen, Carlisle, & Birmingham, 2012).

Variations in the social support received were also noted. For instance, three

Black men described lacking social support. Other research has found that unemployed young men report less social support from parents (Axelsson & Ejlertsson, 2002). The lack of social support from these sources may contribute to worse mental health outcomes (Axelsson & Ejlertsson, 2002).

These four protective processes contributed to resilience in a compensatory manner. Some participants described not having strong social support, but had other protective processes, such as agency, optimism, and coping flexibility. Resilience may not require all the identified protective processes, instead an optimal combination of protective processes for the situation and individual may contribute to resilience (Masten, 2001). However, individuals with more available protective processes may have more resources to draw upon as vulnerabilities and stressor accumulate or change (Masten, 2001).

*Resilience.* Together, vulnerability and protective processes work together to confer resilience. These relationships work in a bidirectional manner, wherein participants described cycling through stress, coping, and poor mental health (Calvete, Orue, & Hankin, 2013; Hankin & Abramson, 2001). Five groups from the intersection of vulnerability and protective processes emerged from the data. One group, *Struggling, Needing Help*, described adversities, but had few protective processes. In contrast to this group, *Demonstrating Resilience* was comprised of people who were at risk for negative outcomes, but had protective processes and a support system available to them. The last three groups were differentiated from the two main groups due to lower levels of adversity. Instead they described more minor vulnerability factors (*Lacking Protective Factors* and *Inoculating Stress*) or



minimal stressors (*Building Promotive Factors*).

This model defining the intersections between vulnerability and protective processes aligns with the resilience literature. The majority of participants in this study described significant vulnerability, in addition to their underemployment status. As defined above, resilience includes positive adaptation despite significant adversity (Luthar, 2006). The identified protective processes contributed to positive adaptation among the *Demonstrating Resilience* group in this sample.

The model of resilience identified in this study recognizes the role of moderate exposure to adversity by including two groups that had the opportunity to gain experience handling moderate vulnerabilities. Participants successfully adapting to the added vulnerabilities were demonstrating their abilities to handle moderate stress (*Inoculating Stress*). The naming of this group is derived from the stress inoculation (Meichenbaum & Novaco, 1985) and “steeling” effects literature described within the resilience framework (Rutter, 2012). The stress inoculation concept suggests that exposure to a manageable amount of stress may decrease negative outcomes by providing an opportunity to develop coping skills (Rutter, 1987, 2012). Rutter (2012) describes “steeling” effects as a characterizing feature of resilience research. The last two groups *Needing Protective Factors* and *Building Promotive Factors* highlight the differentiation between protective and promotive factors described within resilience research wherein exposure to vulnerability defines whether a factor is protective or promotive (Burt & Paysnick, 2012; O'Connell et al., 2009).

Finally, these results also identify how despite having depressive symptoms, two

participants described resilience or stress inoculation. In the resilience literature, defining successful adaptation is a challenge. While some define it as the absence of psychopathology, this definition may not truly capture resilience. For instance just because an individual does not have depression, does not mean this individual is doing well across other life domains (Luecken & Gress, 2010). Alternatively, as was the case with two participants from this study, some people with depression will do well across a number of life domains despite the disorder (Luecken & Gress, 2010).

*Limitations.* The study's limitations should be considered. This qualitative study focused on underemployed emerging adults in Atlanta, Georgia. Their experiences may not be generalizable to the underemployed emerging adult population in different contexts, such as rural areas. However, the model developed aligns with findings from other studies and the broader resilience framework, suggesting the model may be applicable in other settings. Additional qualitative and quantitative work is needed to refine this model and test the relationships. Due to relatively small numbers of participants for certain demographic characteristics (e.g., Black men with elevated depressive symptoms and White men with few depressive symptoms), it is possible that some of the comparisons across demographic groups did not reach data saturation. However, their experiences mainly reflected the experiences of the broader sample for which data saturation was reached. Strengths of this study include that the interviews were transcribed verbatim to enhance qualitative descriptive validity (Maxwell, 1992). Additionally, the data provided through the in-depth interviews allowed for thick description and rich data (Maxwell, 2013; Morse, 2015), including context for understanding potential causal

processes (Maxwell, 2012). Furthermore, “quasi-statistics,” or numbers, were used to increase precision in the analysis (Maxwell, 1992, 2013). The data analysis included in-depth examination of participants’ experiences resulting in a map of resilience. Lastly, a diverse sample of participants shared their experiences.

*Implications.* Theoretical work related to resilience (Luthar & Brown, 2007; Ungar, 2003) and coping (Skinner et al., 2003) is needed. By focusing on protective processes, this work contributes to the conceptualization of the resilience framework by identifying the processes that contribute to adaptation and impact individual functioning (Skinner & Zimmer-Gembeck, 2007). This study fills a gap by developing a middle-range theory of resilience among underemployed emerging adults that identifies how protective processes interact with vulnerability factors to confer better mental health outcomes. Additional work should refine this model and test it with different samples of underemployed emerging adults. For instance, resilience among underemployed emerging adults in other cultural contexts may include religiosity.

With testing and refinement, this model may inform potential interventions. The results from this study indicate that underemployed emerging adults are a vulnerable group. Selective preventive interventions focusing on this group may be impactful (Tandon et al., 2015; Tandon, Mendelson, & Mance, 2011) by reducing the negative consequences of underemployment (Daly & Delaney, 2013; Strandh, Winefield, Nilsson, & Hammarstrom, 2014; Thern, de Munter, Hemmingsson, & Rasmussen, 2017) and poor mental health (Reinherz et al., 1999; Yaroslavsky et al., 2013). In addition to improving health outcomes, interventions during this life stage

may increase labor market participation (Elovainio et al., 2012). With the exception of one study (Tandon et al., 2015), few preventive interventions have focused on emerging adults, especially those not in school (Buchanan, 2012; O'Connell et al., 2009). Due to the transition period, intervention programs that are developmentally appropriate are warranted (Horowitz & Garber, 2006).

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Table 4.1. Domains explored in qualitative interviews

Main sections	Domains
Experiences of being underemployed	<ul style="list-style-type: none"> <li>• Meaning of underemployment</li> <li>• Role expectations</li> <li>• Influences on mental health</li> <li>• Coping strategies</li> </ul>
Resilience and coping resources	<ul style="list-style-type: none"> <li>• Stress and underemployment</li> <li>• Influences on mental health</li> <li>• Coping strategies</li> <li>• Perceived support</li> </ul>
Mental health	<ul style="list-style-type: none"> <li>• Influences on mental health</li> <li>• Changes in mental health</li> <li>• Coping strategies</li> </ul>

Table 4.2. Demographic and depressive symptom characteristics

	Black (n=19)		White (n=13)	
	Woman (n=10)	Man (n=9)	Woman (n=7)	Man (n=6)
Few depressive symptoms (n = 16)	4	7	3	2
Elevated depressive symptoms (n = 16)	6	2	4	4



Table 4.3. Additional demographic characteristics by depressive symptom status

	Few Depressive Symptoms	Elevated Depressive Symptoms
Age (mean, range)	23.4, 21-25	22.5, 18-25
Unemployed (n = 26)	14 (87.5%)	12 (75.0%)
Underemployed (n=6)	2 (12.5%)	4 (25.0%)
Education		
Some high school (n = 1)	0 (0.0%)	1 (6.3%)
High school graduate (n = 8)	3 (18.8%)	5 (31.3%)
Some college (n = 10)	6 (37.5%)	4 (25.0%)
College graduate (n = 13)	7 (43.8%)	6 (37.5%)
Children		
No (n = 26)	13 (81.3%)	13 (81.3%)
Yes (n = 6)	3 (18.8%)	3 (18.8%)
Relationship Status		
Partnered (n = 14)	8 (50%)	6 (37.5%)
Single (n = 18)	8 (50%)	10 (62.5%)

Table 4.4. Groups by depressive symptoms status and risk level

	<b>Low Risk</b>	<b>Moderate Risk</b>	<b>High Risk</b>
<b>Few Depressive Symptoms</b>	Building Promotive Factors	Inoculating Stress	Demonstrating Resilience
<b>Elevated Depressive Symptoms</b>		Lacking Protective Factors	Struggling, Needing Support

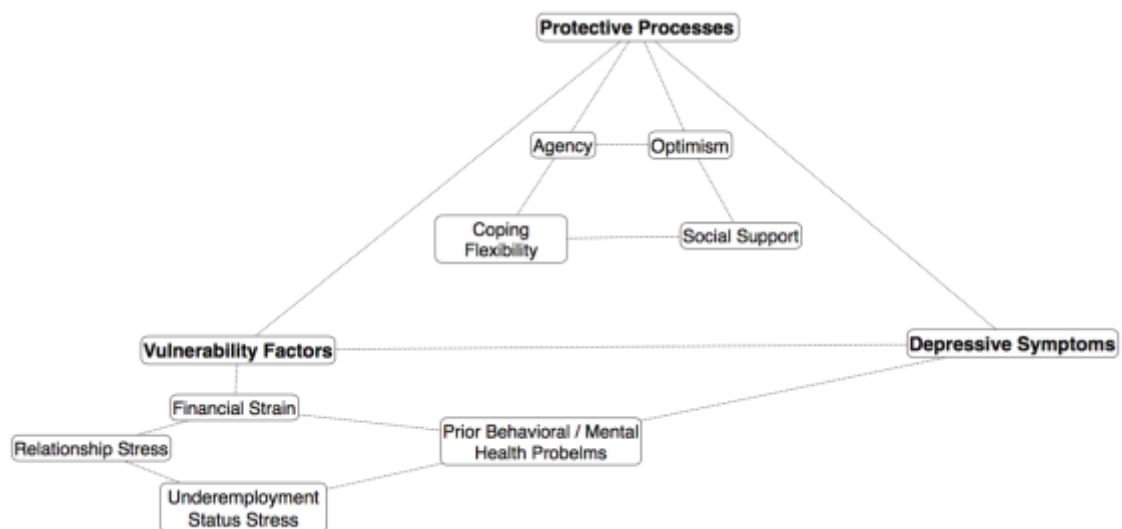


Figure 4.1. Model of vulnerability and protective processes contributing to resilience among underemployed emerging adults

Vulnerability Factors	Minimal				●
	Mild	●●●	●●●		●●●
	Moderate	●●●	●●●	●●●	●
	Significant	●●●	●●●●	●●●	●●
		Black Men	Black Women	White Women	White Men
Protective Processes	Minimal	●●	●●●●	●●●	●●
	Mild		●●		●
	Moderate	●●●●●	●	●●	●●
	Significant	●●	●●●	●●	●

Interaction	Black Men	Black Women	White Women	White Men
Struggling, Needing Support	●●	●●●●	●●●	●●
Demonstrating Resilience	●●●●	●●	●●●	●
Lacking Protective Factors		●		●
Inoculating Stress	●●●	●●		●●
Building Promotive Factors			●	

Key	
●	Elevated Depressive Symptoms
●	Few Depressive Symptoms

Figure 4.2. Characteristics of participants by vulnerability factors, protective processes, and their interaction

## **Chapter 5: Summary and Conclusions**

With the high prevalence and elevated risk of depression during emerging adulthood (Center for Behavioral Health Statistics and Quality, 2016; Eaton et al., 2012; Klein et al., 2013; Rohde, Lewinsohn, Klein, Seeley, & Gau, 2012) understanding protective factors that may prevent or reduce the impact of depression is needed. Among older adults, underemployment is one risk factor that increases the likelihood of experiencing depression (McKee-Ryan, Song, Wanberg, & Kinicki, 2005; Paul & Moser, 2009). While most research focuses on unemployed populations, those who are underemployed experience similar negative outcomes (Dooley, 2003). For an emerging adult population, those who are unemployed are at increased odds for depression compared with those who are employed (McGee & Thompson, 2015). Depression during this time may be an important factor contributing to long-term outcomes since the transition to adulthood may be a potential “turning point” that influences the direction of an individual’s life (Masten, 2001). With underemployed emerging adults being a risk group for depression (Tandon, Dariotis, Tucker, & Sonenstein, 2013), examining resilience among underemployed emerging adults may contribute to the development of effective interventions.

### Main Findings

This mixed-methods dissertation study sought to understand risk and protective factors among underemployed emerging adults and how these factors interact to contribute to resilience. The findings from this dissertation offer detailed analysis of the experiences of underemployed emerging adults, an understudied population, and identify potential factors that contribute to better mental health outcomes

despite experiencing adversity.

The aim of the first paper (Chapter 2) was to examine stress and vulnerability among underemployed emerging adults and to identify differences in experiences by race/ethnicity (i.e., Black and White). With underemployment being an eligibility criterion, participants were at increased risk for depression. Adding an additional stressor of experiences of everyday discrimination, allowed the opportunity to examine variation in stressors experienced across the sample.

We found high levels of depression and perceived stress in this population that did not differ by race or gender. This aligns with other research of emerging adults where the prevalence of depression converges between genders (Adkins, Wang, & Elder, 2009; Galambos, Barker, & Krahn, 2006; Tanner et al., 2007) and races (Frye & Liem, 2011). However, as with other data (American Psychological Association, 2016), the experiences of everyday discrimination were higher among Black emerging adults compared to White emerging adults. Despite Black emerging adults reporting higher levels of discrimination, they did not report higher levels of perceived stress or depression. Moderated mediation results show differences in how discrimination relates to perceived stress and depression between Black and White participants. Perceptions of stress mediated the relationship between discrimination and depression among White participants, but not Black participants. With discrimination being a well-known contributor to poor mental health outcomes across races and ethnicities (Pascoe & Richman, 2009), the non-significant results among Black participants was surprising. The results from qualitative data suggest some potential explanations, including the role of appraisal in the

discrimination stress pathway, which has received less attention in the literature on social stressors, such as discrimination (S. Schwartz & Meyer, 2010). Another potential explanation for the moderated mediation results may be that variations in within group differences obscured the relationships between everyday discrimination and perceived stress and depressive symptoms. Additional research accounting for intersectionality is warranted. Those who experience discrimination for more than one reason may be at greater disadvantage that could contribute to worse mental health outcomes (Grollman, 2014). This variation in experiences may have been greater within the Black sample, which could have contributed to the null findings.

These findings add to the literature regarding the appraisal of discrimination and nuances in experiences of discrimination across sub-groups of participants. Appraisal may be an important mediating factor connecting discrimination to stress and depressive symptoms. Additionally, the way people experience and appraise discrimination may vary by multiple, intersecting factors that could strengthen the relationships for some sub-groups.

The aim of the second paper (Chapter 3) was to examine the protective processes that may reduce depressive symptoms among underemployed emerging adults. Building on the results from the first paper that demonstrated a robust relationship between perceived stress and depressive symptoms that did not vary by race/ethnicity or gender, path analysis was used to test the Transactional Model of Stress and Coping among underemployed emerging adults. The protective processes of coping self-efficacy, coping through emotional regulation and problem



solving, and social support were examined to test whether they mediated or moderated the relationship between perceived stress and depression. The initial, theory-based mediation model did not fit the data well. Although the proposed mediators were significantly correlated with perceived stress and depressive symptoms at the bivariate level, the strength of the relationships between perceived stress, coping self-efficacy, and depressive symptoms overwhelmed the potential mediators. A modified model that included coping self-efficacy as a moderator of the relationship between perceived stress and depression fit the data well. As coping self-efficacy increased, the relationship between perceived stress and depression decreased. These results provide additional support for the role that appraisal plays in moderating relationships between stress and depression. In this case, coping self-efficacy is a part of the secondary appraisal process when perceived stress may be high, but the effects on negative outcomes are reduced due to confidence in an ability to deal with the situation. The findings from this paper also point to the potential need to consider the development of coping (Skinner & Zimmer-Gembeck, 2007, p. 121), which is not well accounted for in the Transactional Model of Stress and Coping. The resilience framework, which originates from developmental psychology, describes various ways protective factors interact with risk factors. One of these models is the protective (moderation) model, where an asset or resource (e.g., coping self-efficacy) modifies the relationship between a risk factor (e.g., perceived stress) and the outcome (e.g., depressive symptoms) (Fergus & Zimmerman, 2005; Zimmerman, 2013).

The aim of the third paper (Chapter 4) was to develop a model of resilience for

underemployed emerging adults by examining vulnerability and protective factors. Using modified grounded theory, the *vulnerability factors* of financial strain, relationship stress, underemployment status stressors, and previous mental and behavioral issues and the *protective factors* of agency, optimism, coping flexibility, and support relationships, combined to identify five groups of underemployed emerging adults were identified. By examining the interactions between these factors, participants were placed into five groups: *Struggling, Needing Support; Demonstrating Resilience; Needing Protective Factors; Inoculating Stress; and Building Promotive Factors*. These findings build upon the resilience literature by identifying specific groups of underemployed emerging adults based upon the level of vulnerability experienced and the availability of protective or promotive processes.

### Common Themes

The three papers combined provide an in-depth examination of the resilience process among underemployed emerging adults. The first paper examined vulnerability in the sample. The second paper tested potential protective processes, and the third paper developed a model of resilience bringing together vulnerability and protective processes for this population. Some overarching themes across the papers include the significant levels of stress and depressive symptoms in this sample, the role of appraisal in the stress process, and common personal resources and assets, including agency and coping flexibility, that may contribute to resilience. Each of these themes is described in more detail below.

*Risk Group.* Underemployment is a significant risk factor for poor mental and

physical health outcomes (McLeod, Lavis, MacNab, & Hertzman, 2012; Paul & Moser, 2009; Strully, 2009). Previous research among adults (Jefferis et al., 2011) and young adults (Fergusson, McLeod, & Horwood, 2014) suggests a bidirectional relationship between unemployment and poor mental health. The results from this study confirm that underemployed emerging adults are an important risk group. The high rates of stress and depressive symptoms across the sample, as well as the results from analysis indicating that previous mental and behavioral problems may have contributed to being underemployed, suggest that this group could benefit from preventive interventions. Furthermore, qualitative participants described a cycle of underemployment, stress, and depressive symptoms. Stressors that may contribute to increased stress and depressive symptoms among underemployed emerging adults include discrimination appraisals (Seaton, Caldwell, Sellers, & Jackson, 2008), financial strain (Bjarnason & Sigurdardottir, 2003; Colman et al., 2014), relationship strain (Ibarra-Rovillard & Kuiper, 2011; Vinokur & Vanryn, 1993), and underemployment status stressors (Aseltine & Gore, 2005; McKee-Ryan et al., 2005; S. J. Schwartz et al., 2011; Wanberg, 2012). Financial strain, social contact and relationships, and social status are three factors that are consistently reported as contributors to poor mental health among unemployed adults (Jahoda, 1981; McLeod et al., 2012; Wanberg, 2012). The high levels of stress and depression reported in the quantitative results, and the description of stressors in qualitative results extend these findings to underemployed emerging adults. Working to engage underemployed emerging adults in effective preventive interventions that address mental health and employment status may help break this cycle described by the

qualitative findings.

*Appraisal.* The stress appraisal process is one potential intervention point that may help reduce the negative consequences of underemployment, stress, and depressive symptoms. One of the key features of cognitive behavioral therapy, an effective prevention and treatment intervention for depression (Christensen, Pallister, Smale, Hickie, & Calear, 2010; McLaughlin, 2011; Munoz, Cuijpers, Smit, Barrera, & Leykin, 2010), is teaching skills for appraising situations, including those that may be stressful. The Transactional Model of Stress and Coping identifies two constructs in the appraisal process: primary and secondary appraisal (Lazarus & Folkman, 1984). These two evaluations of a situation interact with each other to determine the stressfulness of the situation (Lazarus & Folkman, 1984). Appraisals vary by person and situation. For example, something may be stressful at one point in time, but not stressful at a different point in time for the same person (Aldwin & Werner, 2009).

The findings describing the importance of the appraisal process in contributing to depressive symptoms among underemployed emerging adults contribute to the stress process literature (Aldwin & Werner, 2009). All participants in this sample were exposed to a potentially stressful situation of being underemployed. For the first paper, everyday discrimination provided another stressor that may become a chronic strain. Being underemployed and the measure of everyday discrimination provided a more “objective” measure of stress by assessing events that people experience (Monroe, 2008). The perceived stress measure used in this study provided an assessment of primary appraisal (Lazarus & Folkman, 1984). While

stress and depressive symptoms were high in this group, some participants did not report high levels of perceived stress; instead, their appraisal of stress was lower. For instance, participants' exposure to additional stressors associated with underemployment may have been limited among those with lower levels of perceived stress. As the qualitative results suggest, the added vulnerability of financial and relationship strain, may increase stress associated with underemployment. Underemployed emerging adults who do not experience these additional stressors, they may be at lower risk for depressive symptoms. With limited additional stressors, the threat associated with underemployment may not be appraised as stressful. Other participants who may have experienced some additional stressors may have developed appraisal and coping responses that minimize the stress response. The qualitative responses about experiences of discrimination among participants demonstrated how some people cognitively appraise situations differently, which contributed to differences in mental health outcomes.

*Self-Efficacy and Agency.* Part of the appraisal process is determining personal resources to deal with the potentially stressful situations (Lazarus & Folkman, 1984). Coping self-efficacy was identified as a protective factor moderating the relationship between perceived stress and depressive symptoms in the second paper. The results from the third paper complemented these findings wherein agency emerged as a protective asset among those demonstrating resilience. Coping self-efficacy may contribute to agency described by the qualitative sample. Benight and Bandura (2004) write that "a sense of personal efficacy is the foundation of

human agency” (p. 1131). This confidence contributes to resilience (Benight & Bandura, 2004). The emerging adult literature suggests that the transition to adulthood may be easier for those who have agency (S. J. Schwartz, Cote, & Arnett, 2005). Agency contributes to engaging in coping behaviors.

*Coping flexibility.* Coping is a complex process that encompasses a wide variety of cognitive and behavioral resources that are used to manage stressful events (Lazarus & Folkman, 1984). With one review identifying over 400 different labels for coping, consensus about the core categories is lacking (Skinner, Edge, Altman, & Sherwood, 2003). While the Transactional Model of Stress and Coping describes two categories of problem-management and emotional regulation, Lazarus (1984) suggests that they are not mutually exclusive. Instead, the stress and coping process is a dynamic system that includes interactive processes (Folkman, 2010). Therefore, the independence between how these two processes are operationalized may not be distinct (Folkman, 2010). The results from paper two support this proposition. This conceptualization identifies the multi-functionality of some coping categories and highlights how artificially putting coping processes into dichotomous groups may overly simplify the overarching construct of coping (Skinner et al., 2003). The qualitative data from paper three suggest that coping flexibility may provide an alternative conceptualization of the coping process. Coping flexibility recognizes the availability of coping processes and the deployment of appropriate coping processes at the right time (Cheng, Lau, & Chan, 2014). This aligns with the Transactional Model of Stress and Coping, but recognizes variability in the coping strategies used (Bonanno & Diminich, 2013). In other words, coping flexibility extends the

traditional conceptualization of coping in the Transactional Model of Stress and Coping by moving beyond problem management and emotional regulation into a wider repertoire of coping processes, but it stays consistent with the theory by recognizing the transactional relationship between stress and coping.

*Supportive relationships.* The different results for social support and supportive relationships for papers two and three also illustrate nuances in how constructs interact with each other. While social support was not a significant mediating or moderating variable for paper two, supportive relationships were important protective processes for paper three. The key supportive relationship focused on instrumental support from parents. The measure used in paper two did not account for specific types of social support. Examining quantitatively whether instrumental support acts as a mediating or moderating variable for the relationship between perceived stress and depressive symptoms may result in a different conclusion. Most research on types of social support focuses on emotional support (Umberson, Crosnoe, & Reczek, 2010). The delivery of and perceived helpfulness of social support via these the specific types of support may vary depending on the relationship and context (Uchino, Bowen, Carlisle, & Birmingham, 2012). However, little research has tested how these social support components impact the relationship between social support and health (Thoits, 2011; Uchino et al., 2012). The results from this dissertation study support the development of more refined measures of social support.

#### Evaluation of Dissertation Research

*Strengths.* One of the strengths of this dissertation is that a diverse sample of

underemployed emerging adults participated in the study. This is an understudied population that is in need of support (Bornstein, Jager, & Putnick, 2013).

Additionally, by taking a life course perspective in the study of stress and coping, this study considers the unique context of the emerging adult time frame. Finally, the mixed-methods approach used in this dissertation study allowed for an in-depth examination of the experiences of underemployment among emerging adults. The strengths of qualitative and quantitative methods were combined (Creswell & Plano Clark, 2007). The findings from each method are largely complementary, which demonstrates triangulation of findings (Creswell & Plano Clark, 2007).

*Limitations.* In weighing the results of this dissertation study, the limitations should be considered. The sample of underemployed emerging adults recruited for this study is not representative of the wider population. A challenge of researching underemployed emerging adults, who not connected to institutions, is that a valid sampling frame does not exist (Kogan, Wejnert, Chen, Brody, & Slater, 2011). Additionally, the transitional nature of the emerging adult experience (Arnett, 2000) makes identifying individuals outside of school more difficult. Furthermore, the experiences of the participants in this study may reflect contextual issues from the urban, Southern location. Secondly, the measures included in this study are self-report and subject to recall bias. Those with depression may appraise stressful situations as more stressful than those without depression, which could confound the relationships (Hammen, 2005). However, a transactional approach to stress and coping recognizes that these two factors interact in that appraisal reflects the transaction between the person and the environment (Aldwin & Werner, 2009). For



the qualitative data collection and analysis, the researcher was deeply involved with data collection and analysis requiring reflexivity to acknowledge personal biases that may have influenced the questions asked and how the data were analyzed (Charmaz, 2000; Finlay, 2002). Involvement of a second coder and reviewers helped reduce these limitations.

### Future Studies

Several future studies could extend the work of this dissertation. With the qualitative data generated from this dissertation, additional analyses could examine how underemployment impacts the transition to adulthood. With the quantitative data generated from this dissertation, additional hypothesis testing of moderation of coping processes by race/ethnicity may provide valuable information about other processes beyond appraisal that may contribute to the results from paper one. Combining the results from papers one and three, an index describing a “constellation” of vulnerability factors could be developed through factor analyses. The models from papers one and two could be tested again with this new index as an independent variable. Finally, the results from paper three could be tested with the quantitative data by dividing participants into groups based on their experiences of stressors and depressive symptoms status. Then, descriptive details about the coping processes they used could be examined to see if they can be further grouped into the five categories identified in paper three.

This proposed descriptive analysis categorizing participants into the five categories from paper three stems from other analyses that take a person-centered approach to understanding resilience. With a bigger sample, latent class analyses

may help improve understanding about how the coping processes may group together to contribute to resilience. As results from paper three suggest, the combination of protective processes may work together to contribute to resilience. In some cases, participants had strong levels of coping flexibility and agency, but low levels of support. The two protective factors worked together and compensated for the low levels of support. This variation in patterns may have obscured some of the relationship among the protective processes for paper two. Additional studies with larger sample sizes and longitudinal data collection could inform how these processes work. These studies could examine differences in mediating and moderating processes across the continuum of underemployment (Creed & Moore, 2006). Lastly, future research on underemployed emerging adults could inform the debate around whether the theory of emerging adulthood identifies a distinct life stage that is widely applicable or whether it describes a phenomenon of a more privileged group of young adults (Côté, 2014; Mitchell & Syed, 2015).

#### Implications for Research and Practice

By using resilience as the framework for this study, the focus is on strengths and health promotion (Windle, 1999). The traditional paradigm for interventions to prevent depression has focused on reducing risk factors (Bradshaw et al., 2012; O'Connell, Boat, & Warner, 2009). However, more recently research has focused on protective factors with the emphasis on promoting mental health (O'Connell et al., 2009). Incorporating resilience into the mental health field strengthens the connection to public health. The health promotion orientation within the resilience framework contributes to potential development of prevention interventions for

depression. The primary reason for studying psychosocial and preventive factors for depression among underemployed emerging adults is to inform potential interventions in the future. Developing preventive interventions requires an understanding of risk and protective factors (Compton et al., 2010), which the resilience framework and the findings of this dissertation provide.

*Conclusion.* This dissertation study contributes to improved understanding of resilience among underemployed emerging adults. Bringing together work on underemployment, discrimination, stress and coping, resilience, and emerging adulthood, this study provides an in-depth examination of the intersection of these major contributors to mental health. From a prevention perspective, this study identified underemployed emerging adults as an important risk group and identified specific protective factors that contribute to resilience. Designing interventions that build upon appraisal through coping self-efficacy, agency, and optimism, and that develop coping flexibility and supportive relationships may contribute to the prevention of depression.

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