**Paragraph on scale development and implications for these scales that are published. Add s**

**stuff in on scale structure, psychometric data, etc. This is a general paragraph**

Scale development typically begins with an underlying latent construct of interest to the researcher (DeVellis citation). (Olson 2010 citation) suggests compiling a list of items thought to represent the construct of interest. These items are generally evaluated by experts in the specified area. After eliminating problematic questions, data are collected and examined through classical test methods, specifically exploratory and confirmatory factor analysis (EFA; CFA; Worthington citation). EFA examines correlations between items. Specific items will correlate to form factors, or psychological constructs. Unfortunately, some researchers will make questionable decisions in the process of conducting factor analyses that may lead to misinterpreted measures and drastic clinical implications (mainly, an inability of a measure to actually measure what it is supposed to measure, which could lead to misdiagnosed or incorrectly diagnosed patients. If we use measures as a supplement to therapy, like meaning in life measures, then they could inhibit our ability to enhance therapy). Specifically, Preacher & MacMallum showcase common mistakes made in conducting factor analyses and how they could be avoided. Specifically, researchers will mistakenly use Principal Components Analysis (PCA) and will keep eigenvalues that are greater than 1. Additionally, they use varimax rotation (Kaiser, 1970). Initially, EFA examines factor loadings in order to examine how well items correlate with a latent construct(s). When adequate factor loadings (> .300) have been achieved for each item, CFA assesses model fit by means of fit statistics (cite whoever came up with the .300 criteria). Scales demonstrating adequate model fit are then published for use in psychological assessment. Obviously, scale development is crucial and of utmost importance in accurately measuring constructs of interest.

**MGCFA paragraph – figured we could add this here or in the methods section. Kind of summarizing MGCFA, why it is important for researchers, what implications it has for measures, etc.**

A topic of interest to many researchers is whether or not measures yield different results when conducting identical factor analyses across groups. Generally, it is necessary to examine whether or not the psychometrically-supported factor structure holds across different groups. This is done by examining measurement invariance, which tells us whether or not our measure will yield the same attributes across such groups (Beaujean, 2014).

**Why meaning in life is hotly debated and what needs to be done**

Individuals generally experience at least one traumatic event throughout the course of their lifetime (Breslau, Peterson, Poisson, Schultz, & Lucia, 2004; Copeland, Keeler, Angold, & Costello, 2007; Kessler, Sonnega, Bromet, Hughes, & Nelson, 1995). As such, a topic of interest to many researchers is examining responses to traumatic events in order to examine variability in response and clinical implications. For example, some individuals will develop clinical disorders such as Posttrauamtic Stress Disorder (PTSD; Hamblen, Barnett, & Norris, 2012; Williams, McDevitt-Murphy, Fields, Weathers, & Flood, 2011).

According to Frankl (1984), meaning in life occurs when an individual accomplishes personal goals, has positive interactions with others, or experiences meaningful interactions with art and/or nature. What, then, is meaning in life and why is it important? Ryff & Singer (1998) consider meaning to be the dedication of time to achieving personal goals of importance. Battista & Almond (1973) consider meaning in life to be related to a sense of “coherence.” Other definitions, such as that of Crumbaugh & Maholick (1964) define meaning in life as “the ontological significance of life from the point of view of the experiencing individual.” As evidenced by the numerous definitions presented, a coherent, collectivistic definition of meaning in life seems to be lacking. This is not to say, however, that the construct of meaning is unimportant (Steger et al., 2006).

Naturally, researchers have examined the construct of meaning in life in various ways, as evidenced by opposing definitions mentioned above and the great number of scales factor analyzed in this study. Typically, questionnaires of this nature rely on a subjective participant understanding of the construct. The Meaning in Life Questionnaire (MLQ citation), for example, asks various questions regarding participant perception of whether or not their life has meaning. To provide an example, one question on the MLQ posits the following statement: “I understand my life’s meaning.” Thus, such measures have been criticized for their lack of subjectivism in soliciting participant/client responses (Dyck, 1987; Frazier, Oishi, & Steger, 2003; Garfield, 1973; Klinger, 1977; Yalom, 1980). Additionally, meaning-based measures tend to highly correlate with other empirically-supported constructs. For example, Clark & Watson (1995) found that examined items relating to suicide and how they correlated with meaning in life. They found that meaning in life correlated with neuroticism, which may provide evidence for the lack of uniqueness of questions on meaning in life scales. Unfortunately, however, researchers have struggled to answer foundational questions regarding meaning in life (Steger et al., 2006). Further, Steger and colleagues argue that more effective measurements will better help researchers to understand such constructs, specifically, meaning in life.

In examining factor structures of meaning in life measures, Chamberlain & Zika (1988) analyzed the factor structures of three meaning in life measures: Purpose in Life test (PIL), Life Regard Index (LRI), and the Sense of Coherence Scale (SOC). Specifically, this study recruited women with young children in an attempt to examine factor structures of the three aforementioned measures. Analyses did not suggest an underlying general factor. However, an important limitation in this study that needs to be addressed is possible differences across groups in measuring meaning in life. Chamberlain & Zika (1988) claim that meaning in life may be different for women. Then, they examine different studies conducted that have looked at gender-based differences (PIL; Meier and Edwards, 1974; Reker and Cousins, 1979; Shape and Viney, 1973). It is necessary to further examine group-based differences to identify poor items in meaning in life measures.

**Goals paragraph**

Goal – to examine random/not random fac structures and see how the models hold

Provide a more collectivistic view of the literature surrounding group-based differences.