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## Connecting Emotions to Behavioral Outcomes

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# CONNECTING EMOTIONS TO BEHAVIORAL OUTCOMES

by

WHITNEY L. SPEARS

(Under the Direction of Jeff Klibert)

## ABSTRACT

The field of positive psychology has emerged within the last decade and focuses on investigating happiness and what constitutes a satisfying life (Seligman, 2011; Seligman & Csikszentmihalyi, 2000). One of the main purposes of positive psychology is to identify resources that can be used to promote psychologically beneficial outcomes (Fredrickson, 2001). Two positive psychological outcomes that can build resources to overcome negative circumstances and lead to a fulfilling life are resilience and well-being. A theory proposed by Fredrickson (1998) that offers a process by which individuals can enhance well-being and resilience is the broaden-and-build theory. Through this theory, it is hypothesized that experiencing positive affect can broaden an individual's thoughts and actions, which can in turn build lasting personal outcomes (i.e., resilience and well-being; Fredrickson, 2001). The current study draws upon the tenets of the broaden-and-build theory to identify processes that may help clarify the connection between positive affect and positive psychological outcomes. Specifically, the main purpose of the current study was to determine if savoring strategies mediate the relationships between positive affect and positive psychological outcomes. Participants included two hundred and eighty-nine college students who were recruited to complete a series of online surveys. In regard to gender, 186 (64.4%) participants identified as a woman and 101 (34.9%) participants identified as a man. Results of the study revealed that positive affect was directly and indirectly related to positive psychological outcomes (i.e., resilience and well-being). Of importance, savoring in the moment partially explained the link between positive affect and positive psychological outcomes. Implications to theory and clinical practice are discussed.

Index Words: Positive Psychology, Positive Affect, Savoring, Resilience, Well-Being

CONNECTING EMOTIONS TO BEHAVIORAL OUTCOMES

by

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## CHAPTER 1: INTRODUCTION

Positive psychology, the study of positive life events and character strengths, has focused on highlighting happiness and what constitutes a satisfying life (Seligman, 2011; Seligman & Csikszentmihalyi, 2000). Until the positive psychology movement, the focus of psychology was on negative aspects of the human life, such as pathology, symptoms, and disorders (Seligman, Rashid, & Parks, 2006). Due to this, there are large gaps within the literature concerning the influence of positive psychological variables in the development and maintenance of well-being and wellness (Moran & Nemeč, 2013). One important aspect of positive psychology is to teach individuals more effective ways to improve their overall functioning and well-being through positive approaches and interventions (Seligman, 2011). With the incentive of promoting a satisfying and fulfilling life, it is essential that researchers begin to explore and study what concepts and techniques can be used to further enhance positive growth across the lifespan.

Positive psychology can be conceptualized under two different frameworks: the hedonic and the eudaimonic (Moran & Nemeč, 2013). The first approach is focused on understanding what constitutes happiness and outlines well-being in terms of attaining pleasure and avoiding pain in the here-and-now (Moran & Nemeč, 2013). The second approach assumes well-being is dependent upon the extent that an individual must achieve a fulfilling life (Moran & Nemeč, 2013). This approach is focused on the future and what is needed to live a fulfilling life for the long term. Together, these two approaches focus on what establishes a fulfilling life now, but also the resources that are needed to maintain a satisfying, good life in the future.

One purpose of positive psychology is to identify what resources can be used to promote healthy and psychologically beneficial outcomes (Fredrickson, 2001). Considering this goal, many different theories have evolved to contribute to the development of positive psychology.

One of those theories is the complete mental health model, which emphasizes the development of intrapersonal resources (Moran & Nemeč, 2013). Theorists posit that despite the persistence of debilitating symptoms, individuals have the ability to achieve meaningful lives if the focus can shift away from their symptoms and onto character strengths (Moran & Nemeč, 2013). Moreover, research speculates that a focus on strengths-based factors can promote resilience and well-being over time; that is, traits can help individuals build resources needed to manage negative circumstances and further achieve a fulfilling life (Tugade & Fredrickson, 2007).

Resilience and well-being are two positive psychological outcomes that can further enhance an individual's life. Individuals who are more resilient have the ability to recover from negative experiences and can positively adapt to increased stress (Tugade & Fredrickson, 2007). Additionally, research indicates that resilient individuals are able to take advantage of their positive affect in order to cope with negative experiences (Tugade & Fredrickson, 2007). Similarly, well-being is associated with a wide range of positive outcomes and fosters positive growth from traumatic experiences (Moran & Nemeč, 2013). In addition, well-being has been associated with autonomy, self-acceptance, and purpose in life (Ryff, 1989), factors known to increase overall life satisfaction and happiness.

*Rurality and Positive Outcomes.* Throughout the world, opportunities for positive change are often not dispersed equally amongst different populations of people (Notter, MacTavish, & Shamah, 2008). Geographic location and social class can limit the number of opportunities and resources an individual has, which in turn may limit the cultivation of outcomes such as resilience and well-being (Notter et al., 2008). Living in rural areas can be difficult in regard to identifying and accessing resources that may be beneficial for an individual's overall well-being. Furthermore, barriers within rural communities also include inaccessibility to mental health

providers and increased stigma when receiving treatment for mental health reasons (Robinson et al., 2012). Due to this disparity, protective factors that can enhance positive affect, resilience, and well-being may be more difficult to cultivate.

Considering the lack of resources and accessibility to services, it can be speculated that individuals from rural areas may experience lower levels of resilience and well-being. However, to our knowledge, no studies have yet to directly examine differences in reports of resilience and well-being between individuals from rural vs. non-rural areas. It would be advantageous to determine if reports of resilience and well-being differ between individuals from rural areas and non-rural areas. Such differences would highlight the need to differentially consider how and when such positive outcomes occur in unique sub-cultures, like rural communities. As a result, one exploratory component of the current study will be investigating whether individuals from rural areas report differing levels of resilience and well-being when compared to individuals from non-rural areas.

*Positive Affect and Positive Outcomes.* One theory that offers a process by which people can enhance resilience and well-being is the broaden-and-build theory (Cohn, Brown, Fredrickson, Mikels, & Conway, 2009). Within this theory, it is hypothesized that experiencing positive affect can broaden an individual's thoughts and actions, which in turn builds lasting personal outcomes (i.e., resilience and well-being) that can be utilized in the future (Fredrickson, 2001). The main focus of this theory surrounds the process of experiencing positive affect, which can give immediate pleasure and increase an individual's personal reserve of psychological resources (Fredrickson, 2001). Research indicates that positive affect can further contribute to altered outcomes and by extension enhance an individual's relationships with others, creativity, and success in life (Moran & Nemeč, 2013). One vital aspect of this theory is that it engenders a

pathway by which an individual's positive affect can increase positive outcomes such as resilience and well-being.

When looking at the broaden-and-build theory, it can be hypothesized that positive affect is related to resilience and well-being through specialized mechanisms (e.g., meaning making, positive appraisal). However, there is a scarcity of studies investigating the process of how positive affect is related to positive psychological outcomes, such as resilience and well-being.

One specialized mechanism that can be used to enhance positive emotions and psychological outcomes is up-regulation strategies. Up-regulation strategies can be used by individuals to produce and maintain emotions such as contentment and joy (Livingstone & Srivastava, 2012). Moreover, up-regulating positive emotions through strategies such as humor, positive meaning making, or positive reappraisal can help reduce negative emotions by enhancing positive emotions (Livingstone & Srivastava, 2012). One example of an up-regulation strategy is savoring. Savoring is an approach that involves attending to and appreciating past, current, and future events and emotions (Bryant, 2003). Savoring acts as an up-regulation strategy through broadening cognition and action, which in turn generates positive psychological emotions and outcomes, and personal benefits (Livingstone & Srivastava, 2012). However, savoring is a relatively new construct. Considering the up-regulation components associated with savoring beliefs, it may be a potentially important mechanism to explain the relationships between positive affect and positive psychological outcomes.

### **Purpose**

The main purpose of the current study was to advance theory associated with positive psychology in a way that may engender significant insights for mental health care workers' practice. Specifically, the current study drew upon the tenets of the broaden-and-build theory to

identify processes that may serve to develop and enhance a sense of resilience and well-being. To accomplish this goal, the following questions were empirically examined: (a) does positive affect predict variance in resilience and well-being?, (b) does the linear combination of savoring strategies predict variance in resilience and well-being?, and (c) does the linear combination of savoring strategies mediate the relationship between positive affect and positive outcomes (i.e., resilience and well-being)?.

### **Significance**

Given the importance of increasing resilience and well-being, there is a need to advance our understanding of the mechanisms that underlie the broaden-and-build theory. Such investigations will offer opportunities for psychologists to enhance and maintain important psychological and emotional outcomes with their clients. Although there is evidence that positive affect enhances positive psychological outcomes such as resilience and well-being, it is vital to determine what role savoring may play. The current study will engender potentially useful insights into how specific features of savoring can promote a better understanding of the connection between positive affect and the development of positive outcomes.

Additionally, examining these questions may contribute to efforts to enhance resilience and well-being through the refinement of assessments and evidence-based clinical practices. Individuals with low levels of well-being and resiliency may be more vulnerable to experiencing negative affect which can impact their physical, emotional, and psychological health. It is important to find mechanisms (e.g., savoring) that will help identify individuals who are at-risk so preventative measures can be taken. The current study may be useful in this regard. Specifically, the current study will advance how low levels of savoring mechanisms predict low

levels of resilience and well-being. This may ultimately contribute to the development of mental health screeners that can predict high risk for distress with sensitivity and specificity.

Lastly, the current study intends to engender practical insights regarding best practices to promote psychological resources. The literature has an abundance of studies offering insights into the reduction of distress, thus most research aims are focused on developing and refining techniques that can decrease negative symptoms. In contrast, there are few empirical studies that guide the development of positive growth programs. Evaluating the questions within this study will help to highlight unique processes that could be vital in determining how clients may be able to develop and maintain resilience and well-being.

### **Definition of Terms**

In order to better understand the constructs within this study, definitions for each variable have been included below. This section also includes a description of how each variable will be used in the models to be analyzed.

*Positive Affect.* Broadly, positive affect reflects the extent an individual feels enthusiastic and alert (Watson, Clark, & Tellegan, 1988). Individuals who have increased positive affect are often described as being vigorous and satisfied within their lives (Burger & Caldwell, 2000). Positive affect can also be described as a time in which an individual feels energized, focused, and excited about the possibility of engaging in social or pleasurable activities (Watson et al., 1988). In terms of the current study, positive affect served as the predictor variable.

*Resilience.* Resilience has been characterized by two main concepts. The first is the ability to recover from a negative emotional experience. The second concept is associated with the ability to be malleable to changes arising from stressful experiences (Block & Block, 1980; Block & Kremen, 1996; Lazarus, 1993; Tugade & Fredrickson, 2007). Resilience is thought of

as an intrapersonal resource that can positively affect an individual's ability to manage both traumatic experiences and adversity experienced in everyday life (Tugade & Fredrickson, 2007). Within the current study, resilience acted as an outcome variable.

*Well-Being.* There are two ways to describe well-being. The first is subjective well-being, and the second is psychological well-being (Guérin, 2012; Ryff, 1989). Subjective well-being is defined as an individual's own perceptions of their mood, quality of life, and lack of negative feelings (Stansfeld, Shipley, Head, Fuhrer, & Kivimaki, 2013). The definition of psychological well-being is more complex and was developed through six dimensions of human actualization which focuses on defining physical and emotional health (Guérin, 2012; Ryff, 1989). Currently, psychological well-being is conceptualized through positive themes associated with self-acceptance, positive relations with others, autonomy, environmental mastery, purpose in life, and personal growth (Ryff, 1989). The current study is interested in estimating a global score of psychological well-being. Psychological well-being acted as an outcome variable in the current study.

*Savoring.* Savoring is a set of strategies that can be used to produce, extend, and intensify positive affect (Hurley & Kwon, 2013). It is defined as a way in which people appreciate and enhance positive experiences in life (Bryant & Veroff, 2007). Savoring is also a mechanism that can be used as a means to control positive affect and alter an individual's reaction to certain events (Hurley & Kwon, 2013; Jose, Lim, & Bryant, 2012). Research suggests there are three dimensions of savoring which include: anticipation, reminiscing, and savoring the moment (Bryant & Veroff, 2007).

Anticipation savoring is a strategy in which an individual appreciates the possibility of celebrating positive moments in the future (Bryant & Veroff, 2007; Hurley & Kwon, 2013).

Another savoring strategy is reminiscing savoring, which occurs when an individual looks at past events and appreciates/celebrates the positive affect that is generated from specific memories (Bryant & Veroff, 2007; Hurley & Kwon, 2013). The third and final savoring strategy is savoring in the moment. With this mechanism, an individual can savor positive affect they experience in the here-and-now (Bryant & Veroff, 2007; Hurley & Kwon, 2013). All three savoring techniques acted as the mediating variables within the current study.

## CHAPTER 2: LITERATURE REVIEW

Within the field of psychology, researchers often focus more attention on how negative emotions impact debilitating outcomes. However, recently there has been a push to consider how positive affect contributes to daily living (Bastian, Diener, Kuppens, & De Roover, 2014). Fredrickson (1998) offers two explanations for the over-emphasis on negative emotions in the current clinical psychology literature. First, positive emotions are difficult to differentiate and there are fewer operationally defined positive emotions, especially when compared to negative emotions (Fredrickson, 1998). Second, the field of clinical psychology tends to gravitate toward understanding problems and exploring ways to resolve them. Considering that negative emotions create a wider range of problems for society when compared to positive emotions, it is of no surprise that negative emotions receive more empirical attention in the development of psychological theories (Fredrickson, 1998).

Given these trends, studies that examine positive emotions and the effects they may have on individuals and their overall functioning are lacking. Examination of positive emotions is warranted, as Fredrickson (1998) argues that positive emotions may provide solutions to problems negative emotions create. Fredrickson delineates the impact of positive emotions on daily functioning through the broaden-and-build model.

One important aspect of this model is that it distinguishes between positive and negative emotions and their impact on an individual's functioning. Fredrickson (2001) contrasts the broaden-and-build model to traditional deficit models, which assumes emotions are more commonly linked to specific action tendencies; that is, processes that narrow an individual's thoughts and actions to promote quick decisions. Fredrickson and Levenson (1998) indicate that reducing emotions to specific action tendencies is an over-simplified understanding of emotional

output in general. Moreover, reductionistic views of emotions do not readily explicate how positive affect is delineated and how positive affect impacts daily functioning. Considering the need to develop more flexible and holistic approaches to positive affect, Fredrickson (1998) formulated the broaden-and-build model.

The broaden-and-build model postulates that positive emotions expand individuals' thought-action repertoires in a way that enhances quality of life (Fredrickson, 2000b). In contrast to negative emotions, which tend to elicit mainly behavioral action tendencies (i.e., fight or flight responses), positive emotions trigger an increase in cognitive activity which then may or may not trigger more appropriate physical reactions to stimuli (Fredrickson, 1998). For example, Fredrickson (2000a) suggests that contentment is more cognitive than physical. She suggests contentment is a mindful emotion that increases awareness, openness, and insight, which in turn can help create new perspectives of the world (Fredrickson, 2000a). In this way, contentment may help an individual be more mindful of a specific situation, increasing the likelihood that the individual may use good judgment in making important decisions. Ultimately, these cognitive thought-action repertoires help build enduring personal resources (e.g., mindfulness) which can be long-lasting and retrieved later when needed (Fredrickson, 2000a) to ensure better behavioral functioning.

In addition, Fredrickson (2000b) proposes that the broadening of positive emotions can cause an individual to abandon their programmed behaviors as a means to explore more innovative and unique patterns of thoughts and actions. This pattern of expansion may create more options and creativity when encountering challenging circumstances. To this end, positive emotions have a complementary effect by broadening the range of physical, intellectual, social, and psychological resources an individual can draw upon, even during times of stress, conflict,

and crisis. Moreover, even a series of fleeting experiences with positive emotions can have a long-lasting impact on functionality (Fredrickson & Branigan, 2005). For instance, Garland and colleagues (2010) implicated transient episodes of positive emotions as integral pieces in how people construct a sense of resilience and well-being.

The tenants of the broaden-and-build theory have received extensive empirical support; particularly the link between the frequencies of positive emotions experienced and self-reports of positive outcomes. For example, estimates of positive affect have been indirectly and directly correlated with a wide range of psychosocial benefits associated with psychological well-being (Fredrickson, 2001; Fredrickson & Losada, 2005; Livingstone & Srivastava, 2012). To date, research has demonstrated that positive affect expands the scope of an individual's attention, cognition, and behavior as a means to diversify effective coping efforts, resolve and grow from difficult problems, and find homeostatic functioning despite stressful circumstances (Fredrickson & Branigan, 2005). Moreover, frequent experiences with positive affect have shown to increase creativity in a number of different life domains (e.g., social, academic/work, family; Isen, Daubman, & Nowicki, 1987).

Fredrickson (2001) indicates that positive affect is also linked to well-being indices such as activity engagement. Specifically, individuals who experience more positive affect also experience greater investment in and control over their environment. Furthermore, the interaction between positive affect and activity engagement has been found to lead to a greater accumulation of resources known to elicit higher levels of well-being, including self-esteem, social connectivity, and social support (Livingstone & Srivastava, 2012).

In addition, research demonstrates a direct link between positive affect and well-being. Fredrickson and Joiner (2002) generated prospective evidence that positive affect increases over

time and leads to a rise in emotional well-being. These researchers suggested that the accumulation of positive affect over time is associated with the experience of psychological well-being. More specifically, psychological broadening through positive affective output was found to increase resources (e.g., positive meaning making), which in turn led to increases in the experience and expression of well-being (Fredrickson & Joiner, 2002).

Similarly, Fredrickson (1998) suggested that the development of resilience is dependent upon the experience of positive affect. To date, a litany of empirical studies offer support for a strong connection between positive affect and resilience. In one study, researchers found evidence that positive affect predicted a practically significant amount of variance in self-reports of resilience (Fredrickson, Tugade, Waugh, & Larkin, 2003). Moreover, Cohn and colleagues (2009) tested whether positive affect was associated with resilient behaviors, particularly an individual's ability to adapt to change. These researchers found that positive affect was a unique predictor for growth in ego resilience as defined by individuals' desire and willingness to flourish when faced with difficult or trying challenges.

Considering the evidence examined, it is expected that positive affect will be directly related to the experience of resilience and well-being in the current study. However, researchers have suggested that the relationships between positive affect and positive psychological outcomes are complex (Fredrickson, 2000a). The complexity inherent within these relationships may require researchers to consider more delineated models of how positive affect is related to different positive outcomes. As a result, the current study will examine the positive affect-positive outcome relationships through an intervening variable: savoring.

## Mediation Modeling

Mediation models are analytical procedures that determine *how* or *why* a variable causes or relates to another variable (Frazier, Tix, & Barron, 2004). Researchers have defined a mediator as a mechanism that helps to explain the relationship between a predictor variable and the influences it may have on an outcome variable (Baron & Kenny, 1986). These models are becoming popular within research because they allow associations between variables to be broken down into simpler components in order to expose probable causal mechanisms (Shrout & Bolger, 2002).

When considering the indirect effects of multiple mediators, a multiple mediation model is used to determine *how* or *why* a predictor variable is associated with an outcome variable (Preacher & Hayes, 2008). One advantage in using a multiple mediation model is the inclusion of several mediators which allows the researcher to determine and compare the indirect effects that are associated with those mediators (Preacher & Hayes, 2008). Examining multiple mediators is a recommended practice, as predictor variables generally have robust and complex relationships with outcome variables; thus, multiple mediators are needed to explain the complexity inherent within a relationship. Research methods examining multiple mediators in one analysis instead of examining an individual mediator across multiple analyses lessens parameter bias (Preacher & Hayes, 2008). In essence, these models can help researchers further explain psychological phenomena through scientifically rigorous and practically meaningful procedures. Such practices are likely to extend and enhance theories pertaining to the development and maintenance of important psychological outcomes. Moreover, multiple mediation models offer clinicians the opportunity to obtain greater insights into the selection and implementation of certain intervention strategies in the treatment of mental health conditions.

The use of multiple mediation models can be extremely beneficial within research because of its convenience and precision when including multiple intervening variables (Preacher & Hayes, 2008). Given the importance of mediation, the current study will examine the relationship between positive affect and positive outcomes through multiple savoring indices.

### **Savoring**

Since the establishment of positive psychology, the field has steadily gained momentum through the exploration of emotion enhancing constructs (Hurley & Kwon, 2012). Additionally, researchers have begun to explore possible interventions aimed at increasing positive psychological outcomes and decreasing negative outcomes (Hurley & Kwon, 2012). One construct that has been labeled a positive psychological intervention is savoring. Savoring is the tendency for individuals to focus on and revel in past, present, and future events (Hurley & Kwon, 2013). More specifically, Bryant and Veroff (2007) define savoring as the process in which individuals “have capacities to attend to, appreciate, and enhance positive experiences in their lives” (p. 2).

Bryant (1989) suggests that savoring processes differ from one individual to another and these processes can be seen as a type of control over positive affect. In this sense, one can create, prolong, or intensify the enjoyment of positive experiences by one’s own will (Hurley & Kwon, 2013). Furthermore, when one savors, one is conscious of pleasure and can appreciate the experience of positive emotionality (Bryant & Veroff, 2007). While savoring involves the awareness of positive emotions and/or experiences, it cannot occur without a proactive stance toward and attendance to extending or enhancing positive affect (Bryant & Veroff, 2007).

Savoring is a new wave construct associated with positive psychology that has recently received some empirical validation. Overall, savoring has been found to be positively associated

to happiness, optimism, self-esteem, positive affect, and life satisfaction (Bryant, 2003; Hurley & Kwon, 2012). Additionally, savoring has been found to be negatively connected to depression, hopelessness, and neuroticism (Bryant, 2003; Hurley & Kwon, 2012). While most research has focused on coping strategies as a means to handle stress, there is a lack of research on processes in which individuals use to derive meaning out of their lives (Bryant & Veroff, 2007). According to Bryant and Veroff (2007), while coping mechanisms are used to avoid negative outcomes, the counterpart of coping, savoring, is used to extend and enhance growth experiences. This research is vital in furthering the field of positive psychology, bridging the gap within the research, and helping clinicians develop interventions to extend positive experiences and affect.

Furthermore, savoring can be valuable within the field of positive psychology because of the theoretical resemblances it has with other constructs (Hurley & Kwon, 2012). For example, savoring and mindfulness have similar theoretical underpinnings. Mindfulness is defined as consciously attending to, and being aware of, the present moment and current experiences (Brown & Ryan, 2003; Shapiro, Carlson, Astin, & Freedman 2006). Similar to savoring, mindfulness has been shown to be positively connected to increased well-being (Brown & Ryan, 2003) and negatively associated with symptoms of depression (Speca, Carlson, Goodey, & Angen, 2000). However, savoring differs from mindfulness in that the focus of savoring is restricted to stimuli that are associated with positive affect; therefore, the concept is more narrow than mindfulness (Bryant & Veroff, 2007). Additionally, the ultimate goal of mindfulness is to attend to and experience the present moment, whereas the goal of savoring is to intensify and extend positive affect (Hurley & Kwon, 2012). Overall, mindfulness components are inherent within the conceptualization of savoring as a construct; however, savoring has incremental value

in terms of understanding how individuals use mindfulness components with regard to extending experiences with up-regulating strategies (i.e., savoring).

Savoring can be broken down into multiple dimensions. Bryant (2003) first distinguished three broad savoring components: savoring through anticipation, savoring through reminiscing, and savoring the moment. Savoring through anticipation is defined as looking to future positive events in order to generate positive affect in the present (Hurley & Kwon, 2012). Individuals can savor ideas or thoughts of goals they may have and are working toward achieving, images of what they hope will happen in the future, or things they wish will happen in the future or in the present moment (i.e., fantasies; Bryant & Veroff, 2007). While some future-oriented images are concrete, often times the images or thoughts can be vague; therefore, individuals typically savor the feelings they may experience if they achieve their goals (Bryant & Veroff, 2007). Through anticipation, individuals must imagine and create events within their mind to experience up-regulation of positive emotions (Bryant & Veroff, 2007).

Savoring through reminiscing occurs when an individual looks into the past and appreciates the positive emotions that arise through nostalgia and meaningful memories (Hurley & Kwon, 2013). Memories of the past can occupy one's attention for long periods of time. Past experiences can be flexibly defined, in other words, savoring can occur with experiences that occurred many years or just minutes ago (Bryant & Veroff, 2007). Typically, when individuals savor through reminiscence, they are remembering the way they felt in the past, suggesting that savoring can be a process based on the recall and the enjoyment of positive emotions (Bryant & Veroff, 2007). When savoring the past, small and specific details of an event or relationship may be an important component to the savoring process (Bryant & Veroff, 2007).

The final component of savoring is savoring the moment which occurs when positive emotions and a positive experience are linked to the here-and-now (Hurley & Kwon, 2013). Within this dimension, one can amplify or extend positive emotions that are associated with a positive event through specific thoughts or behaviors (Bryant, 2003). For in the moment savoring to occur, individuals need to be attuned to the experience or process by which an event is stimulating positive emotions. Moreover, in the moment savoring requires individuals to use cognitive and behavioral strategies to impede the fleetingness of the positive emotional experience. Overall, in the moment savoring requires individuals to integrate their emotional, cognitive, and behavioral processes in a way that directs mindfulness toward the elongation of positive experiences occurring in the here-and-now (Bryant & Veroff, 2007).

### **Potential Mediator Effects**

According to Baron and Kenny (1986), identifying mediational effects should be a theoretically driven process. Specifically, when identifying potential mediators, researchers should pay significant attention to how research has described its relationships to the other components of the model (i.e., the predictor and outcome variables). Essentially, a viable mediator is based on whether there is theoretical or empirical evidence that suggests it has a stable relationship with the predictor and outcome variables. The following section will outline the theoretical and empirical evidence that links savoring experiences with positive affect and positive outcomes (i.e., resilience and well-being).

*Savoring and Positive Affect.* Research has suggested that savoring is positively associated with positive affect (Bryant & Veroff, 2007); however, there are only a few empirical studies providing evidence for this link. In a study by Hurley and Kwon (2013), it was determined that high levels of savoring, particularly savoring the moment, were associated with

high levels of positive affect. In light of these results, the researchers recommended use of savoring-based interventions in a clinical setting, particularly when individuals are experiencing few positive events (Hurley & Kwon, 2013). Jose and colleagues (2012) found similar evidence and suggested that savoring positive life events enhances positive mood and affect.

The few studies noting a direct link between savoring and positive affect are supplemented by other studies which offer indirect evidence for this relationship. Savoring has theoretical similarities to well-studied constructs such as mindfulness (Bryant & Veroff, 2007). In a study by Jimenez, Niles, and Park (2010), higher levels of mindfulness were associated with higher levels of positive affect. Additionally, one study indicated that the score for overall mindfulness correlated positively and significantly with positive affect (Mandal, Arya, & Pandey, 2012). Overall mindfulness within this study included five dimensions: observing, describing, acting with awareness, non-judgment of inner experience, and non-reactivity to inner experience (Mandal et al., 2012). Of the five dimensions, positive affect was correlated significantly with describing, non-reactivity to inner experience, and the overall total score (Mandal et al., 2012). These findings highlight indirect evidence for the relationship between savoring and positive affect.

*Savoring and Well-Being.* While there is little research on savoring and well-being, studies have demonstrated that the two constructs are associated. In a study by Bryant (2003), results indicated savoring was positively correlated to overall happiness and inversely associated with unhappy or neutral moods. Furthermore, research conducted by Ramsey and Gentzler (2014) produced evidence linking savoring and well-being. Results suggested savoring capacity, which measures an individual's perceived ability to savor, had the strongest association with subjective well-being when examined against predicted or recalled amounts of savoring.

Additionally, all three savoring strategies (savoring the moment, anticipation savoring, and reminiscing savoring) were strong contributors to participants' perceptions of well-being. Moreover, these researchers indicated that differing savoring strategies may capture unique variance in different estimates of well-being and that future research should consider the relationships between savoring dimensions and well-being independently (Ramsey & Gentzler, 2014).

Similar to positive affect, well-being has also been indirectly linked to over-arching savoring processes such as mindfulness techniques. Weinstein, Brown, and Ryan (2009) studied the effects of mindfulness on stress, coping, and well-being. Their findings suggested that mindfulness is strongly correlated to well-being. More specifically, they found mindfulness manifests in decreased levels of negative psychological symptoms and enhanced positive psychological experiences (Weinstein et al., 2009). In a study by Keune and Forintos (2010), similar results associating mindfulness to well-being were found. Results suggested that individuals who scored high on the Mindfulness Attention Awareness Scale (MAAS) also scored high on scales measuring well-being (Keune & Forintos, 2010). Additionally, well-being increased more for individuals who engaged in mindfulness more frequently and for longer periods of time (Keune & Forintos, 2010). These results offer additional support for the relationship between well-being and savoring.

*Savoring and Resilience.* According to Tugade and Fredrickson (2004), resilient individuals are capable of 'intelligently' accumulating positive affect in a way that reduces perceptions of stress. Tugade and Fredrickson (2007) further describe 'intelligently' as the process by which resilient individuals reflect on and attend to positive affect as a means of counteracting negative perceptions of stress and finding growth from the experience of adversity.

For example, resilient individuals may reminisce about past success, accomplishment, and triumph as a means to help minimize the impact of stress and confront future stressors with high coping self-efficacy. Tugade and Fredrickson (2007) acknowledge the importance of extending and enhancing positive affect centered on past experiences as a means to promote resilience. They also speculate that savoring may be an integral mechanism by which resilient individuals conjure and maintain focus on positive affect until adversity has either passed or been overcome. In this way, savoring may act as an important feature of how individuals activate resilient responses to adversity.

Unfortunately, no known studies have investigated the position that savoring is an integral factor in resilience activation. However, there are a handful of studies that suggest savoring processes are associated with resilience. Broadly, over-arching savoring based processes, such as mindfulness, have been shown to be related to antecedents of resilience activation (Brown & Ryan, 2003; Bryant & Veroff, 2007; Jimenez et al., 2010; Weinstein et al., 2009). For instance, savoring processes have been consistently related to positive re-appraisal (Beaumont, 2011), which is a hallmark feature of wise and resilient individuals (Bailey, Hannays-King, Clarke, Lester, & Velasco, 2013). Moreover, individuals high in savoring appear to process stressful circumstances in similar ways to those high in resilience. For instance, Camgoz (2014) found that individuals high in savoring were less likely to experience family-work conflicts. These results mirror the findings by Bernas and Major (2000) who demonstrated that resilient individuals reported fewer estimates of conflict associated with family and work life. Finally, savoring has been related to controlled processes, ones that are characterized by deliberate attempts to increase positive affect to aid coping efforts (Tugade, Devlin, & Fredrickson, 2014), often associated with high levels of resilience. For instance, individuals high

in savoring are more likely to smile, use healthy forms of humor, and share good news with others as a means to increase or prolong positive affect. These same controlled processes appear salient in resilient responses to adversity and stress (Kumpfer, 1999).

*Savoring as a Mediator.* While savoring is a fairly new construct, researchers have discussed it in the context of mediation. Bryant and Veroff (2007) proposed savoring can be used as a mediator between two different constructs. It is proposed that savoring is a viable mediator because savoring processes are suggested to play key roles in how people extend and enhance positive emotional experiences (Bryant, Chadwick, & Kluwe, 2011). The current study aims to draw an empirical connection between positive affect and positive outcomes (i.e., well-being and resilience) through indirect pathways: the savoring dimensions.

### **Current Study**

*Hypotheses.* Given the current literature, the hypotheses for the current study are: (a) positive affect will predict a significant amount of variance in resilience and well-being, (b) the linear combination of savoring strategies will predict a significant amount of variance in resilience and well-being, and (c) the linear combination of savoring strategies will at least partially mediate the relationships between positive affect and positive outcomes (i.e., resilience and well-being).

*Exploratory Analysis.* It is important that researchers examine positive psychological variables from multiple cultural contexts (e.g., rurality). However, due to the insufficient literature on rural differences, we cannot make any specific hypotheses on whether individuals from rural versus non-rural areas differ on reports of positive psychological variables. Thus, we will be conducting an exploratory analysis to determine if there are differences on reports of positive psychological variables between individuals from rural and non-rural areas.

## CHAPTER 3: RESEARCH METHODOLOGY

### Participants

Two hundred and eighty-nine participants were recruited through an undergraduate psychology participant pool. In regard to gender, 186 (64.4%) participants identified as a woman, and 101 (34.9%) participants identified as a man. One hundred and eighty-eight (65.1%) participants identified as European American, 63 (21.8%) identified as African American, 7 (2.4%) identified as Mexican American, 2 (0.7%) identified as Asian American, 24 (8.3%) identified as “Other”, and 2 (0.7%) identified as International. The mean age of the participants was 19.59 years. In terms of class standing, 134 (46.4%) were freshman, 83 (28.7%) were sophomores, 43 (14.9%) were juniors, and 28 (9.7%) were seniors. One hundred and twenty-nine (44.6%) participants indicated they were raised in rural communities, whereas 158 (54.7%) indicated they were raised in non-rural communities.

### Procedure

The current study recruited undergraduate students who were enrolled in psychology courses at Georgia Southern University. These students were recruited via SONA, which is a website that lists the available studies currently being conducted in the Department of Psychology. Students choosing this study were provided with a link that directed them to SurveyMonkey.com, which is a data collecting site that was approved and supported by the researcher’s dissertation committee. Upon entering SurveyMonkey.com, students were directed to complete an electronic informed consent. Since written signatures are not possible for online surveys, students indicated their consent by clicking a button that was labeled “I give my consent to participate” if they wished to continue with the survey. If students did not wish to continue

with their participation, they indicated so by clicking a button that was labeled “I do not give my consent to participate” and they were directed away from SurveyMonkey.com.

Students who volunteered to participate in the study were directed to a demographic questionnaire to provide information regarding their age, race, gender, etc. Next, participants responded to a set of randomized self-report surveys. Once the surveys were completed, participants were debriefed on the purpose and nature of the study. They were also provided with information on how to access free or low-cost mental health services. Lastly, participants were given instructions on how to receive credit for their participation in the study.

*Data Storage.* Initially, the data were stored on SurveyMonkey.com. Once the data were collected, the researcher retrieved it from the online site and then transferred the data to SPSS. Once this process was complete, the data were deleted from SurveyMonkey.com. The data transferred to SPSS will remain stored on a secure, password-protected hard drive for seven years stored in a locked file cabinet in the supervising researcher’s office.

## **Measures**

Participation in this study involved the completion of an online survey, which included the following measures: (a) the Positive and Negative Affect Scale (PANAS), (b) the Connor-Davidson Resilience Scale (CD-RISC), (c) the Ryff Scales of Psychological Well-Being (SPWB), and (d) the Savoring Beliefs Inventory (SBI). Demographic data were also collected. Demographic information of interest to this study includes: age, sex, ethnicity, marital status, sexual orientation, college classification, and community setting of the participants. Regarding rurality, participants self-reported whether they grew up in or were currently living in a rural versus non-rural community setting. Rural status was guided by participants’ self-reports of

where they were reared, where they are currently living, and hometown zip codes. Completion time for the survey was approximately 40 minutes.

**Positive and Negative Affect Scale (PANAS; Watson et al., 1988).** The PANAS is a two-scale, 20-item self-report instrument used to measure the extent an individual experiences positive or negative emotions (Burger & Caldwell, 2000). Each item is rated on a 5-point Likert scale ranging from 1 (not at all) to 5 (extremely) (Isik, 2012). Scale scores of positive and negative affect are combined to create the total scale score; therefore, the possible range of total scores is from 20 to 100 (Isik, 2012). Instructions for the test can vary to assess affect within a specific time frame, which can range from the present moment to the past year (Burger & Caldwell, 2000). Within this study, participants will be asked to indicate the extent they have felt specific emotions within the last month. The PANAS has been found to have good internal consistency estimates in regard to positive affect and negative affect ( $\alpha = .86$  and  $.87$ , respectively; Watson et al., 1988). Similar estimates have been found in college student samples (Burger & Caldwell, 2000). Additionally, the PANAS has demonstrated excellent construct validity with other affective measurements (Watson et al., 1988). In the current study, the internal consistency score for this measure was acceptable ( $\alpha = .88$ ).

**Connor-Davidson Resilience Scale (CD-RISC; Connor & Davidson, 2003).** The CD-RISC is a 25-item self-report instrument measuring the ability to cope with adversity (Connor & Davidson, 2003; Hartley, 2010). Each item is rated on a 5-point Likert scale ranging from 0 to 4 (*not true at all, rarely true, sometimes true, often true, and true nearly all the time*; Connor & Davidson, 2003). Participants base their responses on how they have felt over the past month (Connor & Davidson, 2003). The total score ranges from 0-100, with higher scores indicating greater reported levels of resilience (Connor & Davidson, 2003). The CD-RISC has been found

to have adequate internal consistency estimates in college student samples ( $\alpha = .92-.94$ ; Hartley, 2010). In addition, the CD-RISC has demonstrated excellent construct validity with other measures of resilience (Hartley, 2010; Connor & Davidson, 2003). In the current study, the internal consistency score for this measure was acceptable ( $\alpha = .92$ ).

**Ryff Scales of Psychological Well-Being (SPWB; Ryff, 1989).** The SPWB is a self-report instrument used to measure different aspects of positive functioning and well-being (Ryff, 1989). The original instrument consists of six dimensions, with 14 (84 items total) items in each dimension (Kafka & Kozma, 2002). The six dimensions include self-acceptance, positive relations with others, autonomy, environmental mastery, purpose in life, and personal growth (Ryff, 1989). Total scores can also be used and will be the focus of the current study. Respondents rate themselves on a 6-point Likert scale ranging from strongly disagree to strongly agree (Ryff, 1989). Total scores can range from 0-504, with higher scores indicating greater well-being (Ryff, 1989). Internal consistency scores range from .86 to .93 (Ryff, 1989). Additionally, the SPWB has been found to correlate positively with other measures of well-being, indicating suitable construct validity (Kafka & Kozma, 2002). In the current study, the internal consistency score for the SPWB was acceptable ( $\alpha = .87$ ).

**Savoring Beliefs Inventory (SBI; Bryant, 2003).** The SBI is a 24-item self-report instrument used to measure belief patterns associated with enhancing positive experiences (Bryant, 2003). There are three dimensions of savoring assessed within the measure: anticipating, reminiscing, and savoring the moment (Bryant, 2003). Each dimension contains 8 items and total scores could range from -72 to +72 (Bryant, 2003). Respondents are asked to rate their agreement to each statement on a 7-point Likert scale ranging from (1) strongly agree to (7) strongly disagree (Bryant, 2003). Higher scores indicate a greater propensity to enhance positive

affect. Bryant (2003) conducted five studies on college samples and found the internal consistency to range between .88 to .90 for the total score. Research examining the psychometric properties for the three dimensional scores indicate sufficient internal consistency for anticipating ( $\alpha = .68-.83$ ), savoring the moment ( $\alpha = .68-.78$ ), and reminiscing ( $\alpha = .75-.84$ ; Bryant, 2003). Additionally, the three subscale scores demonstrate excellent construct validity with other measures of positive psychology (Bryant, 2003). In the current study, the internal consistency scores for the SBI were acceptable: anticipating ( $\alpha = .84$ ), savoring the moment ( $\alpha = .85$ ), and reminiscing ( $\alpha = .85$ ).

### **Statistical Analysis**

Numerous analytical procedures were implemented within this study. First, a MANOVA was analyzed to determine if rural versus non-rural individuals reported differences on positive affect, savoring dimensions, and positive psychological outcomes (i.e., well-being and resilience). Secondly, bivariate correlations were analyzed to determine if significant univariate relationships exist among the study's variables. Lastly, mediation models were constructed and analyzed to determine if savoring dimensions mediate the relationship between positive affect and positive psychological outcomes (i.e., well-being and resilience).

Mediation models were analyzed using Preacher and Hayes' (2008) multiple imputation macro model. There are numerous advantages in using multiple mediated models. For instance, multiple mediation models employ bootstrapping methods as a mean of generating significant effects. Bootstrapping is a resampling procedure that does not enforce the assumption of normality of a sampling distribution (Preacher & Hayes, 2008). The bootstrapping method involves repeatedly sampling from the data set and then uses the resampled data set to estimate indirect effects. Through this repeated process, an estimation of the sampling distribution is built

to create confidence intervals used to determine significance of the indirect effects (Preacher & Hayes, 2008). Researchers recommend the use of bootstrapping over more traditional approaches because it has higher power and is able to sustain control over the Type I error rate (Mackinnon, Lockwood, Hoffman, West, & Sheets, 2002).

In addition, multiple mediation models allow researchers to evaluate contrast effects between potential mediation effects. By including multiple mediators within one model, researchers can compare and contrast the magnitude of the effects that are associated with each mediator (Preacher & Hayes, 2008). In this way, researchers are able to test the suitability of competing theories within a specific context and potentially glean practically important insights into the prevention and treatment of specific psychological conditions. Mediation models were analyzed using a 10,000 bootstrap sample, as recommended by Shrout and Bolger (2002). Significant mediated effects were determined by biased corrected confidence intervals; specifically, if zero was not between the lower and upper intervals, a significant effect is said to exist.

## CHAPTER 4: RESULTS

### Preliminary Analyses

A multivariate analysis of variance (MANOVA) was conducted in order to determine whether there are differences in self-reported experiences of positive affect, anticipation savoring, reminiscing savoring, savoring in the moment, resilience, and well-being between individuals from rural and non-rural geographic areas. Results did not reveal a significant overall effect for rurality ( $\lambda(6, 278) = .573, p > .01, \eta^2 = .012$ ). Follow-up ANOVAs were analyzed to determine rural differences on each of the study's variables. Non-significant main effects were revealed for anticipation savoring ( $F(1, 283) = 1.417, p > .01, \eta^2 = .005$ ), reminiscing savoring ( $F(1, 283) = 0.721, p > .01, \eta^2 = .003$ ), savoring in the moment ( $F(1, 283) = 1.141, p > .01, \eta^2 = .004$ ), positive affect ( $F(1, 283) = 0.898, p > .01, \eta^2 = .003$ ), resilience ( $F(1, 283) = 2.641, p > .01, \eta^2 = .009$ ), and well-being ( $F(1, 283) = 0.668, p > .01, \eta^2 = .002$ ). Overall, these results indicate that individuals from rural areas report comparable levels of positive affect, well-being, resilience, and savoring beliefs to individuals from non-rural areas (see Table 1).

### Bivariate Correlations

Bivariate correlations were conducted to determine the relationships among positive affect, savoring strategies, well-being, and resilience. These results are presented in Table 2. As expected, positive affect was positively correlated with well-being and resilience. Additionally, consistent with expectation, all three savoring dimensions were positively correlated with reports of resilience and well-being. These results suggest that students who endorse high levels of savoring report greater levels of well-being and resilience.

## Mediational Modeling

Two mediation models were analyzed in this study. The first mediation model examined the indirect effects of the three savoring dimensions on the relationship between positive affect and resilience (see Figure 1). The second mediation model examined the indirect effects of the three savoring dimensions on the relationship between positive affect and well-being (see Figure 2).

In the first mediation model, Preacher and Hayes' (2008) multiple mediation approach was implemented. Results revealed a significant direct and positive relationship between positive affect and resilience (Figure 1; labeled  $c$ ),  $b = 1.03$  (SE = .09),  $t = 11.37$ ,  $p < .01$ . As was expected, this result indicates that increased positive affect is associated with greater reported levels of resilience. Next, the indirect (mediated) effects of savoring strategies (reminiscing savoring, savoring in the moment, and anticipation savoring) were examined on the positive affect-resilience relationship.

When considering all three mediators, the unstandardized relationship between positive affect and resilience decreased from 1.03 to .67 (i.e., the latter being labeled  $c'$  in Figure 1). The effect remained significant,  $t = 6.71$ ,  $p < .01$ , indicating partial mediation. This result suggests that savoring strategies appear to be important in explaining the covariance between positive affect and resilience, though other variables may be equally or more important.

We then tested for the possibility that individual mediators were significant within the model. Table 3 displays the results for the multiple mediation analysis. This table contains a number of non-parametric statistics to help evaluate the unique indirect effect for each savoring dimension in the model. Specifically, estimates of the effect, the lower and upper bounds for the 99% bias corrected confidence intervals, and the 99% bias corrected and accelerated confidence

intervals were calculated for each independent savoring dimension. It is important to note that if the 99% confidence intervals for the bootstrapped estimate do not contain zero, the mediator is significant at  $p \leq .01$ . The mediational effect for savoring in the moment was statistically significant,  $b = .33$ ;  $SE = .09$ ; 99% BCA Confidence interval: 0.125 – 0.590. Savoring in the moment was the only savoring dimension to mediate the relationship between positive affect and resilience.

The second mediation model also used Preacher and Hayes' (2008) multiple mediation approach and found a direct, positive relationship (Figure 2; labeled  $c$ ) was revealed between positive affect and well-being,  $b = .94$  ( $SE = .08$ ),  $t = 11.61$ ,  $p < .01$ . This result indicates that increased positive affect is associated with greater reported levels of well-being, which was expected. Next, the indirect (mediated) effects of savoring strategies were examined on the positive affect-well-being relationship.

When considering all three mediators in this analysis, the unstandardized relationship between positive affect and well-being decreased from .94 to .48 (i.e., the latter being labeled  $c'$  in Figure 2). The effect remained significant,  $t = 5.76$ ,  $p < .01$ , indicating partial mediation. This result suggests that savoring strategies appear to be important in explaining the covariance between positive affect and well-being. However, other variables may be equally or more important in explaining the covariance between these variables.

Lastly, we tested for the possibility that individual savoring dimensions could uniquely mediate the relationship between positive affect and well-being. Table 4 displays the results for the multiple mediation analysis. The mediational effect for savoring in the moment was statistically significant,  $b = .38$ ;  $SE = .07$ ; 99% BCA Confidence interval: 0.210 – 0.588. These results provide empirical evidence for the position that savoring in the moment is the most

important dimension of all studied in explaining how positive affect is associated with well-being.

## CHAPTER 5: DISCUSSION

### Review of Purpose

The overarching purpose of this study was to advance positive psychological theory regarding pathways to promote resilience and well-being. This study aimed to identify processes that may assist in the development and enhancement of resilience and well-being. To accomplish this goal, the following questions were empirically examined: (a) does positive affect predict variance in resilience and well-being?, (b) does the linear combination of savoring strategies predict variance in resilience and well-being?, and (c) does the linear combination of savoring strategies mediate the relationship between positive affect and positive psychological outcomes (i.e., resilience and well-being)?

### Rural Differences

A major emphasis within this study was to determine if there were differences on reports of positive psychological variables between individuals from rural and non-rural areas. Results suggest that individuals from rural and non-rural areas report comparable levels of positive affect, savoring strategies, resilience, and well-being. These results are inconsistent with the findings of Notter et al. (2008), who suggested that geographic location can limit individual opportunities and resources needed to achieve resilience and well-being.

Few known studies have directly examined rural differences in specific positive psychological variables, so it is difficult to identify why these results are inconsistent with previous findings. However, one explanation may be the sample used in the current study. Specifically, college students who live on campus may experience a unique shift in cultural dynamics. For instance, college students often have immediate access to health care and are provided with ample opportunities to socialize with a diverse array of individuals. Such

resources may not be easily identified and activated in rural populations. Because college engenders a unique cultural dynamic, individuals residing on college campuses are required to adapt, which may include changing their cultural perceptions, values, and identity. To further examine if rural differences exist on reports of positive psychological variables, future researchers may want to examine these questions using a sample that better reflects the distinct cultural dynamics of both rural and non-rural areas.

### **Savoring Strategies and Positive Psychology Outcomes**

Within the current study, savoring strategies were positively related to positive psychological outcome variables (i.e., resilience and well-being). These results are consistent with previous research findings of Livingstone and Srivastava (2012), where findings indicated that savoring can create enduring positive emotions, outcomes, and benefits for an individual. These preliminary results suggest that savoring may be important in understanding the process of resilience and well-being development. However, more research is needed to clarify the role of savoring in generating uplifts in these outcomes.

The nature of this study is correlational and therefore, we cannot determine if savoring strategies promote positive psychological outcomes such as resilience and well-being. To determine a causal relationship between these variables, future research would need to implement an experimental design. Using a pre-post intervention design, researchers could develop different savoring conditions based on the three different savoring strategies and compare them to a control condition to determine whether individuals who engaged in the savoring conditions reported significant increases in resilience and well-being when compared to individuals in the control group. Identifying a causal relationship between savoring and positive psychological outcomes may be advantageous for mental health professionals working with

individuals who have difficulty overcoming stress and generating positive psychological resources. For instance, if savoring strategies can be shown to promote resilience and well-being, such strategies could be employed with individuals reporting depressive and anxious symptoms as a means to expedite symptom remission and protect against symptom relapse.

We were also unable to determine if one savoring strategy (i.e., reminiscing savoring, savoring in the moment, or anticipation savoring) was more predictive, when compared to the others, of resilience and well-being. It may be important for future research to determine which savoring strategy will be the most effective to implement given different therapeutic contexts. For instance, would it be beneficial to employ reminiscence savoring versus savoring in the moment for an individual with a diagnosis of a substance use disorder? Essentially, our research was not designed to uncover specificity with regard to savoring strategies and outcome match. It is quite possible that one savoring strategy may be important in reducing, altering, or enhancing unique psychological outcomes when compared to other savoring strategies. Future research needs to account for specificity in the relationships between savoring strategies and different psychological outcome variables. Implementing longitudinal designs that consider the antecedent effects of all three savoring strategies in the prediction of a diverse array of psychological outcomes will provide opportunities for researchers to compare the strength of the relationships between savoring strategies and theoretically relevant outcomes.

Finally, this study did not consider ethnic, gender, or sexual minority differences in how savoring strategies relate to positive psychological outcomes. Some researchers suggest that savoring strategies vary by cultural context (Bryant, 2003). As a result, it is important for future research to consider how savoring strategies create and enhance pathways to increased resilience and well-being for individuals who belong to unique cultural groups.

## Mediation Modeling

The results indicate that savoring dimensions partially mediated the relationships between positive affect and different positive psychological outcomes. Examining contrast effects between the savoring dimensions resulted in a clearer picture of the mediated effect. Specifically, savoring in the moment was highlighted as the best suited dimension to explain the relationships between positive affect and positive psychological outcomes. Savoring in the moment is a strategy that can be utilized to enhance and sustain positive experiences and emotions as they happen (Bryant & Veroff, 2007; Peterson, 2013). For example, a student receives a good grade on a test which elicits a range of positive emotions. By increasing mindful awareness of these emotions, the student can extend the positive experience surrounding this event and in turn enhance the possibility for positive psychological outcomes such as resilience and well-being. Overall, savoring in the moment requires individuals to be mindful of their positive emotions and to avoid distractions that may detract from the meaningfulness and the celebratory process that is often associated with accomplishments or success.

Our results highlight savoring in the moment as an important mechanism to explain how positive emotions can potentially lead to increased levels of positive psychological outcomes (i.e., resilience and well-being). According to the broaden-and-build theory of positive emotions (Fredrickson, 1998), the experience of positive emotions does not necessarily lead to higher levels of resilience and well-being. Instead, the broaden-and-build theory suggests that people must proactively use strategies that prolong and enhance positive emotional experiences to ensure that such emotional experiences contribute to higher levels of resilience and well-being. Savoring in the moment may be one of the mechanisms that help link the experience of positive emotions to the enhancement of resilience and well-being. Essentially, being mindful of positive

emotions and avoiding distracting thoughts that may detract from the positive experience may be an important pathway by which positive emotions leads to increases in resilience and well-being. Given this, future researchers should employ experimental designs to determine (a) if and how savoring in the moment strategies prolong and/or enhance positive emotions, and (b) if employing savoring in the moment strategies are helpful in strengthening the relationship between positive emotional experiences and resilience/well-being development. Some specific savoring in the moment strategies that seem important in strengthening the link between positive emotions and resilience/well-being include sharing the moment with others (e.g., utilizing social support to augment positive well-being), congratulating oneself (e.g., praising oneself in response to a positive event), behavioral expression (e.g., outwardly expressing inner positive emotions through laughing), or absorption of the moment (e.g., becoming cognitively immersed in an ongoing positive event as it occurs; Bryant & Veroff, 2007).

While savoring in the moment may be an important mechanism, it only partially mediated the relationships between positive affect and different positive psychological outcomes. Partial mediation implies that other factors, such as hope, may be equally important in explaining the relationship between positive affect and positive psychological outcomes. Hope is defined as being a cognitive process in which individuals plan and execute the pursuit of goals surrounding various life domains and relationships (Feldman & Kubota, 2015). These goals may be anything an individual yearns to experience, create, or have and they depend on the belief or expectancy that they can be achieved (Feldman & Kubota, 2015; Snyder et al., 1991). Previous research has linked hope to positive psychological outcomes such as positive affect, resilience, and well-being (Avey, Wernsing, & Mhatre, 2011; Ciarrochi, Heaven, & Davies, 2007; Reis & Hoppe, 2015.) Given these relationships, it is recommended that future research examine the mediating effects

of hope in explaining the relationships between positive affect and different positive psychological outcomes.

### **Clinical Implications**

Overall, the results of this study suggest that helping students activate savoring may contribute to higher levels of mental health. Research indicates that increased levels of resilience and well-being can enhance an individual's quality of life. Through the use of savoring strategies, individuals can experience a range of benefits that may bolster a sense of personal strength, reinforce positive identity growth, and buffer against prolonged emotional turmoil.

If savoring strategies promote more positive psychological outcomes, researchers and clinicians should focus on the activation of savoring skills in a therapeutic context. Bryant and Veroff (2007) suggested a range of activities that could be utilized to activate savoring. The activities can be either cognitive or behavioral in nature and can be automatically employed to extend positive experiences or emotions.

One of those activities involves seeking out one's social support to share a positive experience or process positive emotions that result from an event (Bryant & Veroff, 2007). This could be a particularly valuable strategy for college students because of the importance of peer and social processes in generating positive psychological outcomes. Specifically, seeking out others to share positive experiences with can be seen as a strength-building strategy which can lead to decreased stress and enhance one's positive affect (Bryant & Veroff, 2007). Through decreasing stressors and broadening positive emotions by sharing positive experiences with others, individuals may be able to build and sustain well-being. The accumulation of positive affect and well-being may also lead to the creation of other positive psychological resources (e.g., happiness, life satisfaction, self-acceptance).

Another savoring activity that is more cognitive in nature is counting blessings, which is reminding oneself of one's prosperity and luck (Bryant & Veroff, 2007). This form of savoring requires an individual to focus on what they are grateful for, then link their gratitude with the sources of their blessings (Bryant & Veroff, 2007). There are a range of positive outcomes that can occur from this type of reflection and one of those may be resilience. Through counting blessings, individuals can be reminded of the positive aspects of their lives, which may include specific events, memories, emotions, or social support. When stressful experiences occur, focusing on those blessings may build resilience over time. Once resilience increases, it can then be activated to enhance one's ability to recover and grow from negative emotional experiences.

### **Limitations**

One of the limitations of the current study involves the lack of external validity. The sample was comprised primarily of European-American, heterosexual, young adults. The sample does not include a large number of ethnic or sexual minorities or non-traditional college students. Consequently, the results of this study cannot be generalized to a number of culturally diverse populations. Future research should re-analyze these questions with a more diverse sample to increase external validity.

Another limitation of this study was the nature of the design. Specifically, the design was correlational, which cannot allow for implications of a causal relationship between the variables. In order to examine causation, future studies should utilize experimental designs. Moreover, all of the data were derived in an online survey format which is highly suggestible to social desirability and demand characteristics (Mitchell & Jolley, 2007). As a result, future researchers may benefit from reanalyzing these variables through the use of more objective and behavioral measures.

A third limitation within this study involves the ordering effects of the model. The current study utilized a prescribed order by which the relationships of the variables were examined: positive affect was the predictor variable, savoring strategies were mediating variables, and resilience and well-being were outcome variables. This order was based on theory; however, restricting variables to one place within a model can limit how researchers interpret the inner-relationships among the variables. For instance, savoring strategies might be better suited as a predictor (instead of a mediator) in a model to predict resilience or well-being. Future research may want to enter the variables freely in structural equation modeling designs to compare relative and absolute fit amongst different models. By doing so, we may be able to obtain more accurate and powerful insights with regard to the order by which these variables relate to one another.

### **Overall Conclusions**

The purpose of the current study was to highlight pathways that promote increases in resilience and well-being. Prominently, we found that positive affect was both directly and indirectly related to resilience and well-being. Additionally, results revealed savoring in the moment partially explained the link between positive affect and both positive psychological outcomes. Our results explicated possible pathways by which positive emotions can contribute to resilience and well-being. Future research should examine these pathways more rigorously through experimental designs. Such investigations will help clinicians' select positive psychological interventions that can increase remission rates and decrease future relapse for a number of psychological conditions.

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Table 1

*Means, Standard Deviations, and Minimum and Maximum Scores for Positive Affect, Anticipation Savoring, Savoring in the Moment, Reminiscing Savoring, Resilience, and Well-Being in Rural and Non-Rural College Students*

Variables (N)	Mean (SD)	Min-Max Scores
<b>Rural</b>		
Positive Affect (n = 162)	35.00 (7.31)	10.00 – 50.00
Anticipation Savoring (n = 162)	41.56 (7.89)	20.00 – 56.00
Savoring in the Moment (n = 162)	40.98 (8.71)	14.00 – 56.00
Reminiscing Savoring (n = 162)	43.36 (8.04)	17.00 – 56.00
Resilience (n = 161)	95.14 (14.35)	50.00 – 124.00
Well-Being (n = 160)	80.70 (12.99)	36.00 – 107.00
<b>Non Rural</b>		
Positive Affect (n = 190)	34.25 (7.12)	14.00 – 50.00
Anticipation Savoring (n = 190)	40.58 (7.85)	21.00 – 56.00
Savoring in the Moment (n = 190)	39.91 (8.36)	16.00 – 56.00
Reminiscing Savoring (n = 190)	42.47 (7.61)	26.00 – 56.00
Resilience (n = 190)	92.88 (13.72)	55.00 – 125.00
Well-Being (n = 190)	78.91 (12.50)	43.00 – 107.00

Table 2

*Inter-correlations among Measures of Resilience, Well-Being, Positive Affect, Anticipation Savoring, Savoring in the Moment, and Reminiscing Savoring for College Students Attending a University.*

Variables	Res	W-B	P-A	SavAnt	SavMom	SavRem
Res	---	.679**	.557**	.382**	.555**	.405**
W-B		---	.566*	.506**	.666**	.507**
P-A			---	.364**	.534**	.391**
SavAnt				---	.651**	.671**
SavMom					---	.691**
SavRem						---

Note: \*\* Correlation is significant at the .01 level (2-tailed).

Resilience (RES), Well-Being (W-B), Positive Affect (PA), Anticipation Savoring (SavAnt), Savoring in the Moment (SavMom), Reminiscing Savoring (SavRem)

Table 3

*Multiple Mediation Results for Savoring Strategies on the Relationship between Positive Affect and Resilience*

	Effect	BC 99% CI		BCA 99% CI		
		Lower	Upper	Lower	Upper	
Indirect Effects						
Savor Ant.	.0132	-.0934	.1282	-.0961	.1262	
Savor Mom.	.3342	.1201	.5824	.1249	.5896	
Savor Rem.	.0115	-.1264	.1550	-.1234	.1562	
TOTAL	.3589	.1871	.5668	.1861	.5643	
Contrasts						
Savor Ant. minus Savor Mom.	-.3210	-.6202	-.0490	-.6263	-.0555	
Savor Ant. minus Savor Rem	.0017	-.2066	.1975	-.2133	.1909	
Savor Mom. minus Savor Rem	.3227	.0336	.6574	.0365	.6609	

\*\* Note: BC refers to Bias Corrected. BCA refers to Bias Corrected and Accelerated. We used 10,000 bootstrap samples.

Table 4

*Multiple Mediation Results for Savoring Strategies on the Relationship between Positive Affect and Well-Being*

	Effect	BC 99% CI		BCA 99% CI		
		Lower	Upper	Lower	Upper	
Indirect Effects						
Savor Ant.	.0656	-.0290	.1948	-.0259	.2010	
Savor Mom.	.3811	.2060	.5860	.2095	.5883	
Savor Rem.	.0210	-.0987	.1508	-.1110	.1437	
TOTAL	.4676	.3155	.6497	.3153	.6492	
Contrasts						
Savor Ant. minus Savor Mom.	-.3155	-.5472	-.0834	-.5462	-.0834	
Savor Ant. minus Savor Rem	.0446	-.1457	.2438	-.1329	.2628	
Savor Mom. minus Savor Rem	.3601	.1182	.6447	.1271	.6590	

\*\* Note: BC refers to Bias Corrected. BCA refers to Bias Corrected and Accelerated. We used 10,000 bootstrap samples.

Figure 1. *The Direct and Indirect Effects of the Relationship between Positive Affect and Resilience.*

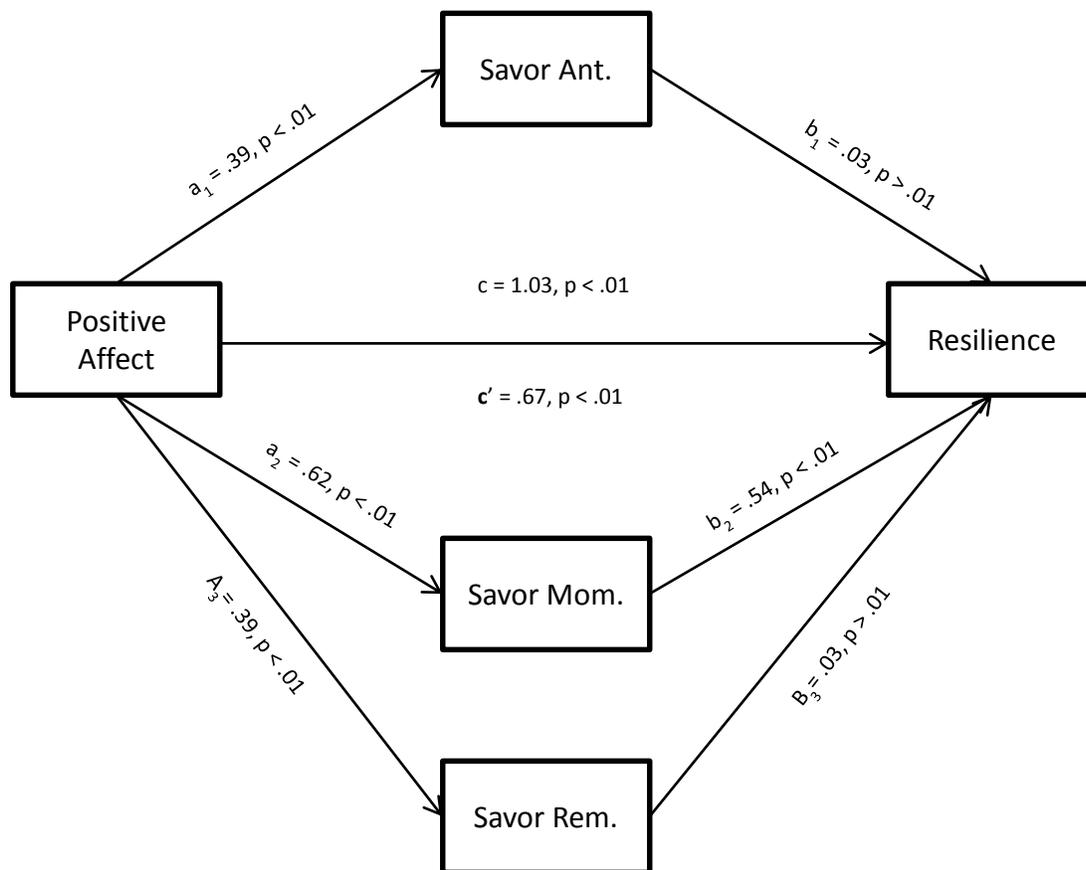


Figure 2. *The Direct and Indirect Effects of the Relationship between Positive Affect and Well-Being.*

