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WHY WORRY?

IMPACTS ON THE QUANTITIES AND QUALITIES OF WORRY:

AN EXAMINATION OF FAITH, MEANING, AND NEED SATISFACTION

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AN EXAMINATION OF FAITH, MEANING, AND NEED SATISFACTION

A DISSERTATION APPROVED FOR THE
DEPARTMENT OF EDUCATIONAL PSYCHOLOGY

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This is dedicated to all those whose worries rob them of peace. It is my hope that this work might help someone to live life more fully and freely. Having it complete will certainly help me to do so.

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Abstract

Pathological worry is a primary component of Generalized Anxiety Disorder and a routine concern treated in most modern-day counseling offices and clinics. The intended purpose of the current study was to seek out evidence of possible antidotes or protective factors to pathological worry. The primary focus began with the concept of faith as a correlate to meaning in life, meaning being understood as the antithesis of despair (despairing being synonymous with worrying at pathological levels). As an attempt at providing an explanation for what comprises the differing levels of faith development, the constructs of basic psychological needs (autonomy, competence, and relatedness) and spiritual transcendence were included in the study.

It was hypothesized that basic psychological needs would vary according to faith stage and that these differing combinations of need satisfaction would predict the content and quantity of one's worries. It was also hypothesized that meaning in life and spiritual transcendence would be uniquely represented by faith development stage and that these constructs would also contribute to the quantity and content of one's worry. It was found that some, but not all, psychological needs significantly predicted worry. Surprisingly, faith development, according to scores on the current scale used, negatively correlated to worry, such that higher levels of worry were found at lower levels of faith development. Presence of meaning in life was also found to negatively correlate with worry.

Chapter 1: Problem Statement

This study is seeking to explore the possible relationship between two constructs that have pervaded the course of human history, worry and faith. While religiosity is a construct that has been operationalized and explored, though it would seem in somewhat superficial ways (attendance, religious affiliation, etc.), the concept of faith explored here should not be confused with this notion of religiosity. Faith, understood for the context of this study is an active, dynamic construct centering on transcendence of the self and search for meaning (Fowler, 1981; 1986). Worry is identified as existing in both normal and pathological states and concerning a number of differing domains (Holaway, Rodebaugh, & Heimberg, 2006). Following the theory proposed by Boehnke, Schwartz, Stromberg, and Sagiv (1998), the construct of worry is considered not only in the broad sense that it is the fearful anticipation of a possible future event, but also that it is specifically the notion of micro (self-focused) worry that results in the manifestation of pathology and degradation of overall well-being. This study seeks to further the field's knowledge of what can serve as protective factors against pathological worry [the predominant feature of Generalized Anxiety Disorder, as defined in the DSM-V (American Psychiatric Association, 2013)] (Campbell-Sills & Brown, 2010).

If pathological worry is ultimately a state of despair regarding one's perceived inability to overcome a threat to the self, a proposed antidote is the personal engagement of meaning. If one believes an experience and/or life to be ripe for the creation of meaning then the potential exists to move from helpless, worried victim to empowered participant (whether or not the feared threat can be avoided). In order to

engage this opportunity for meaning, it would seem that the basic psychological needs of autonomy, competence, and relatedness would need to be sufficiently satisfied, so as to leave the individual believing in his or her ability to self-determine (Ryan & Deci, 2000). Religion and faith as meaning have spanned time, geography, and humankind. The questions of how they impact humanity, for better or worse, are important ones, and this study hopes to enter into this dialogue. Too often it seems these constructs are discussed as if they are all-inclusive (yet exclusive) magic pills, the swallowing of which will cure all ills. The perspective of the study is not tailored to a particular religious affiliation, but rather, explores faith as an ecumenical and universal human experience. It seeks to acknowledge the complex nature and impact of the construct by exploring not only its makeup (meaning and self-determination), but also its potential impact or interplay with one of the most debilitating aspects of psychological life…pathological worry.

It is hypothesized here that worry content and quantity will be predicted by and related to one's faith stage, faith stage being understood in Fowler's (1981) terms, as well as by how that faith stage stance is distinctly represented by satisfaction and dissatisfaction of basic psychological needs and meaning in life.

Chapter 2: Literature Review

The Construct of Worry

Worry is a construct that studies have shown is distinct from other similar constructs and significantly related to poor mental health outcomes (McLaughlin, Borkovec, & Sibrava, 2007). McLaughlin et al. constructed two studies comparing undergraduate student participants on effects of worry and rumination. In both studies, students were instructed to induce a state episode of worry or rumination. In the second study, students were selected based on having endorsed trait worry and rumination or high rumination only ("high worry only" existed in only two participants of over 1,500 surveyed). The participants in the first study were a convenience sample of students not tested for trait versus state worry/rumination. Worry is similar to "rumination" and attempts have been made to combine the two terms into one construct focused around the idea of repetitive thought (McEvoy, Mahoney, & Moulds, 2010). The difference between the two, however, is their temporal nature. Rumination is focused on past or current failures and repeatedly rehearsing them, whereas worry is focused on the future.

The McLaughlin et al. (2007) studies also looked at type of cognitive process engaged (thought versus cognition in the form of imagery), and supported the concept that worry is a thought-based, verbal cognitive activity. In both studies, after worry induction, rate of thought significantly increased from baseline, whereas imagery significantly decreased (rumination mostly followed the same pattern, but deviations from baseline were much smaller). It was found that rumination was more highly correlated to depression and worry was more correlated to anxiety. In the case of rumination, the event is past and to continue to dwell builds a sense of hopelessness and

subsequent depression. In the case of worry, the event has yet to happen, and if it is perceived that the worrier has (or should have) some control over the occurrence of the event, then the response is anxiety. Both worry and rumination resulted in generating increased negative affect and decreased positive affect.

Esters, Tracey, and Millar (2007) developed the *Things I Worry About Scale*, and the highest endorsed theme in their sample was "future failure and loss." Rumination and worry have similar consequences and both correlate to depression and anxiety. Self-focused attention and rumination have been linked to pessimistic outlook and poor problem-solving strategies (Lyubomirsky & Nolen-Hoeksema, 1995; Lyubomirsky, Boehm, Kasri, & Zehm, 2011).

Worry has also been found to be distinct from the construct of neuroticism, and it has been suggested it should be identified as more of a trait than state construct (Hale, Klimstra, & Meeus, 2010). Especially interesting regarding this study by Hale and colleagues, is the contribution it makes towards this discussion of worry as a trait. While worry is a cognitive, thought-based exercise, this study lends confirmatory evidence to what anyone who has worried knows, that worry manifests itself in emotional, and subsequently physical ways. An important question is whether the presence of this negative affect prompts the worry or whether the cognitive practice of worry results in diagnosable mood disorders and other negative affect, which would attest to worry's trait qualities. Whether or not trait worry was present, in the same previously mentioned study by McLaughlin et al. (2007), induced worry (state) generated increases in negative and decreases in positive affect. Trait worry participants had baselines differing from non-trait worry participants, but the effect was

the same for both groups. Even when worry is a tendency (trait), the participant is still vulnerable to episodes of state worry and its effects. Due to the cognitive nature of worry and its demonstrated effect on affect when induced, it is logical to assume that the practice of worry has a greater generative impact on affect than the reverse (though once begun, the relational cycle is most likely somewhat reciprocal).

"Excessive, difficult to control" worry is the predominant feature of the DSM-V diagnosis of Generalized Anxiety Disorder (APA, 2013). As a disorder, GAD is experienced in approximately 2-5% of the population and 55-60% of those presenting with GAD are female. A definition of worry well-represented in the literature is that of Borkovec (1994) in which worry is defined as a "verbal stream of uncontrollable, negative thoughts directed toward a future threat." This definition is consistent with another offered by Boehnke et al. (1998) that defines worry as an emotionally disruptive thought that a state of life will become, remain, or become more discrepant with its desired state. As previously mentioned, it follows from this definition that worry is more or less a cognitive activity. Theories of worry have, for the most part, followed suit.

One theory of worry posits that worriers utilize their worry as a means for helping them find ways of avoiding negative future events or to prepare for a future worst-case scenario. In a study by Borkovec and Roemer (1995) it was found that the two reasons just mentioned are the highest-rated reasons given by individuals diagnosed with GAD for why they worry. In their two studies, they surveyed undergraduates to determine the presence of GAD and then compared "anxious," "nonanxious," and "partially anxious" samples. It was found that worriers in general thought they used

worry in seemingly constructive ways including preparation, increasing motivation, and prevention. GAD participants differed from nonanxious as well as nonworried anxious participants in their belief that worry made the feared event less likely, helped in problem solving situations, and that it served as a distraction from "even more emotional things." This finding is significant in that it offers an explanation for the "uncontrollable" nature that worry takes on in people with GAD. When emotional content is aversive and the person is unable to control it, worry may be employed as a way to escape, but then becomes uncontrollable as well. This study, testimonies from patients with GAD, and anecdotal evidence support the notion that worry does at times serve as an avoidance tactic (Kertz & Woodruff-Borden, 2011).

Borkovec (2002) authored a commentary whose title highlights this aspect of avoidance: "life in the future vs. life in the present." Worry serves as an avoidant tactic by sounding the alarm of a potential threat. This alarm hypothetically prompts action, but since worry is concerned with future events that have not yet, and may never, occur, often the only action that can conceivable occur is to continue to prepare in one's mind (worry). Because of the high probability of most worries not coming to fruition, a superstition reinforcement loop could also be at play supporting the avoidant nature of worry. Due to an event about which an individual spent time worrying not occurring, the individual may well make the connection that the worry actually decreased the likelihood of the worrisome event (Borkovec & Roemer, 1995). The cognitive nature of worry also supports the notion that worry could be a means of avoiding other fears that may have more emotional clout (i.e., worrying about surface issues to avoid facing the real crises at hand) (Borkovec, Ray, & Stober, 1998).

Some connections to faith could also be hypothesized here, in that the uncontrollable emotional content driving the worry aspect of GAD could be addressed in some instances through certain aspects of faith. These could include connection and reliance on others in times of need, a resistance to becoming individually overwhelmed by personal problems by ascribing meaning or putting them in a more universal context, connection to a transcendent being(s), etc.

A second theory of worry is a meta-cognitive model posited by Wells (2006), which focuses on positive/negative beliefs about worry. In this model a negative event triggers troublesome, intrusive thoughts in an individual. This individual is then prompted by these negative thoughts to react by utilizing worry as a coping strategy. The decision is made based on positive beliefs about worry as a good means of coping (i.e., worry helps get things done, helps solve problems, etc.). However, as worry leads to the processing of all the negative possibilities concerning the focus of the worry, the individual experiences anxiety, which prompts negative beliefs about worry (i.e., worry is uncontrollable or dangerous). The person then begins worrying about worrying ("Type-2 worry") which is a difficult spiral to escape. Jansson and Linton (2006) in studies on worry's contributions to insomnia identified that worry tends to compound over time, building on itself. Studies have shown that individuals diagnosed with GAD endorse a higher number of positive and negative beliefs about worry than others, and that those endorsements come with a greater intensity (Borkovec & Roemer, 1995). Studies have also shown that these positive and negative beliefs are correlated to the presence of pathological worry in an individual but that the presence of negative beliefs

about worry tends to serve as the strongest indicator (Cartwright-Hatton & Wells, 1997; Wells, 2006).

A third approach is focused on worry as a component of problem-solving strategies (Davey, 1994b). Davey found that children who generated a greater number of avoidant problem-solving solutions yet had a low level of problem solving confidence tended to have increased worry. As problem-solving strategies are thwarted (or unable to be realized due to the avoidant, future-focused nature of worry) it would be a logical conclusion that confidence would be affected and worry would potentially ensue. However, another review by Davey (1994a) found that worrying was related to only problem-solving confidence and perceived control rather than problem-solving ability. The study suggested that worriers (both low and high, trait and non-trait) tended to have problems in acting on solution possibilities as opposed to coming up with possibilities for action. This approach flows directly into the previously discussed meta-cognitive theory of worry.

Davey, Tallis, and Capuzzo (1996) explored beliefs about the consequences of worry and found that individuals strongly endorsing either positive (i.e., worry helps motivate and prompts analytical thinking) or negative beliefs (or both) about worry's consequences resulted in positive correlations to poor psychological outcomes. In their study, they first used a participant pool of 128 undergraduate students aged 18-59. The participants were asked to indicate in what ways worrying made things better or worse. Based on the items parsed out from the initial data gathering, two factor analyses were carried out with new participant pools to confirm the presence of five factors concerning typically expected consequences of worrying. Negative consequences were

represented by the following factors: 1) worrying disrupts effective performance, 2) worrying exaggerates the problem, and 3) worrying causes emotional discomfort. The two positive consequence factors were: 1) worry motivates and 2) worry helps analytical thinking. The presence of these perceived positive consequences are consistent with conceptualizing worry as a problem solving issue, as both are needed components of coping with problems (in particular the analytical thinking component). The scale developed concerning the consequences of worry was then re-administered to a new sample and the relationship between worry perception and mental health was explored. It was in this experiment of the study that it was found that people holding high positive or negative (or both) beliefs about worry were more likely to demonstrate poor psychological profiles when looking at a number of questionnaires than those endorsing lower score beliefs.

The concepts of worry listed above tend to deal more with the question of "why" as opposed to "what." Schwartz, Sagiv, and Boehnke (2000) began to explore this notion of the actual composition of worries. They propose that worries are based on an individual's values (i.e., that one will worry more about what they value most). This theory is not incompatible with those previously discussed, but begins to move into a deeper examination of the construct. These authors define values as "a core component of one's identity that serve as guiding principles in selecting, interpreting, evaluating, and justifying one's own behavior and that of others." They go on to identify ten value types (power, achievement, hedonism, stimulation, self-direction, universalism, benevolence, tradition, conformity, and security) situated on two dimensions. The two dimensions representing the contrast and complement between types are: self-

enhancement versus self-transcendence and openness to change versus conservatism. On the *self-enhancement versus self-transcendence*, dimension the power and achievement value types (pursuit of self-interests) contrast the universalism and benevolence types (concern for others). On the *openness to change versus conservatism* dimension, the self-direction and stimulation value types (independence and readiness for newness) contrast the security, conformity, and tradition value types (restricted and resistant to change).

Schwartz et al. suggest that values are desired goals whereas worries are contextualized thoughts about actions or events seen to be in contrast to value-driven goals. They go on to hypothesize about which values will correlate to two specifically defined types of worry. SDT (Deci & Ryan, 2000) is referenced as a potential explanation for why emphasis on the power value type (extrinsic goal motivation) would tend to result in increased self-focused (micro) worry; whereas, the value types of universalism, self-direction, and benevolence (intrinsic goal motivation) would tend to result in lower levels of self-focused worry.

Boehnke, et al. (1998) posited a theory of *micro* versus *macro* worries. They build on a theory of worry by Levy and Guttman (1975) that suggests worry is comprised of five differing facets. Emphasis for the purposes of this review is placed on the first three: self versus others, life domains (e.g., health, finances, security, etc.), and time (i.e., past, present, future). They propose worries can be categorized and subsequently measured according to these facets. Boehnke, et al. (1998) proposed two primary facets of worry: 1) the object whose welfare is threatened, and 2) the domain of life to which a worry refers.

The first facet distinguishes between micro and macro worry. Micro worry is worry focused on the self and/or what one considers his or her in-group (i.e., family, friends). Macro worry is focused on the broader, external representations of society and the world. While somewhat interrelated, their study demonstrated the two distinct constructs of micro and macro worry. The domains (2nd facet) identified by the study and confirmed through factor analysis were: safety and health, social relations, environment, economics, achievement, and meaning. Each domain (an exception was the environment domain which only loaded as a macro worry) has a micro and macro worry possibility. For example, within the achievement domain, one could worry about self and/or partner's vocational success (micro) or worry about his or her nation's unbalanced budget and declining GDP (macro). Within the social relations domain, one could worry about their likeability or attractiveness (micro) or hostilities between nations (macro). What the study found when comparing micro versus macro worries to measures of mental health (satisfaction with life, Trier Mental Health Scale, positive affect, trait anxiety and negative affect), was that increases in micro worries correlated with increases in anxiety and depression and tended to suggest poor mental health. Increased macro worrying tended to have no effect or a marginally positive effect on mental health.

Micro worriers by definition have difficulty with self-preoccupation. Lyubomirsky, et al. (2011) found that too much self-reflection and dwelling on problems or circumstances tended to lead to unhappiness and impaired mental health. Though a causal link cannot be made in terms of micro worry and poor mental health, both would seem to prohibit or prevent one's ability to worry on a macro level. The one

exception to this rule seems to be micro worries within the domain of safety and health, which evidenced no positive correlations to poorer mental health. One explanation for this finding may be found in a study by Schmiege, Bryan, and Klein (2009). Their study, based on a health psychology perspective, suggested that the presence of health-related worry indicated a greater likelihood to engage in preventative behaviors, which potentially resulted in accomplishment of health-related goals.

One logical conclusion when considering the health and safety exceptions of micro worry can be found with Maslow's (1943) theory of human motivation, which later came to be most well known as his hierarchy of needs. Fulfillment of physiological, followed by safety, needs is necessary for the very survival of the individual. They come first, at the bottom of the hierarchy, before more complex/cerebral aspects of need (i.e., love, self-esteem, and ultimately self-actualization). This fact serves to provide some rationale as to why worry in these areas would not necessarily be harmful to the individual as it potentially helps them survive.

Worry and its Role in Development

The general concept of worry can be summarized as anticipation or expectation of an impending threat. It is when worry becomes a chronic sense of anticipation and readiness that it becomes pathological stress, and the relationship between stress and development has been well established (Juster et al., 2011).

Lovallo's (2005) landmark work on stress highlights that stress is a state of tension and that chronic stress results in what is known as allostatic load. Allostatic load has been found to have an effect on poor physical and subsequently cognitive development. Sterling and Eyer (1988) coined the term *allostasis* to represent the idea

that when an organism reacts to a stressor and alters its behavior to restore homeostasis in one area of functioning, the area where the change occurred may serve to affect the system in a deleterious way over time. The cumulative effect of this hardship is summed up in the term *allostatic load*, which was a concept presented by McEwen and Stellar (1993). These concepts are important when considering the effects of stress in development, in that, even when stressful events are seemingly navigated and "handled," when the stressor is chronic (i.e. worry), though homeostasis appears to be maintained (i.e. worry is normal), the allostatic load has a cost to the individual's ability to develop and maintain functioning in "normal" healthy ways. This chronicity logically connects to Wells' (2006) notion of "type 2 worry" (worry about worrying), and the concept of allostatic load certainly attests to the stress that would be created by the circular, self-perpetuating nature of type 2 worry.

As worry is a cognitive event, the effect of cognitive development on worry is an important issue to address. Muris et al. (2002) examined cognitive development and worry in a sample of children aged 6-13. They found that cognitive development was significantly correlated to the development of personal worry, whereas the presence of fearfulness seemed to decrease with cognitive development. An additional study by Grist and Field (2012) supports the findings of Muris et al. They suggested that ability to worry is associated with increased verbal and abstraction abilities (a movement to concrete and the formal-operational stages of cognition and perception). This would also coincide with the ability to have positive and negative beliefs about worrying as well as the ability to verbalize them. Both of these abilities have been theorized as components of worry (Wells, 2006; Borkovec, 1997). Laing et al. (2009) noted that

worry in young children was correlated to the presence of ritual and that, as children developed, the presence of these factors would decrease but would then re-emerge at other developmental milestones (e.g., increases in social anxiety noted in adolescence). Chorpita et al. (1997) also found that older children tended to score higher than younger children on the Penn State Worry Questionnaire version for children (PSWQ-C). The researchers also found that females tend to endorse higher levels of worry than males.

Kertz and Woodruff-Borden (2011) propose a developmental psychopathology model of worry that incorporates multi-level development (cognitive, emotional, parental factors) and also suggests worry is best understood blending multiple models of worry theory (positive and negative beliefs about worry, problem orientation, intolerance of uncertainty and information processing ability). Their model allowed for worry at a young age but was consistent with the literature concerning increased ability to worry as one develops.

With literature suggesting that worry increases as one develops, the question of when or if these increases stop must be asked. Szabo (2009) studied the worry content of children and young adults with a sample of 42 undergraduate students and two samples of public school children with a mean reported age of 19 for the adult sample and mean ages of 8.7 and 11 for the child sample. The researcher found that adults and children differed in the content of their worry, with adults worrying more about social outcomes (which was identified by the researchers and participants as less "bad" or threatening) and children worrying more about physical threats. It was found that adults worry at increased levels compared to children about things both groups acknowledged as more trivial in terms of perceived threat. In a study comparing elderly and young

adult samples, it was found that overall the elderly sample worried less (Basevitz et al., 2008). It has also been noted that the elderly worry more about physical threat, which would suggest a curvilinear relationship regarding worry content when compared to the findings of Szabo (2009) (Wetherell, 2006). This relationship may be in part explained based on the reality that the likelihood and gravity of threats to elderly and young are elevated. What is noteworthy is that middle adults simply transitioned their worry to different aspects of life that seemingly had less to do with actual survival of the physical self.

The Measurement of Worry

The presence of pathological worry has been correlated to anxiety but remains a distinct construct (Rijsoort, Emmelkamp, & Vervaeke, 1999). As a construct it has been isolated and successfully measured with primarily two main assessments, the Penn State Worry Questionnaire (PSWQ; Meyer et al., 1990) and the Worry Domains Questionnaire (WDQ; Tallis et al., 1992) (Stober, 1998). The PSWQ is primarily a measure of the presence of clinically significant pathological worry and lists 16 dysfunctional characteristics of worry (e.g. "I worry all the time", "My worries overwhelm me"), whereas the WDQ measures non-pathological (normal/non-trait) worry. The WDQ has respondents rate how much they worry on 25 different items across five domains: (D1) Relationships, (D2) Lack of confidence, (D3) Aimless Future, (D4) Work, and (D5) Financial.

The measures both represent distinctly different foci pertaining to the construct of worry. The PSWQ indicates the severity of the person's tendency to worry, whereas the WDQ indicates the primary objects of their worry. Both measures share similarly

high internal consistencies and demonstrate good convergent validity. Studies examining problem solving as a root cause for worry have also used these measures and then correlated the results with separate problem-solving measures (Davey, 1994a).

As previously mentioned, Boehnke et al. (1998) developed a measure to assess the presence of micro- and macro-worry in individuals. To develop the measure they build upon a 20-item measure of existential worries developed by Goldenring and Doctor (1986). Thirteen additional worry items were developed and identified through confirmatory factor analysis as either micro or macro worries. Similarity structure analysis was also used to identify seven worry domains across which these thirty-three items were spread. The seven domains identified were health, environment, social relations, meaning, achievement (work), economics, and safety. The measure was developed using samples of Israelis and Germans. With each item, respondents were asked to consider: "How worried, if at all, am I about it?" Respondents then indicated their response using a 0 to 4 Likert-type scale labeled: "0" –not at all worried, "2" – somewhat worried, "4" –extremely worried. Examples of micro items would be "my getting cancer" (health domain), "my not having any close friends" (social relations domain), or "someone in my family not having enough money" (economic domain). Examples of macro items would be "people in the world dying of hunger" (health domain), "conflict among groups in our society" (social relations), "many people in my country living in poverty" (economic domain). The measure has demonstrated adequate validity as well as cross-cultural reliability on diverse international samples (Schwartz et al., 2000; Boehnke & Wong, 2011).

Faith and Worry

Though the stage theory being utilized for this study de-emphasizes the primacy of institutionalized religion, it is important to point out the link between religion-based faith and worry. The following quotes contain excerpts from some of the world's major religions regarding their stance on worry. The quotes either come from religious holy texts (i.e. Bible, Quran), or are attributed to people who would be representative of Fowler's more developed faith stages:

"There is nothing that wastes the body like worry, and one who has any faith in God should be ashamed to worry about anything whatsoever" (Mahatma Ghandi)

"And He provides for him from (sources) he never could imagine. And if anyone puts his trust in Allah, sufficient is (Allah) for him. For Allah will surely accomplish His purpose. Verily, for all things has Allah appointed a due proportion." (Quran 65:3)

"How many are the creatures that carry not their own sustenance? It is Allah Who feeds them and you, for He hears and knows all things." (Quran 29:60)

"And then I got to Memphis. And some began to say the threats, or talk about the threats that were out. What would happen to me from some of our sick white brothers? Well, I don't know what will happen now. We've got some difficult days ahead. But it doesn't really matter with me now because I've been to the mountaintop. I don't mind. Like anybody, I would like to live - a long life; longevity has its place. But I'm not concerned about that now. I just want to do God's will. And He's allowed me to go up to the mountain. And I've looked over. And I've seen the Promised Land. I may not get there with you. But I want you to know tonight, that we, as a people, will get to

the Promised Land. So I'm happy, tonight. I'm not worried about anything. I'm not fearing any man. *Mine eyes have seen the glory of the coming of the Lord*." (Martin Luther King, Jr.)

"The secret of health for both mind and body is not to mourn for the past, worry about the future, or anticipate troubles, but to live in the present moment wisely and earnestly." (The Buddha)

"If you have fear of some pain or suffering, you should examine whether there is anything you can do about it. If you can, there is no need to worry about it; if you cannot do anything, then there is also no need to worry." (Dalai Lama)

"Fret not yourself...trust in the Lord...trust in Him." (Psalms 37:1-7)

"So don't worry about tomorrow, for tomorrow will bring its own worries. Today's trouble is enough for today." (Matthew 6:34)

"Don't worry about anything, instead pray about everything…" (Philippians 4:8)

"There is only one way to happiness and that is to cease worrying about things which are beyond the power of our will." (Epictetus)

"Be careful what you water your dreams with. Water them with worry and fear and you will produce weeds that choke the life from your dream. Water them with optimism and solutions and you will cultivate success. Always be on the lookout for ways to turn a problem into an opportunity for success." (Lao Tzu)

As these various quotes and sayings indicate, Hinduism, Judaism, Ancient Stoicism, Taoism, Islam, Buddhism, and Christianity all have indications that it is best if their adherents avoid worry. Even a review of Sartre reveals a charge to not be

paralyzed by anxiety, but to transcend, through freedom and choice, to become that which one might (Pearce, 2011). Much of the literature focuses on *religion*'s relationship to anxiety, as opposed to faith or spirituality (Shreve-Neiger & Edelstein, 2004). However, the findings from studies are varied, with some showing increases and others decreases in different forms of anxiety considering differing levels of religiosity (which is not to be confused with faith, but is a potentially related construct). Using the faith development scale (Leak, 1999) with an attachment inventory, Hart, Limke, and Budd (2010) found that anxious attachment style was correlated to faith development such that increased anxious attachment resulted in lower developmental faith stage. The instrument used to measure faith development correlated directly to Fowler's stages. A sample of undergraduate students from a small Christian liberal arts university was used for the study. The finding was confirmatory regarding hypotheses made and suggested that attachment styles formed with primary caregivers and then perpetuated in later romantic relationships correlated with one's faith development. The perspective is a valuable one as inhibitors to faith development are considered. Also, the logical relationship between anxious attachment and worry is noteworthy, in that it indicated a potential link upon which the current study will hopefully build.

While the literature is sparse regarding the relationship between spirituality or faith (as the current study has operationalized the construct) and anxiety, much has been published concerning religion as a correlate. It (religious faith/religiosity) has been found to have a positive effect on overall psychological well-being, coping and functioning, and decreased psychological distress (Laurencelle, Abell, & Schwartz, 2002; Plante, Yancey, Sherman, & Guertin, 2000; Pfeifer & Waelty, 1999; Rasic et al.,

2011; Rosmarin, Krumrei, & Andersson, 2009). St. Clair (2005) discusses his use of Native spirituality in treatment of cancer and the bringing about of harmony (implies absence of pathological worry). Whereas worry is the expectation of bad things, hope is the expectancy of good. Studies have shown hope to be a powerful calming agent in stressful situations (Ai, Pargament, Appel, & Kronfol, 2010; Rutjens, van der Plight, & van Harreveld, 2009). Consistent with the focus of this study, Delgado et al. (2010) outline the positive effects of mindfulness (associated with transcendence) on chronic worry.

Religion has historically been a manifestation of faith and as a construct it seems to have had mixed results serving as a buffer to worry. While the research demonstrates some positive effects of religion, the author is suggesting that faith is a separate, more personal, and a far more active ingredient than the broader idea of religion. Previously mentioned faith/spirituality is being defined in part as a transcendental search for meaning. If worry represents self-centered despair (be it existential despair or more immediate specific circumstantial despair) then it stands to reason that others-focused meaning would serve as an opposing force for good (Erikson, 1950). A study by James and Samuels (1999) finds a correlation between having experienced high stress life events and subsequently reporting a more mature (others-encompassing/accepting) spiritual stance. These findings would support a query into the impact of a self-transcendent spirituality on worry, a source of much stress. More specifically, one area the current proposal seeks to explore is the relationship between potential protective factors of faith development (a movement towards increasing levels of self-

transcendence) and worry, in hopes of being able to more clearly examine the effect that these human universals have on each other.

The Construct of Faith

Over the past 25 years Fowler (1981) has been one of the leading theorists concerning the development of faith. Greatly influenced by psychological theorists such as Piaget (1928), Erikson (1950), and Kohlberg (1976), Fowler proposed faith as multifaceted and dynamically comprised of several domains of human existence. He argues against a reduction of faith to a solitary construct, but understands it as the amalgamation of cognitive, affective and relational aspects (Parker, 2011). Fowler and Dell's (2006) definition of faith extends beyond religious faith and denomination. It is "…characterized as an integral, centering process, underlying the formation of the beliefs, values, and meanings that: 1) Give coherence and direction to persons' lives; 2) Link them in shared trusts and loyalties with others; 3) Ground their personal stances and communal loyalties in a sense of relatedness to a larger frame of reference; 4) Enable them to face and deal with the challenges of human life and death, relying on that which has the quality of ultimacy in their lives" (p. 36). Throughout the literature, the terms faith and spirituality often are treated interchangeably. While it may be argued that they are distinct constructs, the two are so intertwined that one could not be defined in the absence of the other. It seemed most often to be the case that when the terms are used they are both attempting to capture the same elusive notion and that the greatest difference between them is one of semantics. As the term "spiritual" or "spirituality" is used herein, it is taken to be a synonym for that universally human

process of engaging what one identifies as transcendent (ultimate) and making meaning using the same.

Wilber (2006) described and defined the construct of spirituality as multi-faceted and dynamic, simultaneously operating in both ascended stages and process states. This idea presents spiritual development as progressing both horizontally and vertically. Wilber suggests the following six stages of vertical spiritual development: 1) Archaic; 2) Magic; 3) Mythic; 4) Rational; 5) Pluralistic; and 6) Integral. Along each line of horizontal development, he suggests that one travels through states on the way to the next stage. The four designated states were: 1) Gross (natural world); 2) Subtle (deity); 3) Causal (Formless world); and 4) Nondual experience of reality. Though these "integral" concepts aren't further developed in the current review, suffice it to say that Wilber's theoretical understanding of spiritual progression is one that leads to increasingly self-transcendent stages and states.

Clore and Fitzgerald (2002) examined faith and its development as constructs and ultimately present an idea that seems to offer a blend of Fowler and Wilber. They propose four distinct developmental pathways of faith: 1) Common Sense Faith; 2) Thoughtful Faith; 3) Responsible Faith; and 4) Transcendent Faith. It is suggested that the second and third pathways lead to the fourth, "transcendental faith." They suggest that faith development is a knowledge-based construct; that is, that development is contingent on knowledge acquired and integrated into one's thought processes. Though they present their developmental model as unique and an alternative to Fowler's stages (which it is), it does not fall far from the trajectory already outlined. The researchers surveyed two samples. One sample was 509 Roman Catholic parishioners and the other

was comprised of 303 undergraduate psychology students with ages ranging from 17-84. The researchers used a self-created 30-item faith development questionnaire to examine the current construct of interest, and they also examined aspects of attachment with a "self/other" survey. They found a positive correlation between "common way" faith and age (older adults endorsed this stage at higher rates), and also a weaker positive correlation with "transcendence." Interestingly, they also found that "Self-church" identification and scores on the "Other" index were significant and positively correlated to indications of "transcendent" faith. The researchers suggest that faith, while having developmental aspects, is less clear than Fowler posits. They state that faith development is a continually evolving knowledge-based integration and adaptation culminating with transcendence, but with some activity happening in all categories at all times. Although Clore and Fitzgerald failed to find evidence for Fowler's seven stages with their survey instrument, they were able to make comparisons to the older stage theory based on the four factors they found.

Gibson (2004), theorizing about stages of specifically Christian spiritual maturity, equates the highest stages of his theory to Fowler's stages five and six. Piedmont and Leach (2002) discuss spirituality as universal to the human experience and that it is manifested through a search for creating meaning. Piedmont (1999) developed and factor analyzed the Spiritual Transcendence Scale (STS) and found a three-faceted single factor comprised of "prayer fulfillment" (joy and fulfillment from interaction with transcendent reality), "universality" (a sense of unity with all creation), and "connectedness" (sense of connection to life before and after one's own). Consistent with Fowler's (1996) emphasis on faith development culminating in

transcendence and Clore and Fitzgerald's (2002) findings for what defines "transcendent" faith, Piedmont's (1999) findings regarding what constitutes the notion of transcendence support and further specify the distinctiveness of the construct. He used two samples of 379 and 355 people (balanced representation of males and females, ages ranged from 17-52, predominantly identified as "Christian"). He used the first sample to develop the STS and the second sample to explore relationships of the domains of the STS to existing measures of personality, mental health, social connections, and faith maturity. It was found that, in addition to the personal, individual nature of "prayer fulfillment", the constructs of "connectedness" and "universality" were also statistically significant signifiers of "transcendence." These latter two aspects are fundamentally related to life extending beyond, and incorporating more than just one's individually perceived troubles and struggles. It is a recognition that life ultimately operates on a communal/relational [relationship to transcendent other ("God"), to other people, to nature] plane and that recognition and engagement on that plane is what constitutes transcendence.

The ASPIRES scale was a development of Piedmont's (1999) Spiritual Transcendence Scale (STS), taking its current form when he added the measurement of the Religious Sentiments domain in 2004. The STS was based on the Five Factor Model (FFM) of personality, which contains the following five dimensions: Neuroticism, Extraversion, Openness, Agreeableness, and Conscientiousness (Costa & McCrae, 1992). In his development of the STS, Piedmont sought to demonstrate that spiritual variables do represent something distinct from the five just mentioned, and so all STS items were analyzed within the context of the FFM. Within this context, the

STS demonstrated a single overall construct comprised of items from the three previously mentioned facets: *Connectedness,* a belief one is part of an understanding of humanity larger than just themselves, which spans generations and groups; *Universality,* a belief in a uniting force and nature in life; and *Prayer Fulfillment,* personal feelings of joy and contentment experienced during personal encounters with a transcendent reality (Piedmont, et al., 2008). The Religious Sentiments component of the ASPIRES scale examines frequency of involvement in religious activities.

Williamson and Sandage (2009) focused on the notion of existential "questing" to demonstrate spiritual maturity. They operationalized spirituality citing Hill et al. (2000), who define spirituality as a search and connection with the sacred ("the sacred" necessarily implying a transcendence of the self). The identity development theorist Erik Erikson also theorized the notion of development moving forward towards transcendence of the self. He, similar to Wilber, suggested that humans participated in a horizontal physical development while simultaneously developing vertically towards a transcendent reality (Hoare, 2009). The existence of a positive correlational relationship between identity stage theory and spiritual (faith) maturity has been explored and demonstrated in the literature (Leak, 2009; Sanders, 1998; Watson & Morris, 2005). It seems that many of these seemingly differing models of faith and faith development are related to each other, offering slight variations to try and explain this elusive construct. They do, however, seem to have some major consistencies (primarily that of the end goal of universal transcendence) (Sinnott, 2005). This allows for reasonable selection of one model for research purposes and also allows for some universality in discussion of results.

Fowler's (1981) Stages of Faith

Fowler (1981) proposed six post-language stages of faith and one pre-language stage of faith, taking place in infancy. He identifies faith as the makeup of one's main motivation for life (Green & Hoffman, 1989). In agreement with most stage theories, Fowler postulates that once transition from one stage to the next has been accomplished, it is only in extremely rare cases that a person will regress to a previous stage. He posits his theory as correlated to the stage theories of Piaget (1974) (stage theory of cognitive development), Kohlberg (1976; Kohlberg & Goslin, 1969) (stage theory of moral development), and Selman (1980) (stage theory of social perspective taking). Fowler identifies faith as a process of constitutive knowing, a meaning-making process that reflects our convictions, ultimate values, attachments, and unifying environmental contexts (Fowler, 1986). He identifies one's faith development, not as a process solely contingent upon one's development in the other domains just discussed, but as a parallel and perhaps preceding process which provides the medium through and in which all is processed and integrated. Fowler recognizes Erikson's (1963) contribution to stage theory as well and places faith as a core component of ego development, a self-constitutive activity incorporating and/or intertwined with all the lines of development discussed here.

Following some of the other constructive stage theorists, Fowler states that there is an underlying structure to each stage. This is akin to the stages and states of Wilbur (2006), which were previously discussed. Fowler (1986) identifies seven operational structure components to each stage and suggests that each of these components is being developed concurrently with one's faith. They will be integrated and re-integrated at

each stage transition (Figure 1.0). Transitions to stages are not accomplished uniformly, but rather, individuals transcend the various structural aspects at potentially different times leaving one's stage status on more of a continuum as opposed to clear categorical designations.

The seven aspects of the stage theory are: A) Form of Logic, this aspect follows Piaget's cognitive stages and recognizes that higher levels of faith development correlate with higher levels of cognitive development; B) Role-Taking, this aspect relies on Selman's social perspective-taking theory and acknowledges a movement from egocentricity to mutuality as one's faith develops; C) Form of Moral Judgment, adapted from Kohlberg's work, this aspect demonstrates the movement from concrete/reciprocally based morality to universal/loving stance; D) Bounds of Social Awareness, similar to perspective taking, this aspect is regarding who is included in one's constituted identity and moves from self and similar others focused to a situating of the self in all humanity; E) Locus of Authority, this aspect concerns who or what an individual imbues with meaning-making authority and moves from superficial power structures to a recognition of multiple sources of wisdom and representations worthy of a place of authority; F) Form of World Coherence, this aspect represents how each stage's meanings are unified and moves from a superficial/episodic unifying force to a recognition of the complex unifying threads connecting all of life; G) Symbolic Functioning, this aspect recognizes the use and power of symbol throughout the development of one's faith. It moves from a magical/distant use of symbols to a personal integration of the meaning the symbolic can provide.

These aspects are represented and manifested in differing ways with each faith stage. Together they represent the complex make-up of the unifying construct of faith. The following is a summation of each stage taken from Fowler (1981; 1986):

Primal faith. This stage occurs in infancy and is marked by the beginnings of trust and loyalty in the infant's conception of the world. Power images begin to form to address the anxiety (attachment-related and otherwise) experienced at this time of life.

Stage one/intuitive-projective faith. This stage is typically comprised of children between the ages of 3 and 7. Children are particularly vulnerable to the actions of their primary adult role models during this phase. Imitation and imagination are developed and are in the forefront of the child's way of being. A child in this stage is attracted to mystery and can "practice" comparing perspectives within the realm of the safety of concrete authority and power representatives. Lasting emotional and cognitive imprints can occur at this stage, affecting the faith foundation, for better or worse. This stage correlates with Piaget's *preoperational* stage and Kohlberg's *punishment and obedience* stage. Among other things, new abilities of logical thought facilitate the transition to the next stage.

Stage two/mythic-literal faith. This stage is marked with the internalizing of societal or familial beliefs. The person takes on a more literal view of stories and the order of the world. An understanding of justice and fairness is developed, but only in an elementary reciprocal way. The person is still unable to develop personal meanings of things through reflection or conceptualizing, but relies on concrete power structures and story. This stage correlates with Piaget's *concrete operational* stage and Kohlberg's *instrumental exchange* stage. Transition from this phase is marked by

development of formal operational thought, and clashes between literal way of thinking and moments of reflective thought and reconsideration.

Stage three/synthetic-conventional faith. Faith begins to be integrated into an identity in the world, and not just family. This stage typically comes with mature adolescence and many adults ultimately stay here. The stage is marked by the person's thoughts now including others' expectations and judgments, including God. Perspective taking takes on a significant role as the individual begins to focus on identity formation and questions of worth. The stage correlates with Piaget's *early formal operations* and primarily Kohlberg's *interpersonal concord* stage. Transition from this stage can be brought on by the questioning of traditional authority or a change in behavior or environment that brings on a more intense examination of what constitutes the self.

Stage four/individuative-reflective faith. If undertaken at all, this stage most typically comes with young adulthood. It is categorized by a separation of self-responsibility from group. A person in this stage could be seen as narcissistic in that there is much confidence placed on critical thinking and one's own mind. The process of developing a personal worldview and etiology for the processes by which one is surrounded is also a part of stage four. It is in this stage that the critically thinking individual takes personal responsibility for creating meaning in his or her life. There is a danger in this stage of deconstructing the mysterious (e.g., the unconscious) and special care must be taken not to do away with that which cannot be explained in the quest to exert a greater sense of control and autonomy. This stage correlates with Piaget's *full formal operations* and most significantly with Kohlberg's *social system*

and conscience maintenance stage. Transition from stage four occurs when one finds him or herself unsatisfied and restless with their world, which they had fit neatly into the box of their own minds. A search for greater truth and internal sense of unity pushes people on to stage five.

Stage five/conjunctive faith. This stage isn't usually seen before mid-life. Here one is seen to come back to re-integrating the imagination and mystery of stage one faith with the conscious capabilities of stage four faith. The readiness to incorporate and aid in others' ascension of the faith stages is present. Paradox is embraced and dissimilar others are valued for the unique truth they may hold. Whereas a stage three adult is necessarily defined by his or her own in-group, the stage five adherent recognizes that *all* people are in some way a part of their group. They attempt to engage others without exclusion and by self-transcendent choice in a novel incorporation of previous stages. However, a clash can be felt between a changed outlook on life and world that is unchanging and seemingly unexcited over this development. It is this clash that can push one on to stage six, although it is quite rare. Fowler states this fifth stage requires an extension of Piaget's *formal operations* to incorporate *dialectical thinking*. He also states the stage correlates most strongly (though perhaps not exclusively) with Kohlberg's *prior rights and social contract* or his *universal ethical principles*.

Stage six/universalizing faith. Stage six is an abandonment of self to see the realization of a better world, as one was able to envision in stage five. It has been described as a detachment, but is in actuality a transcendent attachment to what one has found to be the ultimate reality. Identification with this brings about a renewed sense of

connectedness and a sense of responsibility that extends beyond the individual self, recognizing that the self only exists as a part of a larger whole. Examples of potential stage six individuals judged by the transcendent tasks they set their lives towards are Mother Theresa, Gandhi, or Martin Luther King, Jr. Fowler states no Piagetian stages go on to address this faith stage and that Kohlberg's *stage seven* has some correlative traits.

To some extent, to unearth the elusive notion of faith as described/theorized by Fowler and most others, the construct must be examined as "meaningfully relating." How Fowler would describe one's stage of faith seems to be directly correlated, at least in part, by how they respond to others, themselves, and the world at large. Fowler posits his theory as developmental, which could easily leave one assuming that the only way to live life at peace is to ascend the rungs of his developmental ladder. However, Fowler acknowledges in his initial text that equilibrium can also be found at lower-level stages. In his text outlining the theory and offering empirical evidence for his stages, Fowler sampled 159 people ages 31-61+ (a range of over 30 years). Within those ages, respondents primarily ranged from Stage three to Stage five, with a very small percentage (1.6%) identified at Stage six, and another small percentage (7.5%) identified at Stage two or Stage two-three transition. His theory is developmental in that the later stages are not achieved without having first worked one's way through the earlier stages, but even this description of later and earlier doesn't aptly describe the notion of what the stages represent once one reaches a state of stage homeostasis (i.e., for a 60-yr-old who remains at what would be described as Stage two or three, to

describe their stance as "early" or "young" isn't really accurate). Faith is a process in action (Fowler & Keen, 1978)

The traditional limiting of the construct of "faith" as synonymous to "religion" is also counter to Fowler's definition of the term. As previously discussed, faith is to be understood here as a universal construct. Faith *can* be religious but isn't by necessity. In his initial work on the subject, Fowler (1981) draws from philosophers such as Ernest Becker, Richard Neihbur, and Paul Tillich. He emphasizes Man as inherently meaning-making, stating that faith is a universal human concern (the ultimate concern) and is manifested in the ways in which people find unity and meaning in their lives.

Faith according to Fowler (and for the purposes of this study) is to be understood in terms of a connection to and movement towards transcendence (ultimate environment). In that movement, meaning is necessarily made, and thus, the construct of faith is also inseparable to that of meaning. The subtitle of Fowler's original work on the topic included the phrase "…and the quest for meaning."

Faith Development Measurement Issues

Spiritual development has traditionally been defined different ways, such as: a person's journey of transcending the self, in an effort to find their place in a world bigger than they are, or as the development of deep self-awareness that helps one understand him or herself concerning connectedness to others (King & Boyatzis, 2004).

As mentioned before, one of the most widely accepted theories of faith development is Fowler's (1981) stages of faith theory. Besides other theories which offer a totally different approach to faith development such as rational choice theory, which is the idea that religion only develops as it makes rational sense (McCullough,

Enders, Brion, & Jain, 2005), the argument in faith development tends to be concerned with how its different levels are determined. It is accepted as a given that "faith" as it is here described is universally present and at work, whether or not it is rationally acknowledged and consciously/intentionally engaged.

Streib (2005) asserts that rather than just measuring faith structurally, to be accurate, one should employ both an analysis of content and an assessment of one's narrative of faith. The difficulties lie in the feasibility and the ease with which each of these can be measured. In a review by Parker (2006) basically every measure corresponding to Fowler's stages was critiqued and found lacking in some way. Each study in this field adds to the information against which measurement theories or approaches can be tested.

Streib, Hood, and Klein (2010) introduced the Religious Schema Scale and suggested that Fowler's theory was helpful but incomplete. The authors suggested that what Fowler proposes as hard stage theory, is really more religious style. Stage being defined more as operational structures coherent across domains, whereas style is more the repetitive use of a certain pattern. Streib (2001, 2005) attempts a revision of Fowler's developmental framework, hoping it would seem, to do a better job of explaining the components of faith (understood by Streib in the context of religion) and how they are arrived at and used by the individual in non-linear ways (i.e., people using aspects of multiple stages simultaneously). The suggestion that faith stages are more aptly understood as the utilization of differing religious styles, would make it easier to explain how a 60-yr-old could remain at a stage 3, or possibly even a 2, and not be discontent. However, the likelihood seems small that an elderly adult would not

encounter boundary experiences that would push the limits of what a stage 2 or 3 could adequately account for concerning meaning in life.

Another measure for assessing the construct is the Faith Development Scale (FDS), which was developed by Leak et al. (1999) as a measure of faith development correlating with Fowler's stages two through five. Stages one and six were excluded due to the infrequency of encountering these stages in adults. Reliability and validity reports have been confirmed in subsequent studies (Leak, 2009; Hart, Limke, & Budd, 2010). The measure is further described in a subsequent section.

Meaning in Life

As was previously discussed, the construct of faith (as understood for the purposes of this study) by definition includes the concept of "meaning" (Fowler, 1981). Meaning has been specifically defined in a variety of ways but overarching themes tend to surround the presence of purpose and significance in comprehensive ways (Steger & Frazier, 2005). Meaning is understood as something that is made or created on an individual level (Frankl, 1963). Religion can serve as a modality through which meaning can be made but it doesn't have to be the only way (Steger et al., 2010).

Steger, Oishi, and Kashdan (2009) examined the presence of meaning across the lifespan and suggested that meaning making is a developmental phenomenon. They compared samples divided into four groups based on age (18-24, 25-44, 45-64, 65+) and found significant differences regarding self-reported levels of presence and search for meaning in individuals. Presence of meaning was reported highest in the two older age groups. Presence was reported lowest in the middle group (25-44). A slight but

statistically significant decrease in presence of meaning was reported in moving from the 18-24 age group to the 25-44 age group. Search for meaning was significantly higher among 18-44 year olds and then decreased in the older age groups. The study found that presence of meaning was positively correlated to well-being, while searching for meaning in older adults was negatively correlated to well-being.

The notion of meaning making as impacted by unique factors associated with developmental stage has been supported in other studies as well. Hicks, Trent, Davis and King (2012) examined the impact of perception of future time (both in terms of literal time left to live as well as opportunities left to pursue goals). They found that when physical time or future opportunity was seen as limited, meaning in life perceptions tended to be mediated by positive affect. That is, in perceived time-limited situations, when positive affect was low, perceived meaning was lower than if positive affect was high. High positive affect seemed to have a stronger relationship to perceived meaning for older participants as opposed to a younger sample when recognition of limited time was a factor. This was a four-part study. Two parts indicated a strong correlation between meaning in life and positive affect. One part indicated that the strength of positive affect as a predictor of meaning increased as time was increasingly seen as limited. Overall, although of course causality cannot be established, these findings are supportive of the discussion earlier surrounding a deeper potential for meaning in older people perhaps related to the reality that they have had to make adjustments to their ability to make meaning in order to account for the inevitably higher number of boundary experiences they have encountered.

A study by Tavernier and Willoughby (2012) also supported this concept of boundary experiences creating the potential for deeper meaning. They sampled a population of high school students who completed measures of well-being in 9th grade and then again in 12th grade. A qualitative approach was used to determine the students experience of what the author's describe as a "turning point" (defined as a significant life-changed event) during the time between data collection. Based on students' responses, it was determined whether the student had responded to the event in a meaning-making way. Those students who had responded to their turning points in ways that included making meaning reported higher well-being than those students who did not report responding to their turning points in meaning making ways. This is consistent with the previous study mentioned regarding positive affect being related to meaning in life.

Another study by Steger and Kashdan (2007) explored presence and search for meaning in life as a correlate to life satisfaction. In a sample of undergraduate students testing at two separate points an average of 13 months apart, it was found that when students reported actively searching for meaning and finding it (indicated by endorsement of presence of meaning in life) that life satisfaction increased. However, when students reported a high search for meaning but low perceived presence of meaning, life satisfaction decreased.

The studies reviewed above support the notion that a person who successfully engages the meaning-making process rather than despair in moments of stress would be more likely to report higher levels of well-being. This state, by definition, would not be consistent with high levels of reported anxiety, and subsequently pathological worry.

One of the primary foci of the current review is concerned with how the construct of faith could impact worry. As was previously discussed, faith is often confused with religion. A study by Steger and Frazier (2005) provides some support for a separate function of meaning-making (faith) when compared with religiousness and religious activities as correlates to well-being.

The study found that reported presence of meaning in life mediated the positive correlation of both religiousness and daily religious activities to reported well-being (as assessed by measures of life satisfaction, self-esteem, and optimism). This supports the notion that the construct of meaning and how one integrates it into his or her life is an important component of well-being and isn't defined by religion, but instead may serve as a explanation as to what it is about religion on a universal level that tends to contribute to a greater sense of well-being.

Steger, Frazier, Oishi, and Kaler (2006) proposed a measure for assessing meaning in life they titled the Meaning In Life Questionnaire (MLQ). They created the instrument as an alternative to other traditional meaning measuring scales such as the Purpose in Life Test (PIL; Crumbaugh & Maholick, 1964) and the Life Regard Index (LRI; Battista & Almond, 1973), which they describe as being frought with methodological deficits. Their measure used a broad definition of meaning as "the sense made of, and significance felt regarding, the nature of one's being and existence." They report their measure is consistent with the notion that meaning is something constructed by the individual. They found meaning to be a distinct construct demonstrating limited covariance with measures of well-being, as well as minimal correlations to religiosity, anxiety, depression, values or affect. The instrument

measures both the presence of meaning people perceive in their lives as well as how engaged they are in the search for meaning.

When considered in the context of development (specifically faith development), the instrument could provide greater insight into what people are searching for when faith stage transitions are made. It can also provide additional information when coupled with Self-Determination Theory (SDT) regarding the potential for greater objective depth in higher faith stages as well as how one could remain at a lower stage and be satisfied. Just as SDT provides some basis for hypothesizing about why one might worry (basic need dissatisfaction/failure to operate in self-determined ways), the meaning literature may provide a way of describing what exactly is jeopardized by deficits in autonomy, competence, or relatedness. When needs are dissatisfied one's meaning-making potential is stymied and worry is again a logical consequence.

Self-Determination Theory (SDT)

While faith stage transition may not be a wholly conscious decision, as with most any developmental movement, an organism must contain an element of belief that they can step out of their comfort zone and move on to uncharted territory. Ryan and Deci (2000a) have proposed a theory of motivation and personality that focuses on the notion of self-determination. Underlying one's level of self-determination is an acknowledgment of basic psychological need satisfaction as a prerequisite for optimal development (personality and social) and growth, as well as individual well-being. They posit that the three most basic psychological needs are that of autonomy,

competence, and relatedness. When satisfied these needs have been shown to result in a greater sense of well-being (Reis, et al., 2000). However, when thwarted, the dissatisfaction is suggested to lead to lower levels of personal well-being and even ill-being.

Autonomy is to be understood as acting from a place of recognized volition where one actively and intentionally endorses one's actions. It is often categorized as a detached individualism, which is not how it is to be understood in the context of SDT (Deci & Ryan, 2000). Competence represents a sense of self-efficacy and ability applied to many domains throughout the life span (Harter, 1978). Relatedness is to be understood as a fundamental human need for deep, enduring relationships with others (Baumeister & Leary, 1995). The construct of autonomy as universal need seems to have been the most controversial of the three due to the perception that its relevance is only primary in the context of individualistic Western society (Iyengar & Devoe, 2003). However, Ryan and Deci (2006) address what they consider a misrepresentation of their construct of autonomy in re-emphasizing that autonomy is not detached individualism and independence. They assert that even those coming from a collectivist context have the need to demonstrate autonomy in making personal choices guided by, for example, family or traditional values.

SDT is concerned with examining the factors that seem to impact self-motivation and growth as well as despair and stagnation. Ryan and Deci (2000b) propose that SDT's three basic needs are the driving force behind intrinsic and extrinsic motivation as well as self-regulation within those states. The authors state that their theory takes as a given humanity's drive towards intrinsically motivated tasks (i.e.,

tasks done for the inherent satisfaction provided by their completion). Intrinsic motivation is fostered when one is experiencing autonomy, competence, and to a lesser extent, relatedness (i.e., self-determination). However, the authors recognize that as one develops many if not most of the things they do are technically extrinsically motivated. They suggest that extrinsic motivation can vary in its levels of self-determination and internal regulation.

Motivation is presented as continuum moving from amotivation to extrinsic motivation and then to internal motivation. Amotivation is non-regulated, has an impersonal locus of control, and is non-self-determined. Intrinsic motivation is internally regulated, has an internal locus of control, and is self-determined. Extrinsic motivation makes up the middle of the continuum with four different states representing differing levels of self-determination. In a movement from less self-determined to more self-determined, the states are: external regulation, introjected regulation, identified regulation, and integrated regulation. As movement occurs from external to integrated regulation, the locus of control moves from external to internal. As the model indicates, a person can be externally motivated, but act from a place of internal regulation, thus acting autonomously despite external forces at play. This model does not represent developmental stages. Anyone can enter the model at any stage given their unique context and the task at hand. However, as people age their life experience broadens, enabling them to hypothetically incorporate more into the self (Deci & Ryan, 2008b).

SDT has been questioned regarding why the three needs identified are chosen over other potential needs (e.g., meaningfulness, safety/security, self-esteem) (Ryan & Deci, 2000b). Particularly relevant to the current study is SDT's connection to the

construct of meaning. The authors propose that rather than meaning in itself being a separate construct and need, meaning is experienced in the movement towards integration and internalization. They propose that the most fundamental aspects of life people find to be meaningful will include: their sense of ability to effectively navigate life's varied situations with a degree of success/satisfaction (competence), their sense of personal volition in acting out one's values and beliefs as they so choose (autonomy), and a recognition of connectedness to others, from close loved ones to all fellow humans (relatedness). As satisfactory fulfillment of the three identified needs manifests in a person who is self-determined, a logical connection would be that a more self-determined individual (have sufficiently satisfied needs for autonomy, competence and relatedness) has a greater potential for experiencing meaning in life.

Deci and Ryan (2008a) propose that in order for a person to experience a life of satisfactory well-being all three needs must be satisfied. SDT is specifically examined as a correlate to well-being defined by eudaimonia (Ryan, Huta, & Deci, 2008). The authors elucidate distinctions between eudaimonic and hedonic well-being. Hedonia is understood as the presence of pleasure and absence of pain; whereas engaging in meaningful activities and fully living out one's potential characterize eudaimonia. A state of eudaimonic functioning should result in an experience of pleasure. As one's basic needs are satisfied and one is able to pursue intrinsic goals a sense of eudaimonia should follow. A sense of meaning and purpose in life is a logical consequence of eudaimonic living. Worry would obviously be a negative correlate to well-being, and as worry is by definition the engagement of competence- and autonomy-questioning thoughts, it would seem that satisfaction of the basic psychological needs described here

would also result in decreased worry, although no studies were found directly examining the two constructs as correlates.

From a faith development perspective, SDT provides some potential explanation as to why people could remain at seemingly lower levels of development (i.e., stage two or three versus four or five) and still maintain homeostatic levels of self-perceived meaning. If one's basic needs are satisfied at what Fowler (1981) describes as a stage two or three faith, then it would be expected the impetus to move on may not arise. However, when the typically inevitable boundary experience is encountered, one must adjust and grow or see well-being diminish (or in some cases compartmentalize or deny reality).

The theory also provides additional information on what could be responsible for this growth and what drives one on to ascend the stages of faith development. It provides some explanation as to why that progression could represent a deepening of one's meaning-making model, as is suggested by Fowler's model. When one of the basic needs is thwarted in one's life, in order for eudemonia to be regained, the deficit must be addressed. Concerning one's faith, if autonomy, competence, or relatedness is thwarted, it is most likely due to the discovery that one's current model is inadequate in dealing with certain realities of life (e.g., the problem of pain in the world and one's response, racism or hate as a part of one's familial or cultural tradition, magical thinking that is challenged by reality, close-mindedness, etc.). As adjustments are made, more of life is accounted for and integrated. An internal sense of control is regained by pursuing one's intrinsic growth tendency (Ryan & Deci, 2004). This notion of control is not to be understood as control in the sense that one is able to manipulate and control all of

life's variables, but that life can be identified with and integrated into the self in non-need-threatening ways. Although it would be difficult to measure one's depth of meaning, as personal perception is a subjective construct, it would be logical to assume that this progression would result in greater potential for meaning. Having this progression thwarted would obviously lend itself towards a greater potential for despair and ill-being.

As one ages, it is more probable that they will encounter experiences and situations where basic needs could be thwarted, thus requiring an adjustment to regain homeostasis. For this reason, it makes sense that there would be a higher proportion of older people in the higher faith stages, as they have grown and made basic need satisfaction adjustments, creating a more internal locus of control through identification and integration of new ideas and ways of understanding. Older people remaining in a stage two or three faith would most likely have lower levels of need satisfaction (and subsequently lower perceived meaning) with higher levels of worry as it is more likely that they have failed in making necessary adjustments to address basic need deficits as they encountered situations that challenged their sense of autonomy, competency or relatedness. A caveat is that due to the subjective experience of faith-challenging situations, it is hypothetically possible an older person could remain in a lower level not having had basic needs thwarted in their unique experience. This unique, insulated experience would suggest there are ways of being in which one avoids or does not encounter situations challenging their sense of autonomy, competence, or relatedness.

Integration of the constructs relationship to worry: Faith stage development, Self Determination, and Meaning in Life

The preceding review has just outlined the primary constructs to be tested and explored with this study. However, as has previously been mentioned and alluded to, these constructs all potentially present a sufficient amount of information for individual studies exceeding the length of the current one. The four constructs have been chosen for a reason, as the current reviewer has found there to be a logical connection from one to the next.

In defining the term *faith* for the purposes of this study, it was indicated that it is fundamentally referring to one's method of making meaning out of the events of life. This is in contrast to other understandings of the term such as "having faith in someone," or understanding faith only as religion (although that begins to come closer to the present concept of the term). So, one's faith then becomes one's unique response to the question, "What is meant by this?" It has been suggested that the ability to answer this question is a universal pursuit (Frankl, 1955; Fabry, 1968). Fowler's faith stage theory presents a progression of movement in the foundation based upon which people arrive at their responses to this question. For example, a person subscribing to a stage three faith will tend to answer the question in terms of how they see those they are connected to answering it (family, religious group, other in-group). Their meaning is inseparable from approval/consistency with group affiliation. In contrast, a stage four faith has the potential for a very different response than their "in-group." Although they may ultimately decide a similar response, it will have been decided more arduously and individually than the stage three respondent. They will have critically analyzed their in-

group response with personal experience and have made a decision internally consistent from an individual perspective.

The construct of meaning in life, to be measured by the MLQ, is a necessary component of the current review as it provides insight into how well one's faith stage perspective is serving them. What wasn't found in the review of the faith stage development literature is whether or not different faith stages tend to lend themselves to differing levels of meaning, or whether certain stages have advantages or disadvantages over others in facilitation of the meaning-making process (i.e., do levels of meaning tend to be higher or lower between stages three, four, or five?). It will be predicted in this study that differences in meaning will be seen between faith stages and that these differences are best understood in a discussion including the psychological need satisfaction model of Self-Determination Theory, to be discussed momentarily. This notion of differing levels of meaning raises the questions: "What is the result of one's faith stage being inadequately engaged?", and "What are the effects when one's process for making meaning in life is being thwarted?"

Frankl (1955; 1958), May (1950), and, more recently, Yalom (2008) and Van Deurzen (2012) all attest to the connection, in theory and practice, between the constructs of meaning and anxiety, identifying them as negatively correlated by definition. As was discussed in the section of this review on the construct of worry, the presence of worry is the primary feature of anxiety disorders. This review goes on to highlight literature that not only provides the means for determining presence of pathological worry in general (PSWQ), but also the content of one's worry (Boehnke, et al.'s (1998) theory of micro- and macro-worry). The literature reviewed here suggests

that the content of one's worry has a significant effect on one's overall well-being, with the primary aspect of interest being the degree to which worry is focused on the self (micro vs. macro). Faith's proposed connection to meaning provides a logical connection to the construct of worry. While one's perceived ability to satisfactorily answer the universal question of "what is the meaning of this," should demonstrate some predictive power over how much worry they experience, it doesn't address the content of their worry. Fowler's faith stage progression seems logically fitted to provide some predictive power regarding this question of worry content.

As has been previously outlined, the stages are a progression towards transcendence of the self (that being most fully engaged in stages five and six). The theory seems to put forth a movement from micro to more macro with the stage two to three transition, then a temporary move back to a micro emphasis with transition to stage four, only to be followed by movement to stage five which has a macro emphasis to the greatest degree yet seen in the progression. The difference in the macro emphasis between three and five is that stage three includes others outside the self only to the extent they are perceived as similar to or extensions of the self. Also, at stage three locus of control is very much external, versus a more internal status with stage five. There seems to be a movement with Fowler's theory of limited inclusion of others (stage three), to increased exclusion of others required to provide space needed to focus on self (stage four), but then back to unlimited acceptance/acknowledgment of others as well as self with stage five. Direct correlations with worry content can logically be made with these considerations in mind.

Two aspects of faith stage development in particular point the current research in the direction of Self-Determination Theory as a core construct whose inclusion would serve the current investigation well. While meaning has been identified as inseparable from the definition of faith here, the factor(s) that create the conditions for finding or identifying something as meaningful remains to be explained. As was previously outlined in the section on SDT, it has been proposed that meaning is a bi-product of the satisfaction of one's basic psychological needs (Ryan & Deci, 2000b). If this is the case, then an examination of how respondents' basic psychological needs are being met would help inform why certain stages may result in higher levels of reported meaning. Additionally, if it were to be found that, for example, stage five faith tends to result in greater reported need satisfaction than stage four, that provides some evidence for arguing the importance of continuing to actively engage the faith development process.

SDT also addresses the importance of movement towards a more autonomous/intrinsically motivated stance in life. This aspect of the theory is intricately intertwined not only with the faith stages outlined in Fowler's theory (consider his discussion on Locus of Authority with each stage) but also with worry, specifically worry content (micro/macro). Schwartz et al. (2000) suggest a possible explanation of why worry content differs (micro vs. macro) with respect to certain values, as they indicate that different values correlate to how extrinsically or intrinsically based one's motivation is regarding the goal being pursued. Another way of considering that idea is by considering SDT's concept of autonomy. The more autonomous one is, the less externally controlled and motivated they are, and thus the less prone they are to micro worry-based content dealing primarily with a perceived

inability to actualize (effect changes in one's life as an individual). However, this autonomy is only effective in combatting micro worry in so much as the need for relatedness is satisfied. An overemphasis on autonomy to the detriment of relatedness (as may be seen in stage four faith) may well result in increased micro worry.

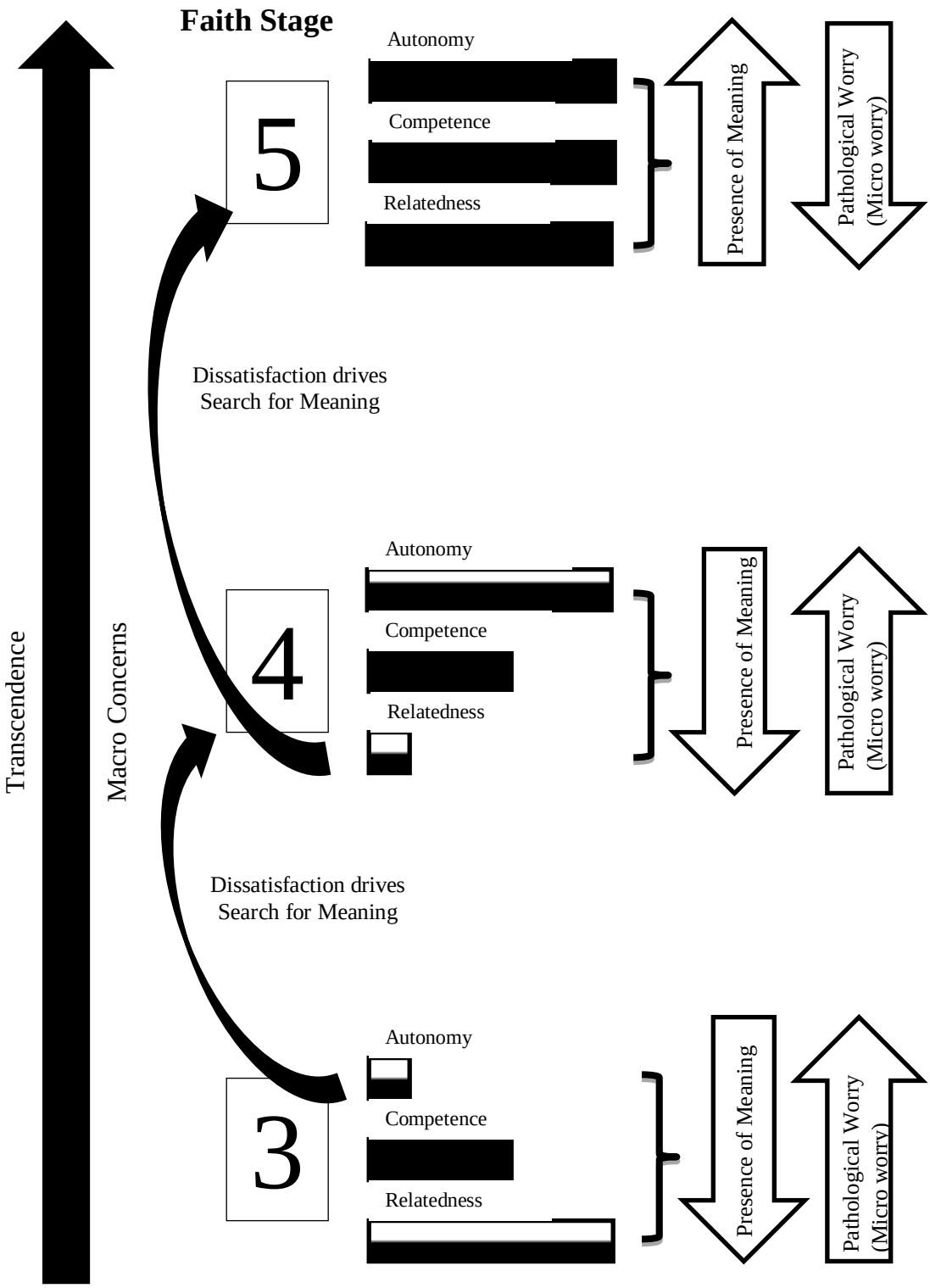
Faith stage development is a way of articulating and summarizing one's modality of making meaning and its potential for evolution over the life span. While generalizable in its universal reality, meaning differs with respect to the individual in terms of its subjective content. However, this variety of subjective meaning content is made more transparent by SDT's indication of a general foundational prerequisite for all meaning satisfaction being the satisfactory meeting of one's psychological needs. When one's basic psychological needs are met the individual moves towards a place of autonomy and competence while still recognizing the importance of relationships. Development towards satisfying these three needs more fully is paralleled clearly in Fowler's faith stage development. Faith is the expression and engagement of meaning in one's life, and a logical and literature-supported assumption is that in its absence or failure, the individual is vulnerable to anxiety and subsequently worry. The literature supports the notion that worry's presence as well as content (micro/macro) is significant. Presence of meaning provides a source of prediction regarding presence of worry while faith stage (grounded in considerations of the correlated basic psychological needs and loci of authority/control) provides some predictive options regarding variations in worry content grounded in the concepts of micro and macro worry.

The proposed theoretical model integrating the constructs utilized in the current study is presented in figure form on the following page. The figure represents the development from faith stages three to five, as those are the stages of interest for the current study. A brief summary reminder of the content of these three stages is helpful in conceptualizing the model. An adherent to stage three has yet to critically examine their beliefs or values. Stage three is marked by identification with one's "in-group" and is understood as a conformist stage. Stage four is realized when one begins to take personal responsibility for their beliefs and values. In this stage, autonomy is emphasized, and the idea of self parts from stage three's enmeshed understanding of others. Connections to others are now marked by chosen ideological compatibility (as opposed to the inherited, unexamined connection to others marked by stage three). Movement to stage five discards the strict contrasts and distinctions of stage four and reclaims past connections. It recognizes and honors the impact of stage three connections on current ways of being, while also using stage four autonomy to increase connections to both similar and dissimilar others.

As is noted on the left of the figure, self-transcendence rises from lower to higher stages and is accompanied by rising macro concerns (although a slight decrease in macro concern may occur with arrival at stage four, as was previously discussed, this temporary lull is overcome as movement toward stage five continues).

Each stage is represented by unique satisfaction profiles of the three psychological needs (Autonomy, Competence, and Relatedness). Each need has a separate bar indicating level of satisfaction, with movement to the right indicating greater satisfaction. In addition, each bar shows gradients of universal potential fullness

Figure 3. Theoretical Model Integrating the Constructs



for each need (relatedness and autonomy increase in fullness as movement occurs from stage three to five). This proposed fullness is theoretical, and an attempt is not made to measure it, as its subjective nature would make measurement quite difficult. Speaking from a stage five or six perspective on relatedness (universal/global), one's sense of relatedness in stage three is limited to their identified in-group. Although the stage three adherent may self-report as satisfied regarding their exclusive connections, their satisfied sense of relatedness is not as inclusive, or full, as a satisfied sense of relatedness at stage five. This increased fullness is also observed regarding autonomy, the reasoning having already been outlined in the stage descriptions just mentioned.

The distinguishing features between stages regarding the three psychological needs profiled are as follows. Stage three is marked by low satisfaction on autonomy contrasted by high satisfaction on relatedness, while competence hovers at mid-satisfaction rates. As satisfaction rates decline and subsequent dissatisfaction rates rise, one begins to search for new meaning. When the dissatisfaction on autonomy within stage three is acknowledged by the individual, Search for Meaning in life increases and transition to stage four begins.

Stage four is represented by an increase in autonomy potential and satisfaction. Changes in competence are not hypothesized, but it would not be surprising if increased autonomy resulted in some increase in competence. The emphasis on autonomy and individuation at this stage results in decreased satisfaction on relatedness. Fullness, regarding relatedness, is not altered because the adherent simply exchanges his or her inherited in-group for a chosen one. The individual does not expand his or her exclusive view of connection to others. When deficient levels of satisfaction on

relatedness are realized, this dissatisfaction again drives the search for new meaning in life and the transition to stage five.

Stage five is marked by increased fullness and satisfaction on all psychological needs. Noteworthy is that one can potentially exist somewhat contentedly at any stage, but only to the extent they address, repress, or ignore any dissatisfied psychological needs. Individual's report of presence of meaning in life is defined by satisfaction on these three needs (to the extent they are experiencing satisfaction, meaning can be experienced; dissatisfaction impedes this experience). Levels of micro-focused pathological worry logically negatively correlate to presence of meaning and need satisfaction levels.

The levels of dissatisfaction on autonomy and relatedness inhibit presence of meaning in stages three and four and also provide the foundation for increased worry. Stage five satisfaction levels provide the opportunity for increased presence of meaning and lower levels of worry. Certainly, this development is more fluid than this static figure can adequately represent, but a visual representation of this complex construct interplay will hopefully prove helpful conceptually.

Purpose

The current study seeks to build on previous worry and faith research through exploring the relationship between worry, faith development, meaning, and self-determination theory. Worry is understood as the anticipation of threat, which if in reaction to a real stressor can be a normal (state). However, the term "threat" can be broadly and subjectively defined. Chronic, uncontrollable worry (trait) is more

characteristic of a general state of despair, which would logically be addressed through engagement of meaning. This connection provides a logical point of interest into how the two constructs actually interact. As faith is presented here as framework of developmental stages, the question of what underlying factors are met as one moves through the stages is also of interest.

This study presents four major constructs and suggests that they are intricately intertwined with one another; those four constructs being: worry, faith development meaning in life, and self-determination. Admittedly, each of the constructs contains theoretical intraconstruct variance to the extent that studies have and will continue to be done within each of them individually. However, it is inevitable that a limitation of intraconstruct research is that it will fail to explore the possible connections to other related theories that reciprocally impact the area of focus in a fashion similar to, for example, the biopsychosocial understanding of the individual. Originally, the study was to examine specifically faith development according to Fowler's (1981) stages and a global construct labeled "worry." However, as the constructs were researched, it quickly became apparent that the study would require in depth exploration of other constructs that are definitionally connected to the "how's" and "why's" of both the concept of worry and what Fowler proposes concerning what moves one along this continuum of faith, as well as what slows or impedes movement.

Hypotheses in the current study will surround how one's faith stage is related to their perception of meaning in life, and what impact faith stage and amount of perceived meaning has on the severity and content of people's worries. Reported self-transcendence will be used to help further distinguish between faith stages. Underlying

faith and meaning, Self-Determination Theory will be explored as a related variable in explaining the presence or absence of meaning along the faith stage continuum. SDT will also be explored as an impacting variable on the presence of worry.

The current study will use a combination of measures to assess the severity and object of their worry, the developmental status of respondents' faith, the perceived level of meaning in their lives, and how self-determined they understand themselves to be. As religious coping has been found to have an effect on certain psychosocial well-being variables, religious affiliation and involvement will also be assessed as well as other demographic variables (Pargament, 1997; Pargament, Smith, Koenig, & Perez, 1998).

The idea of spirituality and meaning-making in the context of psychotherapy is one that continues to grow and develop (Myers & Williard, 2003; Parker, 2011). Hopefully, the findings of this study will benefit psychologists and psychotherapists as they attempt to help their clients with creating meaning in life and overcoming barriers to worry and anxiety. The current research should also be beneficial to the faith community by educating and encouraging them to continue on with the work of helping people move away from the sickness that is a life of pathological worry and towards a more satisfying and meaning-filled existence.

Hypotheses and research questions

The primary criterion variable of interest is worry (both content and amount of worry). It has been previously discussed that it is not the presence of general worry that is problematic but the presence of "pathological" worry. In addition, the content of one's worry has been argued to account for a significant portion of the variance

regarding the deleterious effects of the presence of worrying (i.e., micro worry is associated with negative outcomes versus a lack of impact on well-being associated with the presence of micro worry). The PSWQ was utilized to measure the pathological nature of worry and Boehnke et al.'s (1998) Micro/Macro Worry Scale was used to assess worry content.

In the section on Fowler's (1981) stages, it was outlined how the stages differ (see Figure 2.0). One area of difference of particular interest in the current study is how one exists in relation to others. When considering Fowler's stage aspects of *Bounds of Social Awareness* and *Locus of Authority* stages three, four and five demonstrate some noteworthy differences. As movement from three to four takes place, one moves from identity being found primarily as a part of one's in-group to identity being found within the self. Movement from four to five then indicates a reintegration of self and others without the myopic exclusion of others characterized by stage three. To categorize respondents by faith stage, it was planned that the FDS would be used in conjunction with the ASPIRES' Self-transcendence subscale. The FDS was to be use to separate respondents into a 2/3 and 4/5 groups. The self-transcendence scale was then to be used to separate the stage four from stage five respondents using the midpoint of that scale's range as a dividing point with higher levels of self-transcendence indicative of stage five and lower scores of stage four. It was hypothesized that faith stage would predict worry content with the highest amount of micro worry being found in stages three and four and the lowest being found in stage five.

One explanation for why this difference was expected to be found was the hypothesized connection between these faith stages and SDT's primary psychological

needs (autonomy, competence, and connectedness). Based on Fowler's description of the stages, a distinct psychological need satisfaction profile was expected to be demonstrated for each stage explored. It was hypothesized that the three faith stages explored will have distinct yet significantly consistent psychological needs satisfaction profiles when considering respondents' results on the Balanced Measure of Psychological Needs (BMPN). The current research expected to find that stage five faith would have consistently high overall satisfaction scores with elevated scores across all three need domains (autonomy, competence, and connectedness), stage four was expected to have elevations in autonomy and competence but lower scores on connectedness, and stage three was expected to see low scores overall, but specifically lower scores on autonomy than on competence and connectedness. Respondents with scores low on autonomy and/or competence were expected to experience more micro (self- focused) worry, as they would perceive themselves as more at risk of having individual attempts at affecting change in themselves and/or their environment thwarted.

As was previously mentioned, the concept of meaning has been identified as a construct whose potential is increasingly fostered as one satisfies his or her basic psychological needs and, in so doing, becomes more self-determined. To be consistent with the SDT literature it was hypothesized that a prerequisite to presence of meaning in life would be satisfaction of one's psychological needs. However, to suggest such a hypothesis would be inconsistent with Fowler's contention that lower faith stages can also achieve a state of contentment or homeostasis. It would be logical to hypothesize that meaning would be predicted by need satisfaction and thus, a stage five faith was

expected to report a higher presence of meaning in life than a stage three, as they should experience greater overall need satisfaction. This hypothesis, while logical when considering the SDT literature, contrasts Fowler's assertion that a meaning-filled homeostatic existence can subjectively occur at lower faith stages (e.g., stage three). For these reasons, this issue was considered in an exploratory context in the current research. The question of whether or not presence of meaning in life is significantly related to the satisfaction of psychological needs was posed as a research question.

Presence of meaning, understood in part by definition to be the antithesis to despair, was hypothesized to predict the directional presence of pathological worry. This hypothesis was to be tested utilizing respondents' scores on the MLQ-P and the PSWQ.

To test Fowler's assertion as a research question, meaning scores among faith stages was explored to see if stages predict consistently differing levels of meaning. In addition, satisfaction of psychological needs was posited as a predictor of self-reported presence of meaning in life to test the assertion made by SDT researchers that the construct of meaning in life is a secondary by-product of psychological needs having been satisfactorily met.

To summarize, the specific hypotheses for the current study were:

(1) After having been categorized into faith stages (3, 4, or 5), it was expected for faith stages to significantly differ regarding content of worry. Low scores on the FDS would be indicative of stage three faith where as high scores on the FDS would indicate stage four and five. Stages four and five were to be separated by lower and higher scores, respectively, on the Self-Transcendence subscale of the ASPIRES. When

comparing respondents, stage five respondents should have indicated lower scores of Micro worry than stage four or three respondents. Macro worry on the other hand should increase throughout the stages as individuals shift focus from self to other. Specifically, Micro worry was predicted to be lower with stage five respondents compared to stages three and four (no prediction between stages three and four) and Macro worries should have been higher from stage to stage such that, $3 < 4 < 5$.

(2) Meaning, as indicated by the scores on the MLQ-P was predicted to significantly and negatively correlate with respondents' report of pathological worry as represented by scores on the PSWQ. Specifically, as MLQ-P scores increase, PSWQ scores were to decrease. Conversely MLQ-S scores should have positively correlated with PSWQ scores.

(3a) Faith stages three, four, and five were expected to be represented by significantly distinct psychological needs profiles as represented by differences between faith stage groups on the subscales of the BMPN Scale for SDT. Stage five was expected to have higher satisfaction scores on all three subscales of the BMPN (autonomy, competence, relatedness). Stage four was expected to be high on autonomy and competence satisfaction but low on relatedness satisfaction. Stage three was expected to be high on relatedness satisfaction but low on autonomy and possibly competence satisfaction (although for stage three competence could still be perceived as adequately satisfied despite deficiencies in satisfaction of autonomy).

(3b) The findings regarding this hypothesis were to have implications with the first hypothesis (that faith stage would predict worry content), which if upheld, was to be tested alongside the current one to see whether faith stage is a better predictor than

satisfaction of psychological needs when considering worry content (i.e., Micro vs. Macro concerns). It was hypothesized that BMPN subscales would be stronger predictors of worry content than FDS due to the hypothesis that the BMPN subscale categories represent concentrated, fundamental characteristics of the more broad, summative FDS groups.

(4) Satisfaction of psychological needs was expected to predict presence of pathological worry, such that higher scores across subscales of the BMPN would significantly predict and negatively correlate with scores on the PSWQ (i.e., as scores on BMPN increase, scores on the PSWQ should decrease, and vice versa).

Research questions to be explored were whether satisfaction of needs was significantly related to reported meaning in life (i.e., do scores on the BMPN correlate to scores on the MLQ), as well as whether faith stage differences result in increased or decreased scores on MLQ (i.e., were there significant differences in MLQ scores when comparing stage three, four, and five groups?). The study also looked at evidence confirming findings of previous research, such as age and gender differences observed and previously reported levels of internal consistency on measures used.

Chapter 3: Methods

Participants and Procedure

Participants

As the constructs measured have been discussed as being experienced across the lifespan with differences noted across age groups, effort was made to recruit and include in the study a wide range of adult participants. Participants between the ages of 18 and 100 were recruited to participate in an Internet-based survey on "factors impacting worry" via email and social media using a snowball sampling method (i.e., respondents were asked to forward survey link to other potential participants; no compensation was given for forwarding the survey link). This recruitment method was used in conjunction with direct requests to specifically chosen faith-based and secular groups to disseminate the survey link to their members. It was hoped that taking advantage of the broadness and convenience of online connections would facilitate greater participation. Participants were informed that they would have the opportunity, upon completion of the survey, to enter a drawing to win a $25 gift card. The informed consent also noted that one gift card would be raffled for every 25 participants. More detailed information regarding participant characteristics is noted in the results section of this study, and can also be found in Table 1 within the Appendices.

Procedure

The study was reviewed and approved by the University of Oklahoma Institutional Review Board (IRB #3355). Data collection took place via a secure web-based server that housed the survey instruments. Participants had to actively indicate they had read a research information sheet and consent to participate to enter the study.

If participants did not consent or indicated they were younger than 18 years of age they were thanked for their time and dismissed from the study.

Participants completed several demographics questions and the following surveys in this order: the Penn State Worry Questionnaire (Myer, Miller, Metzger, & Borkovec, 1990), the Micro/Macro Worry Questionnaire (Boehnke et al., 1998), the Faith Development Scale (Leak et al., 1999), the Balanced Measure of Psychological Needs Scale (Sheldon & Hilpert, 2012), the Assessment of Spirituality and Religious Sentiments Scale- Short Form (Piedmont, 1999; 2004), and the Meaning in Life Questionnaire (Steger et al., 2006). Surveys were given in the order described to try and avoid influence of faith questions on responses to worry questionnaires (i.e., participants primed with faith questions might be influenced on worry items, thinking that their faith "should" results in less or no worry). Faith surveys were placed after worry measures but intermingled with measures of SDT and meaning, as items between those two constructs were not anticipated to cause significant priming issues. After completion of all survey items (survey was set up in such a way that items could not be skipped), participants were invited to leave the survey by clicking a secure link to enter their email address for the $25 gift card drawing. This was done to separate any identifying information from survey responses.

Measures

Penn State Worry Questionnaire (PSWQ) (see Appendix 1).

The PSWQ was developed by Myer, Miller, Metzger, and Borkovec (1990) as a self-report measure of worry. The measure has frequently been used in the diagnosis of

GAD (Brown, O'Leary, & Barlow, 2001; Campbell-Sills & Brown, 2010). It is comprised of sixteen items to which participants respond using a Likert-type scale of 1 (not at all typical of me) to 5 (very typical of me). Eleven of the items are directionally positive in their relationship to pathological worry (e.g. "Once I start worrying, I cannot stop"). Five items are reverse-coded (e.g. "I never worry about anything"). After reverse scoring the five items and then summing all responses, a total score is used to reflect the presence of pathological worry in the respondent. The total score is indicative of worry in that higher scores indicate higher levels of pathological worry. The PSWQ has demonstrated high internal consistency (alpha of .93) and good test-retest reliability (.74 to .93 over a 1-month period). For the current study, the PSWQ's reliability was consistent with previous research (see Table 3). It is anticipated that, regarding gender, females will score higher overall on this measure, as is consistent with previous research. However, this gender difference is not anticipated to confound findings related to the scale and is further discussed in the results and discussion sections (Conway, Wood, Dugas, & Pushkar, 2003; Robichaud, Dugas, & Conway, 2003; Zlomke & Hahn, 2010).

Micro/Macro Worry Scale (see Appendix 2)

The scale for assessing presence of micro and macro worries was developed by Boehnke et al. (1998). The authors extended Goldenring and Doctor's (1986) scale concerning micro and macro existential worries. This extension was justified by the authors due to the fact that the original twenty items were chosen from a list of self-reported worries by a sample of high school students in 1986. Boehnke et al. (1998) reported adding thirteen questions so as to include items from each of their identified

worry domains (safety and health, social relations, environment, economics, achievement, and meaning). This created a completed scale of thirty-three items. With each item, respondents are asked to consider: "How worried, if at all, am I about it?" Respondents then indicate their response using a 0 to 4 Likert-type scale labeled: "0" – not at all worried, "2" –somewhat worried, "4" –extremely worried. Examples of micro items would be "my getting cancer" (health domain), "my not having any close friends" (social relations domain), or "someone in my family not having enough money" (economic domain). Examples of macro items would be "people in the world dying of hunger" (health domain), "conflict among groups in our society" (social relations), "many people in my country living in poverty" (economic domain). The scale is made up of a micro and macro subscale (15 micro items and 18 macro items). The authors did not provide a justification for the slight imbalance between numbers of items per subscale.

The scale was initially constructed using Israeli, West German, and East German samples. Cronbach's alphas for the micro scale ranged from .81 to .87. For the macro scale they ranged from .84 to .88. Four-week interval test-retest correlations for the two scales were .84 for micro and .73 for macro. Schwarz, Sagiv, and Boehnke (2000) used the scale on populations of East and West German, Israeli, and Russian-born Israeli students and found Cronbach's alphas ranging from .83 to .90 for the scales.

Boehnke and Wong (2011) used a short version of the same scale by taking five items from both the micro and macro subscales. Used with a sample longitudinally across 11 years, the authors found Cronbach alpha coefficients to range between .61 and .69. Cronbach alphas for the macro scale ranged from .65 to .78.

Faith Development Scale (FDS) (see Appendix 3)

The FDS was developed by Leak et al. (1999) as a measure of faith development correlating with Fowler's stages two through five. Stages one and six were excluded due to the infrequency of encountering these stages in adults. The FDS is an eight paired-item forced-choice questionnaire. With each question there is a less mature and more mature response. An example of one of the paired-item questions is: (a) "The religious traditions and beliefs I grew up with are very important to me and do not need changing," (b) "The religious traditions and beliefs I grew up with have become less and less relevant to my current religious orientation." Selection (b) represents the more mature faith development. The number of more mature faith responses does not reflect directly the corresponding stage of the participant. For example, if a participant chose the more mature statement five of the eight times a stage five development would not be inferred. The FDS yields only a range of faith development with the higher scores correlating to stages four or five and the lower scores to stages two or three. The questionnaire is scored by counting the number of times a respondent chooses the more mature faith development response. Scores range from 0 to 8 with scores at or below "4" being representative of lower developmental stage (Fowler stage 2-3) and scores above "4" being indicative of a higher developmental stage (Fowler stage 4-5). Leak et al. (1999) reported an internal consistency with an alpha of .72 and a five-week test-retest reliability rating of .96. Leak (2003) subsequently examines the scale's validity from a cross-sectional and longitudinal perspective noting significant differences on FDS scores in sample of college freshman and seniors. In a 2008 study, Leak further

examines the scale's factorial validity and presents satisfactory evidence for the good fit of a single factor. Convergent validity is also demonstrated between studies.

Balanced Measure of Psychological Needs Scale (BMPN) (see Appendix 4)

An initial version of the BMPN was used by Sheldon and Gunz (2009; Sheldon et al., 2011) as an alternative to the Basic Psychological Needs Scale (BPNS) (Gange, 2003). Due to perceived problems with the BNPS (i.e., internal and construct validity issues), the scale was formally presented in its current form by Sheldon and Hilpert (2012). Items for the scale included a previously validated nine-item measure in addition to nine newly formulated items, totaling eighteen items. The addition of items was done to balance out the subscales as well as to provide scores of both satisfaction and dissatisfaction (as opposed to just an overall score) on the three distinct subscales representing the three basic psychological needs, as outlined in Self-Determination Theory (Autonomy, Competence, and Relatedness); (Deci & Ryan, 2000). Each need is represented by six questions (three satisfaction and three dissatisfaction) with a mixture of positively and negatively worded items. The reported reliabilities for the BMPN satisfaction and dissatisfaction subscales respectively were, .69 and .72 on autonomy, .71 and .70 on competence, and .71 and .85 on relatedness (Sheldon & Hilpert, 2012).

One limitation of the scale is that it seems to have been validated and used primarily with undergraduate students, and cross-cultural validity/consistency data is lacking. However, the core assertions of self-determination theory have been demonstrated to be applicable in a multi-cultural context (Roth et al., 2006; Chirkov et al., 2003; Grouzet et al., 2005). Although fewer field studies have been done using the scale, according to the authors the BMPN is a significant improvement over the more

widely used BPNS, addressing issues including: unbalanced subscales, lack of negatively worded items, improved internal and construct validity (Sheldon & Hilpert, 2012).

The BMPN is an 18-item scale comprised of three dual-faceted (satisfaction/dissatisfaction) subscales. Administration of the scale yields a satisfaction and dissatisfaction score for each of the three subscales (Autonomy, Competence, and Relatedness). Satisfaction and dissatisfaction scores can be combined for an overall satisfaction score. Respondents are asked to read a series of statements about themselves and "think about how true it is for you." A 5-point Likert-type scale is used with "1" being "not at all true for me", "3" being "somewhat true for me", and "5" being "very much true for me." The following are example questions from each subscale: "I feel a sense of contact with people who care for me and whom I care for" (Relatedness), "I successfully complete difficult tasks and projects" (Competence), and "I am free to do things my own way" (Autonomy). Scores on each subscale are then summed (satisfaction and dissatisfaction components can be combined for an overall satisfaction score) and indicate level of satisfaction pertaining to each of the three psychological needs, such that higher scores indicate higher perceived levels of satisfaction/dissatisfaction. Reliability coefficients for the current study can be found in Table 3. Due to the low number of items per subscale (six subscales of three items each) possibly impacting the reported Cronbach values, the mean inter-item correlation is also reported. Briggs and Cheek (1986) recommend a range of .20 to .40. Of the three subscales with alpha values below .70, they all fell within the recommended average inter-item correlation range (relat_diss = .39, aut_sat = .39, aut_diss = .34).

Assessment of Spirituality and Religious Sentiments Scale- Short Form (ASPIRES-SF)

(see Appendix 5)

The ASPIRES-SF is a 13-item measure (the full ASPIRES contains 35 items) developed by Piedmont (1999; 2004). The first four items comprise the *Religiosity Index*. Participants are asked to rate how often they: "…read the Bible/Torah/Koran/Geeta; …read other religious literature; …pray; and, …attend religious services." Respondents rate themselves on a Likert-type scale of 1 (Never) to 7 (Several times a week). The sum of the transformed z-score responses provides a composite measure of religious involvement. The remaining nine items examine the three identified facets of spiritual transcendence (e.g., "In the quiet of my prayers and/or meditations, I find a sense of wholeness"; "I feel that on a higher level all of us share a common bond"). Participants rate themselves on a Likert-type scale of 1 (Strongly agree) to 5 (Strongly disagree). Individuals scoring high on this dimension are suggested to derive a greater sense of meaning from a wider context (nature and/or community), whereas low-scoring individuals are suggested to be more materially-oriented and focused on the physical realities of the present. The measure comes in a both a self-report and observer form; significant correlations of .81 to .96 were reported between long and short forms. As the long and short forms did not differ significantly regarding reliability, and this study was comprised of multiple self-report measures, the short form was chosen for the current study to decrease overall survey length, hopefully improving survey completion and participant retention rates. Only the self-report measure will be used for the current study and alphas for the short form were reported to range from .60 to .92 across all subscales of the form querying both community and

student samples (Piedmont, et al., 2008). The measure also includes a demographic component requesting: gender, age, race, and religious affiliation. The current study yielded the following Cronbach alpha coefficients: prayer fulfillment = .92, connectedness = .76, universality = .52 (mean inter-item correlation = .28), transcendence total score = .78.

The measure and its model have also demonstrated validity and reliability in cross-cultural samples (Piedmont, 2007; Piedmont, Werdel, & Fernando, 2009; Rican & Janosova, 2010). Rican and Janosova's (2010) study with youth in the Czech Republic demonstrates support for the structure of the STS and acceptable or explainable correlations to the domains of the STS. The STS demonstrates comparable, acceptable reliability and validity statistics when a translated version is used with Filipino adults (Dy-Liacco, Kennedy, Parker, & Piedmont, 2006; Piedmont, 2006; 2007). Piedmont, Werdel, and Fernando (2009) used the ASPIRES to compare a Sri Lankan sample and found that the scale proposed comparable and acceptable reliability and validity between the two groups. Leach, Piedmont, and Monteiro (2001) also looked at the STS's applicability in India among Christian, Hindu, and Muslim samples, and found the scale to be applicable and appropriate in these settings.

Meaning in Life Questionnaire (MLQ) (see Appendix 6)

The MLQ was developed by Steger et al. (2006). The scale consists of two 5-item subscales. One measures the perceived presence of meaning in life (MLQ-P) (e.g., "my life has a clear sense of purpose," "I understand my life's meaning"). The other measures search for meaning in life (MLQ-S) (e.g., "I am always looking to find life's purpose," "I am searching for meaning in my life"). Respondents rate items on a 7-

point Likert-type scale ranging from: 1 (absolutely untrue) to 7 (absolutely true). Scores on each subscale can range from 7-35 with higher scores representing greater presence of or search for meaning in life. In the initial study, internal consistency was good with alphas for ranging from .81 to .86 for the MLQ-P subscale and .84 to .92 for the MLQ-S subscale. One-month test-retest reliability was also good (MLQ-P=.70 and MLQ-S =.73). When compared to other meaning scales measuring presence of meaning good convergent validity was found for the presence subscale (MLQ-P). The MLQ demonstrated good discriminant validity when compared to measures of social desirability, values, and extrinsic religiosity. Internal consistency and stability for the scale has been demonstrated in subsequent studies and supports the use of the scale in its current form (Steger & Kashdan, 2007; Steger et al., 2010). There is evidence to support its cross-cultural reliability with its use with Hispanic and Japanese respondents and in both out and in-patient settings (Schulenberg, Strack, & Buchanan, 2011; Steger, Frazier, et al., 2008; Steger, Kawabata, et al. 2008). For the current study, the MLQ-P and MLQ-S subscales demonstrated good reliability (see Table 3).

Design

Hypothesis one

Hypothesis one was tested by categorizing FDS respondents into High and Low groups and then further categorizing the "high" group based on STS score (which were expected to negatively correlate with FDS). This was to result in three faith stage groups (3, 4, and 5) that could be compared. A multivariate analysis of variance (MANOVA), using Hotelling's Trace due to having only two groups, was used to test

differences between groups on the Micro/Macro worry subscales as well as the measure of pathological worry (PSWQ). Also included in this omnibus test were the six subscales of the balanced measure of psychological needs to test hypothesis 3a. After Bonferroni adjustment to reduce chances of Type 1 error, significant differences were marked by significance levels <.006, unless otherwise noted.

Hypothesis two

Hypothesis two was tested using a general Pearson correlation to test for significant relationships between search for meaning in life (MLQ-S) and presence of meaning in life (MLQ-P) with scores on the PSWQ.

Hypothesis three

Hypothesis 3a was tested as described above using the Hotelling's Trace value obtained from a MANOVA. Differences on BMPN satisfaction/dissatisfaction subscales were tested for significance between faith stage groups. To test hypothesis 3b, a standard multiple regression analysis was used to see if scores on the BMPN accounted for more variance on the Micro/Macro worry scale (worry content) than scores on the FDS.

Hypothesis four and Research Questions

A standard multiple regression analysis was also used for hypothesis four to test the BMPN subscales as significant predictors of scores on the PSWQ. Research questions were addressed using Pearson product-moment correlations to explore relationships between variables.

Chapter 4: Results

As only completed surveys were included in data analysis, there were no missing data for which to account during analysis. Power estimates were conducted for proposed analyses with G Power 3 power analysis software (Faul, Erdfelder, Lang, & Buchner, 2007). Power analyses combined with the literature review of previous studies with same instruments and similar analyses prior to collection indicated the need for 150-200 participants in order to yield adequate power for all analyses planned (which was surpassed with the size of the current sample). Cohen's (1992) recommended power level of .80 and at least a "medium" effect size. These recommendations were used as guidance for the current study. Preliminary analyses testing for normality on variables were within acceptable limits. No extreme outliers were indicated.

Participants

The final sample was comprised of 264 completed surveys. Of the individuals who initiated the survey, 38 did not complete it and were not included in final sample. Due to the online design of the survey, participants could not skip items but were required to answer every item as long as they chose to continue the survey. It appeared that 38 individuals abandoned the survey (i.e., they initiated the survey but did not complete it). Upon inspection of the 38 who discontinued the survey, it was observed that participants discontinued participation at various points in the survey (some early on and others after completing several measures). No consistent demographic pattern was observed as discontinuing participants demographic data was consistent with

sample of completed surveys. Additionally, if after connecting to the survey link participants declined the informed consent or reported being under 18 years of age they were not allowed to participate in the survey. These individuals who did not consent or did not meet inclusion parameters were also included in this sample of 38 who did not complete the survey.

Within the sample, there were 191 women (72.3%) and 73 men (27.7%). No significant mean differences between genders were found on any measures completed except the measure of pathological worry (PSWQ), which will be further discussed later in this section. Ages ranged from 19 to 79 with a mean reported age of 38.6 years (standard deviation *SD* = 14.3). The large majority (85.2% of the sample) were in a range of ages from 19 to 57. Within that subsample (N=225), 61% were between the ages of 20 and 34. The majority of respondents reported being Caucasian/White (86.7%) and, when asked about religious orientation, Christian (73.5%). See Table 1.0 for complete demographic variables.

Regarding religious involvement, 41.1% of the sample reported reading religious texts (e.g., Bible, Torah, Koran, Gita) weekly or multiple times per week. Of those reported readers, 11.3% reported reading monthly, 26.5% yearly, and 22% reported never reading said texts. Participants were also asked how often they read religious literature other than the previous four texts mentioned. Within those results, 60.2% reported a range of several times per year to never, while 23.8% reported reading weekly. Regarding prayer, 67.4% of the sample reported praying at least weekly, 9.8% reported praying at once to several times per year, and 12.5% reported never praying.

Concerning religious service attendance, 42.8% reported attending services weekly, 9.5% monthly, 27.3% yearly, and 20.5% reported never attending religious services.

Measures

Regarding worry, participants' scores on the PSWQ ranged from 16 to 80 with an average score of 48.61 (*SD* = 15.36). On the Micro/Macro Worry Scale, the micro worry subscale ranged from 16 to 68 with a mean of 36.56 (*SD* = 10.72), while the macro worry subscale had slightly higher mean of 41.50 (*SD* = 12.27). Independent-samples t-test revealed significant differences on worry between males (*M* = 42.16, *SD* = 15.25) and females (*M* = 51.07, *SD* = 14.71) on the PSWQ (*t* (262) = -4.36, $p < .01$). The effect size of the mean difference was moderate (eta squared = .07). This difference between males and females on the PSWQ is consistent with previous research and was anticipated with this study. It is presented here as confirmation of consistency with prior research and should not confound other findings in this study, considering no other significant gender differences were found within any other constructs measured (Conway, et. al., 2003; Meyer et al., 1990; Robichaud et al., 2003; Zlomke & Hahn, 2010).

Scores on the faith development scale ranged from 0 to 8 with a mean of 5.54 (*SD* = 1.94). On the FDS, 28.8% of the sample scored at or below a 4, indicating endorsement of a lower faith development stage. A relatively balanced percentage of the remaining sample were spread across the other possible scores 5-8 indicating a higher faith development stage (between 42-50 respondents per score, 16%-19%). Total spiritual transcendence scores on the ASPIRES-SF ranged from 9 to 45 with a

mean score of 33.31 (*SD* = 6.31). Scores on the Prayer Fulfillment, Connectedness, and Universality subscales of the ASPIRES ranged from 3 to 15 and had average scores of 11.77, 10.43, and 11.11, respectively. Religiosity subscale scores from the ASPIRES were reported above with the demographic information.

Participants' scores were relatively consistent across each of the BMPNS subscales: Satisfaction/Dissatisfaction on Relatedness, Competence, and Autonomy. Possible scores on each scale ranged from 3-15, such that higher scores indicated greater degrees of satisfaction or dissatisfaction and lower scores indicated the contrary. For the Relatedness subscale, satisfaction had a mean score of 12.18 (*SD* = 2.48,) and dissatisfaction had a mean score of 6.91 (*SD* = 2.74). Regarding Competence, means scores were: satisfaction, *M* = 11.69 (*SD* = 2.32) and dissatisfaction, *M* = 7.71 (*SD* = 2.99). The scores on the Autonomy subscale were similar to the other two subscales for both satisfaction, *M* = 11.30 (*SD* = 11.30), and dissatisfaction, *M* = 7.84 (*SD* = 2.67).

In the current study, MLQ scores ranged from 5 to 35 (scale's actual range: 0-40). The average score for MLQ-Presence was 26.24 (*SD* = 6.83) which was slightly above the midpoint (20). The MLQ-Search average was 20.39 (*SD* = 8.09). These numbers are relatively consistent with (slightly above for the (MLQ-P P) and below for the (MLQ-S) previously reported scores on these measures (Steger et al., 2006).

Hypotheses

Hypothesis one

Hypothesis one originally included dividing faith development scale (FDS) scores into three stage groups using scores on the STS(transcendence subscale of the

ASPIRES-SF), and then compare the groups on worry, expecting low faith stage groups to have significantly higher levels of pathological (PSWQ) and micro worry. The high faith stage group was anticipated to demonstrate significantly lower levels of pathological and micro worry but higher levels of macro worry. Using SPSS, FDS scores were categorized into "high" (≥5) (N = 188) and "low" (≤4) (N = 76) based on earlier justification regarding cutoff levels for faith stage categorization (Fowler stage 2-3 for "low" group and 4-5 for "high" group). Originally, STS scores were then to be used to divide the high FDS group into two separate groups. However, upon initial analyses between the two measures, it was revealed by the Pearson product-moment correlation that the relationships between scores on the FDS and STS had a small to medium negative correlation, r = -.27, n = 264, p < .01, with higher scores on the FDS associated with lower scores on the STS (spiritual transcendence). This finding was in contrast to the originally anticipated positive correlation of the two variables and thus did not provide the variable scores needed to further divide FDS scores from two groups to three. Because the FDS groups could not be separated into three groups, a MANOVA using the Hotelling's Trace values was used to compare the high and low FDS groups.

Tests for homogeneity and equality of variances, normality, linearity, and multicollinearity indicated assumptions were not violated in this test. There was a statistically significant difference between high and low FDS groups on the combined dependent variables (pathological, micro and macro worry, and the six BMPN subscales), F (9, 254) = 3.301, p = .001; Hotelling's Trace = .117; partial eta squared = .105. When the results for the dependent variables were considered separately, the only

differences to reach statistical significance regarding this hypothesis, using a Bonferroni adjusted alpha level of .006, was Micro worry, F (1, 262) = 9.151, p = .003, partial eta squared = .034. An inspection of the mean scores indicated that the high FDS group (M = 37.81, SD = 10.35) had higher scores on micro worry than the low FDS group (M = 33.47, SD = 11.05).

Noteworthy is that, while statistically insignificant in the current model due to the Bonferroni adjustment, groups also differed on pathological worry scores (p = .046) in an unanticipated direction with the high FDS group (M = 49.80, SD = 15.50) scoring higher than the low FDS group (M = 45.64, SD = 14.69). Macro worry scores differed in the hypothesized direction with the high FDS group (M = 42.78, SD = 11.64) scoring higher than the low FDS group (M = 38.34, SD = 12.32). However, this difference on macro worry (p =.008) could not be considered statistically significant under the current parameters with the Bonferroni-adjusted p value of .006.

The first hypothesis was only partially upheld in that it could not be fully tested as originally intended (comparison of three faith stage groups) due to the failure of the STS to correlate with the FDS as hypothesized. Additionally, even when faith stage was divided into two groups (FDS high and low), significant differences were found in the opposite direction as originally hypothesized (lower faith stage was characterized by lower PSWQ and Micro worry subscale scores than worry scores within high faith stage group). Macro worry did differ in the direction hypothesized, which was that the higher faith stage group had a significantly higher Macro worry subscale score than the lower faith stage group, but did not demonstrate a statistically significant difference.

Hypothesis two

The null was rejected for both aspects of hypothesis two. Both subscales of the MLQ had a significant relationship with scores on the PSWQ. These relationships were in the direction hypothesized. A negative correlation existed between reported presence of meaning in life (MLQ-P) and pathological worry (PSWQ), $r = -.25$, $n = 264$, $p < .01$. Higher levels of reported presence of meaning in life were associated with lower levels of pathological worry. Regarding search for meaning in life (MLQ-S), a positive correlational relationship was found between it and pathological worry, $r = .27$, $n = 264$, $p < .01$. Thus, higher levels of reported searching for meaning in life were associated with higher levels of pathological worry. The *r* values (-.25 & .27) suggest both relationships had a small effect size according to Cohen's (1988) recommendations.

Hypothesis three (part one)

Again the testing of this hypothesis had to be altered from the original design as faith stage groups were only divided into two groups rather than three. This hypothesis was tested using the MANOVA run in hypothesis one to reduce chance of Type 1 error. The Hotelling's Trace value was used due to only comparing two groups. The omnibus test including all dependent variables did indicate significant differences between groups, F (9, 254) = 3.301, $p = .001$; Hotelling's Trace = .117; partial eta squared = .105. When the six dependent variables included in this hypothesis were considered separately, the only differences to reach statistical significance, using a Bonferroni adjusted alpha level of .006, were Relatedness Dissatisfaction, F (1, 262) = 9.711, $p = .002$, partial eta squared = .036; and Autonomy Dissatisfaction, F (1, 262) = 17.488, $p <$

.001, partial eta squared = .063. Competence Dissatisfaction neared signficance (p = .008).

Interestingly, mean differences (statistically significant differences on Autonomy and Relatedness Dissatisfaction) were found between high and low faith stage groups on all dissatisfaction subscales but not satisfaction subscales. Mean differences on satisfaction scores for all three subscales were nearly indistinguishable (within 0.5 points between groups).

To the extent it could be tested in its two-group form, the hypothesis that higher faith stages would benefit from higher satisfaction levels on autonomy and competence was not upheld and the null failed to be rejected. Regarding competence dissatisfaction, the lower faith stage group (M = 6.95, SD = 2.45) had a lower mean than the higher faith stage group (M = 8.02, SD = 3.14), but this difference was not statistically significant with the current Bonferroni-adjusted p value of .006. Autonomy dissatisfaction demonstrated the largest mean difference between low (M = 6.79, SD = 2.55) and high (M = 8.26, SD = 2.60) faith stage groups. This difference was statistically significant and had the largest effect size of any difference tested between groups regarding this with a medium effect size (partial eta squared = .63).

Consistent with the original hypothesis was that relatedness dissatisfaction would be higher for stage four faith than it would for stage three. Being unable to differentiate between Fowler stages four and five, the fact that the higher faith stage group (M = 7.23, SD = 2.78) had a higher level of relatedness dissatisfaction than the lower faith stage group (M = 6.09, SD = 2.47), partially upholds the hypothesis with a

small to medium effect size (although it cannot be fully tested due to an inability to differentiate between stages in the higher faith stage group), partial eta squared = .036 .

Hypothesis three (part two)

This hypothesis was concerned with the prediction of worry content (macro/micro) by FDS and BMPN scale scores. It was predicted that, though both measures should offer some significant predictive power, the BMPN subscales would account for a larger portion of the variance in the model. Two standard linear regressions were used to test the two models (one predicting macro worry, the other predicting micro worry). No assumption violations were noted. With Micro Worry as the first criterion variable, the FDS and the six BMPN subscales were included in the model as predictors.

The total model was found to significantly predict Micro Worry in the sample, and explained 23.8% of the variance in the criterion variable (small to medium effect size) (R^2 = .258, adjusted R^2 = .238, $F(7, 256) = 12.737$, $p < 0.001$). Of the included predictors, standardized Beta weights for the two significant predictors were β = .322 for BMPN subscale Relatedness Dissatisfaction (t = 4.577, $p < .01$) and β = .113 for the FDS (t = 2.013, $p < .05$). In partial support of this hypothesis, FDS stood as a significant but weak predictor, but in the opposite correlational direction than was anticipated (r = .187). Of all the BMPN subscales, Relatedness Dissatisfaction was the only one that significantly predicted Micro Worry (r = .447), such that for every one *SD* increase in Relatedness Dissatisfaction, Micro Worry should also increase .32 standard deviation units.

When performing the same analysis for the Macro Worry subscale, model significance was also found but with a smaller effect size (R^2 = .089, adjusted R^2 = .064, $F(7, 256) = 3.553$, $p = 0.001$). Of the included predictors, Relatedness Dissatisfaction (β = .199, t = 2.550, p = .01) and FDS (β = .165, t = 2.642, $p < .01$) were again significant predictors, but were also joined by Competence Satisfaction (β = -.152, t = -2.048, $p < .05$). Again the hypothesis was partially supported in that the FDS and two of the BMPN subscales contributed small but significant predictive power to the model predicting scores on the Macro Worry subscale. Additionally, the correlations between variables and the Macro Worry subscale were in anticipated directions: FDS (r = .179), Related Dissatisfaction (r = .206), Competence Satisfaction (r = -.106).

Hypothesis four

This hypothesis predicted that subscales on the BMPN would significantly predict pathological worry (PSWQ scores). A standard linear regression was conducted with PSWQ scores as the criterion variable and the six BMPN subscales as predictor variables. The predictive model was found to be significant with a small to medium effect size (R^2 = .221, adjusted R^2 = .203, $F(6, 257) = 12.163$, $p < 0.001$). Of the six predictors, four were found to significantly contribute to the overall predictive model. Relatedness Satisfaction (β = .204, t = 3.204, $p < .01$) and Dissatisfaction (β = .251, t = 3.487, $p < .01$), as well as Autonomy Satisfaction (β = -.250, t = -3.499, $p < .01$) and Dissatisfaction (β = .144, t = 1.969, p = .05). Scores on the two competence subscales did not significantly predict PSWQ scores.

Research Questions

The first research question concerned testing correlations between FDS, BMPN and MLQ scores to explore relationships between faith and psychological needs on reported search for and presence of meaning in life (which had been partially tested between FDS and MLQ in Hypothesis two) to significantly correlate to pathological worry (PSWQ). A Pearson product-moment correlation was conducted using nine variables overall (BMPN-6, MLQ-2, FDS-1). To control for the risk of type-one error due to this multiple comparison, a Bonferroni adjustment was made wherein the alpha value ($p < .05$) is divided by the number of comparisons made (Dunn, 1961). Since there are 9 items being compared with each other, the number of unique comparisons is $n * (n - 1) / 2 = (9*8) / 2 = 36$ (Tabachnick & Fidell, 2007). The adjusted alpha value for testing significance of comparisons is then .05 / 36 = .001.

As was expected, significant, medium to strong correlations (r ranged from .3 to .5, $p <.001$) were found between all corresponding subscales of the BMPN (i.e., dissatisfaction subscales with other dissatisfaction subscales and then the same comparisons between satisfaction subscales group). Autonomy dissatisfaction was the only BMPN subscale to significantly correlate with the FDS ($r = .216$, $p < .001$). This is in contrast to anticipated negative correlation between FDS and autonomy dissatisfaction. Another unanticipated significant correlation was between the FDS and MLQ-P. The two variables were found to have a medium, negative correlation ($r = -.304$, $p < .001$). Between the BMPN and MLQ subscales, multiple significant correlations were noted. All subscales had significant, medium correlations to MLQ-P scores ($p \leq .001$) such that satisfaction scores positively correlated and dissatisfaction

scores negatively correlated with MLQ-P scores. Regarding the MLQ-S, all BMPN dissatisfaction subscales had small to medium positive correlations ($p < .001$). However, only the Autonomy Satisfaction subscale had a significant correlation to the MLQ-S subscale ($r = -.216$, $p < .001$).

Another research question was what impact age had on the current variables of interest. A second Pearson product moment correlation was conducted including age, PSWQ, FDS, MLQ, and BMPN (see Table 2). As 11 variables were included, the Bonferroni correction resulted in a minimum significance value of $p = .0009$. With the corrected statistical significance value, age did not significantly correlate with any other entered variables. However, it was noteworthy that age did have a small, negative correlation with both FDS and PSWQ scores ($p = .001$).

One final research question that was of interest was if there were significant mean score differences on meaning in life subscales between differing faith stage groups. That is, did respondents from different faith stages differ significantly in their reported search for and presence of meaning in life? An independent-samples *t*-test was run comparing high and low faith stage groups (as they were previously divided for hypothesis one) on both subscales of the MLQ, and significant mean differences were found in scores between FDS groups on both subscales. When comparing groups on presence of meaning in life the data violated the assumption of equal variance (Levene's test $p = .001$); thus, "equal variances not assumed" data was used to interpret the *t*-test results. Regarding presence of meaning in life, the high FDS group had an average score of 25.14 ($SD = 7.15$), while the low FDS group had an average score of 28.95 ($SD = 5.09$); $t\ (192.96) = 4.860$, $p < .001$ (two-tailed). When comparing groups

on search for meaning, the mean difference reversed with the higher score being that of the high FDS group (M = 21.04, SD = 8.13) when compared to the scores of the low FDS group (M = 18.78, SD = 7.80).

Chapter 5: Discussion

The purpose of the current research was to explore the impact of a theoretical model of several related correlates on both the quantity and content of worry in people's lives. Worry was explained in terms of having an orientation and preoccupation with possible negative future events and that, when experienced as uncontrollable or at pathologically high levels (especially in regards to self-focused issues), it tends to be associated with negative psychological well-being (Boehnke et al., 1998; Borkovec, 1994; Borkovec & Roemer, 1995; Delgado et al., 2010). As despair is understood as a sense of hopelessness in effecting future change, it seems it would be synonymous with the notion of pathological worry described here. This study was initiated to explore several aspects of the human experience that seem to relate to setting the psychological stage for worry, specifically pathological worry. As the desire for avoidance of future threats would seem to be a universal experience, the current exploration was not concerned with factors that could somehow render one's psychological fields to be absent of worry. Rather, it was hoping to search for which factors contribute to the fostering of pathological worry, as well as factors helping prevent pathological levels of worry. Faith, meaning, and one's ability to self-determine in life all fit this search, and the results of this study lent support to this assertion. In making this assertion however, the author is not suggesting these are the only such factors involved with pathological worry.

Hypothesis one

As was reported in the results section, the STS negatively correlated with the FDS, which was in contradiction to the original hypothesis and ultimately altered the testing of other hypotheses. The direction of this correlation prevented the separation of the high FDS group into two separate groups (a high and low transcendence group). Although this split could still have been made in the high FDS group, it would have lacked theoretical backing as the low FDS group had higher STS scores. This could be explained in conjunction with Fowler's (1986) assertion that people can live lives of subjective satisfaction and meaning at each faith stage.

However, it was anticipated that the STS's emphasis on universality (i.e., connection to *all* humanity) would provide a distinguishing factor between low and high FDS groups, since an increasing sense of connectedness and inclusiveness is a hallmark of the progression through Fowler's stages (especially as movement beyond stage four takes place). This significant difference was not found between groups. Even when the Universality subscale alone was examined between FDS groups, no significant difference was found between groups on the scores. In fact, of the three STS subscales, the one demonstrating the most significant difference between low and high FDS was the Prayer Fulfillment subscale with the low FDS group having significantly higher mean scores on the subscale than the high FDS group.

The large difference on this subscale between groups within the FDS seemed to account for a large portion of the variance on differing STS scores, as there was little to no mean difference between the high and low groups on the other two subscales (connectedness and universality) when examined individually. The low and high FDS

groups also significantly differed on a general question regarding how often they pray, with the lower group reporting greater frequency. This positive correlation between religiosity and transcendence has been observed before in the literature (Macdonald & Holland, 2002). As opposed to an understanding of this finding resting with a weakness of the STS, perhaps the explanation more aptly resides with the FDS. As the results of this study unfold, it would seem that the FDS is failing to account for differences between Fowler's (1981) concept of individuative-reflective (stage four) and conjunctive (stage five) faith.

What the scale seems to highlight is that scores indicate disagreement with or continued acceptance of previously learned notions of spirituality and religion. Low scores are consistent with a description of a respondent securely rooted in a stage three faith. However, high scores only indicate that an individual disagrees with this hallmark of a stage three faith. The forced-choice response format only allows for a "settled" vs. "searcher" category. For example, item numbers three and four on the FDS offer the following choice combinations:

A. It is very important for me to critically examine my religious beliefs and values.

B. It is very important for me to accept the religious beliefs and values of my church.

A. My religious orientation comes primarily from my own efforts to analyze and understand God.

B. My religious orientation comes primarily from the teaching of my family and church.

Within the first pair, someone could find it very important to critically examine beliefs and values, but then ultimately decide, based on those critically examined values, that it is important for them to find a faith body that is consistent with said beliefs and values. This statement would seem much more in line with what has previously been described as a stage five faith. Again, in the second pair of responses, if one has arrived through individual analysis and searching at a religious orientation espoused by family or church, it would be consistent that one could then define that personal orientation as primarily consistent with the greater body of family (a subjective term) and/or church (faith) and not as a solely individual endeavor.

A combination of the two choices that respondents were forced to choose between might have been the more appropriate and truthful response. For this reason, perhaps the FDS was not as reliable as was originally thought as a tool for differentiating between Fowler's stages. This would also provide some explanation why measures such as the STS, PSWQ and Micro worry subscale negatively correlated with the FDS, and why low FDS groups (scoring ≤ 4) scored lower on these measures. Perhaps some of these respondents were actually indicating a more mature faith stage response that was inadequately accounted for due to the FDS' limited forced choice response system. In fact, since this study was initiated and data collection completed, the author of the FDS has introduced the Revised Faith Development Scale (RFDS) to address some of these issues. The new scale allows participants to respond to all items using a Likert-type scale of 1 to 4 (1 being "very unlike me" and 4 "very much like me"). A scaled response such as this will probably be better suited to capture the range

of subjective differences among respondents, as opposed to forcing them into polarized categories.

The high and low FDS groups also differed on macro worry scores with the high group displaying higher mean macro worry scores. While this would seem to support of the original hypothesis (i.e., higher faith stage respondents should be more concerned with global issues beyond the self), the finding must be considered in light of the finding that these same high FDS group respondents are also demonstrating higher mean scores on the PSWQ and significantly higher scores on the Micro Worry subscale. The higher scoring FDS group worried more according to all measures of worry. Pathological worriers not only worry at higher levels but also about a greater number of things (Roemer, Molina, & Borkovec, 1997). With this in mind, due to the inability to state with confidence that the higher FDS groups do in fact represent higher stages of faith development, the significant difference between groups on Micro worry should be seen as further evidence that underlying factors in the high FDS group seem to leave its members prone to greater worry in general. Some evidence pertaining to an explanation to the question of why these groups differ is found as the discussion continues.

The results of hypothesis one testing ultimately affected the testing of the theoretical model (see Table 3), but did not render the model completely invalid. What was consistent is that those indicating a state of disagreement with their previous in-group (high FDS response), also indicated higher search for meaning, lower presence of meaning, and higher pathological worry. These self-reported scores are consistent with both the proposed correlates to stage four faith and states of transition in the theoretical model.

Hypothesis two

As was originally hypothesized, and consistent with previous research on meaning and measures of psychological well-being, the MLQ's presence and search subscales correlated with the PSWQ in opposite directions (Ho, Cheung, & Cheung, 2010; Steger, Oishi, & Kashdan, 2009; Steger & Kashdan, 2007). This relationship is logical, although no previous study was found that had paired the constructs, and the findings supported the theoretical model proposed.

As was described at the outset of the study, the concept of pathological worry is to be understood as a phenomenon occurring in a situation in which an individual anticipates a future threat while also believing that their problem-solving abilities will be insufficient to handle said task (Borkovec, 2002; Borkovec & Roemer, 1995; Wells, 2006). If worry is a primarily cognitive construct focused on one's inability to adequately deal with life's myriad difficulties, then it would seem the antidote would be to reduce the number of difficulties experienced. Two such antidotes would be increasing personal competence (i.e., increase one's ability to adequately handle personal difficulties) or somehow avoid encountering personally threatening difficulties altogether (e.g., reduce interactions with others, avoid risky situations). In fact, in a recent article entitled "Looking on the bright side: Accessing benign meanings reduces worry," Hirsch, Hayes, and Mathews (2009) share findings indicating that if individuals can practice anticipating benign outcomes in threatening situations, it will reduce overall anxiety, resulting in better outcomes in the midst of a worrisome situation. However, when that doesn't work, or when a benign outcome is actually incongruent with the reality of a situation, the question seems to remain, "what can combat the

despair realized in a state of hopelessness?" Hopelessness being a state which fits within the definition of the personal experience of pathological worry (a perceived inability to meet one of life's demands).

The acknowledgment of the presence of meaning in life (e.g., my life/these events are filled with meaning waiting to be acknowledged/discovered; or even, the redemptive power of meaning is always a potential outcome when encounters seem negative or empty) should serve as an antidote to the engagement of despair as the two constructs (beliefs) are mutually incompatible. Consistent with the current study, previous research has indicated that the constructs of presence of meaning and search for meaning are negative correlates (Steger et al., 2006). However, Steger et al. also propose four potential states of meaning in life: meaning diffusion (low presence, low search), meaning foreclosure (high presence, low search), meaning moratorium (low presence, high search), or meaning achievement (high presence, high search), thus search and presence are not, by definition completely mutually exclusive (Brassai, Piko, & Steger, 2012).

The current study indicated that as *presence of meaning* scores increased, pathological worry scores decreased. It also found that as *search for meaning* scores increased, pathological worry scores also increased. Religion and spirituality offers a framework for subjective meaning conceptualization which potentially contributes to a better understanding these findings. This link between constructs is most evident when this theme of hopelessness is contrasted against the idea that religion and spirituality provide means of hope to its adherents. This hope may differ in its object (eternal life, peace, nirvana, humanity's goodness…) between traditions, but its existence as a

consistent narrative theme across traditions is definitional. This study supports the concept that increased engagement of religious/spiritual activities (i.e., engagement in prayer/meditation, attendance of religious ceremonies/services, and study of related literature) and higher reported spiritual transcendence (prayer fulfillment, connectedness, and universality) move one towards a greater likelihood of reported presence of meaning in life and lower reported pathological worry. As explanations for why people worry and ways to prevent harmful degrees of worry are explored, the construct of meaning in life would seem a strong theoretical and empirical component of the discussion.

As previously mentioned, this study did find significant differences between males and females regarding scores on the PSWQ. As the PSWQ has been widely used as a valid measure of pathological worry in studies including both males and females, the finding in the current study were not considered to have a confounding effect. The fact that no other significant differences between genders were found on any other subscales used supports the idea that this gender difference may have more to do with the PSWQ as a measure than indicative of generalizable gender differences. This gender discrepancy has been explored by others in a variety of ways, while still asserting the validity of the measure as a tool for measuring pathological or maladaptive worry (Conway, et. al., 2003; Meyer et al., 1990; Robichaud et al., 2003; Zlomke & Hahn, 2010). An additional consideration for the current study is the fact that hypotheses did not include comparisons between high and low PSWQ groups, as the high group would have obviously contained a disproportionate number of females. The measure provided

a valid continuum-based score on self-reported worry that could be used in correlational and predictive models in spite of the gender differences in overall score.

Hypothesis three (parts one and two)

To better understand the foundational makeup of groups differing on faith development, the two established FDS groups (high and low) were compared on the various subscales of the BMPN. These comparisons were grounded in previous discussion highlighting the theoretical overlap regarding SDT and certain unique aspects of Fowler's (1981) proposed stages. Interestingly, what differed significantly between groups was not the level of satisfaction in regards to psychological needs but the levels of dissatisfaction. Respondents indicating higher-level responses on the FDS had significantly higher dissatisfaction scores on the autonomy and relatedness subscales, as well as observed, but not statistically significant, mean differences on the competence subscale. This positive relationship to dissatisfaction appears to have face validity within the content of the forced-choice responses that makeup the FDS measure. Many of the "more developed" responses are marked by statements requiring the adherent to acknowledge the presence of disagreement, incompatibility, and conflict regarding faith tradition and values. To this end, and consistent with previous discussion, the FDS seems to highlight contrasting levels of dissatisfaction between its high and low scores. It would also seem that what it fails to capture is the journey from satisfaction to dissatisfaction and then back to a new and subjectively more comprehensive agreement or satisfaction (i.e., faith stages 3 to 4 and then 5 and beyond). Again, this finding partially upheld the proposed theoretical model represented

in Table 3. Dissatisfaction on relatedness and autonomy were indicative of increased worry.

To some extent, the FDS' ability to highlight dissatisfaction as an aspect of greater levels of maturity is consistent with other stage theories (Miller, 2001). The consistency lies with dissatisfaction being commensurate with disequilibrium, which could be argued as a prerequisite to growth. The benefit of having tested this hypothesis are that the results do indicate that the FDS is significantly differentiating on levels of dissatisfaction. This would suggest that it could offer insight into stage contentment or transition regarding faith status.

To further explore the relationship between worry and faith (and subsequently the construct of meaning), the combination of FDS and BMPN subscales were used as constructs to form a predictive model regarding worry quality (micro versus macro worry). This model was found to be significant with the relatedness dissatisfaction subscale and FDS score variables serving as significant predictors of micro and macro worry. Again, relatedness dissatisfaction was the greater predictor and accounted for a larger portion of the variance when compared to FDS score. This is consistent with part one of this hypothesis, which demonstrated significant differences on levels of dissatisfaction between high and low FDS scores.

Consistent with the hypothesized results was that a stage four faith would have higher levels of relatedness dissatisfaction. However, it has already been discussed that, based on current results, the FDS' ability as an effective tool for specific faith stage differentiation and placement is questionable. Higher FDS scores also consistently resulted in higher macro worry scores (i.e., greater amount of universal concern). It is

of interest that those respondents struggling with higher levels of dissatisfaction also displayed a greater level of concern for others. If dissatisfaction is a state consistent with evolution, perhaps this study's findings concerning macro worry are tapping into a combination of traits representative of those needed for movements such as major social change (e.g., civil rights movement). Satisfied individuals may be less inclined to consider others' dissatisfaction with their current stance on various issues (e.g., issues of social justice), as considering an opposing viewpoint risks introducing some dissatisfaction, which would require personal change to rectify.

Hypothesis four

The fourth hypothesis further explored pathological worry (PSWQ scores) by testing a predictive model using the BMPN subscales. Relatedness and Autonomy were found to be significant predictors with Relatedness Satisfaction and Dissatisfaction and Autonomy Satisfaction serving as the most significant predictors. While Relatedness Dissatisfaction and Autonomy Satisfaction seem likely candidates for accurately predicting the presence of pathological worry, Relatedness Satisfaction predicting it in a positive direction was unexpected (i.e., standardized beta value indicated a medium positive relationship between relatedness satisfaction and PSWQ scores). It was previously expected that higher satisfaction scores on the BMPN would be indicative of less worry as the satisfaction of psychological needs has been demonstrated to be positively correlated with measures of psychological well-being (Sheldon & Hilpert, 2012). However, these findings would seem to suggest otherwise.

To better understand this finding, recalling the three questions making up the Relatedness Satisfaction subscale is helpful:

"I feel a strong sense of intimacy with people I spend time with."

"I feel close and connected with other people who are important to me."

"I feel a sense of contact with people who care for me, and whom I care for."

Respondents answered each of these items by indicating a score on a scale of one to five (1- "not at all true of me," 3- "somewhat true of me," 5- "very true of me"). As they read, a person reporting items to be "very true" of them is actually reporting on the intensity of their connection to people with whom they already identify being connected. Although the subscale is intended to indicate one's satisfaction with their relatedness, on second glance it could lack some face validity in that it isn't directly asking about how satisfied people are with their relationships, but rather indicates a self-perceived report on the intensity of the closeness of one's close relationships. When considering the relationship to worry, one could conceivably indicate a lower score on the intensity of closeness in their relationships (i.e., Relatedness Satisfaction) and a higher score on their degree of Autonomy Satisfaction and benefit from lower levels of pathological worry despite a lower score on Relatedness "Satisfaction." High scores on Relatedness Satisfaction do not seem to provide much protective power against worry. This finding is consistent with previous research indicating that interpersonal issues are the most prominent object of worry in both high and low worriers (individuals diagnosed with generalized anxiety disorder and an anxiety diagnosis-free control group); (Breitholtz, Johansson, & Ost, 1999; Roemer, Molina, & Borkovec, 1997). Thus, to the extent that individuals acknowledge an intense connection to others, they

also acknowledge an intensity of investment in a category of life that tends to be the greatest object of people's worry. This finding also supports the theoretical model proposed and offers some explanation as to why a stage three faith, with high relatedness satisfaction, would still be prone to higher levels of worry.

When people are highly invested or concerned in others' abilities to adequately manage their own difficulties, the person concerned for the other risks that their *concern* may devolve into worry. This seems likely to occur when the worrier is faced with the reality that they are helpless to adequately address or eliminate this perceived future threat for the object of their concern (e.g., a parent worrying about their son or daughter making wise choices upon leaving for college, worrying about a close friend's ability to make an important public presentation, worrying for a friend's ability to pay their mortgage when one doesn't have the resources to pay it for them, etc.). This brings the concepts of autonomy and locus of control to the forefront, which were highlighted by findings related to the other BMPN subscales.

In testing this hypothesis, it was found that Autonomy, but not Competence, served as a significant predictor of worry. An examination of the items making up the Competence scales is once again revealing:

"I do well even at hard things." (satisfaction)

"I struggle doing things I should be good at." (satisfaction)

"I successfully complete difficult tasks and projects." (satisfaction)

"I have recently experienced failure or been unable to do well at something." (dissatisfaction)

These items do not by definition, or possible response, place a respondent in a state of helplessness or hopefulness indicative of the presence of pathological worry. One could have recently experienced a failure at something with which they are normally successful, but then also know that they have and will do well at other difficult tasks. The response depends much on the respondents' subjective experience of the items and the personal situations they bring to mind, but no matter the response, the individual's locus of control can remain internalized, a state indicative of better psychological well-being (Ryan & Deci, 2000b).

Conversely, the Autonomy subscale items would seem to highlight this notion of internal versus external control of one's life:

"I really do what interests me." (satisfaction)

"I have to do things against my will." (dissatisfaction)

"I am free to do things my own way." (satisfaction)

To the extent respondents indicate a less autonomous self-perception, a logical connection is that they would also believe their ability to adequately manage life's difficulties is compromised, a state consistent with the definition of worry (Borkovec, 1994). This state would seem consistent with the position that life is "happening to one," as opposed to asserting one's ability to actively engage life in a meaningful way.

Research Questions

Continuing the discussion of the significance of Autonomy, the exploratory research questions also supported findings made in the course of hypothesis testing. Correlations were examined between measures of psychological needs, faith

development, and Meaning in Life. After the Bonferroni adjustment, to account for the potential of Type I error, Autonomy Dissatisfaction was the only significant correlate with the FDS, and Autonomy Satisfaction was the only significant correlate with Search for Meaning in Life. As previously noted, higher scores on the FDS are consistent with individuals having experienced historical or current disagreement with the beliefs and values found in their faith/spiritual history. The Autonomy Dissatisfaction score is assessed with statements such as, "There are people telling me what I have to do," and "I have to do things against my will." High FDS scores indicate having disagreed with but not liberated from a faith tradition. To disagree, but not assert one's autonomy to reconcile or separate from irksome issues, implies a dissatisfied state by definition.

The finding that those demonstrating Autonomy Satisfaction seemed to be less involved in searching for meaning may indicate that being satisfied with one's sense of autonomy is in itself a meaningfully satisfying state. To be confident of one's ability to act autonomously supersedes situational specifics. This finding is also represented in the theoretical model (Table 3), indicating that satisfied states do not result in the drive to search for meaning.

Frankl's (1955) theory regarding humanity's search for meaning offers some striking consistencies with this finding. Frankl asserted that one need not search for an elusive meaning in life but rather that meaning could be found in each situation and circumstance as one responded to it. To the extent one is satisfied with their Autonomy status (as measured and understood in the current study), one has confidence that they can ultimately respond successfully. One is not assured that their response will successfully accomplish the original intent (competence). However, they can rest

assured in their ability to adaptively respond (Autonomy), knowing that circumstances and their responses will evolve and change. As long as they continue to intentionally respond they are actively engaging life, thereby experiencing meaning. Mean comparisons between low and high FDS groups confirm these directional findings. Interestingly, age, which was expected to be a significant correlate with several variables, was not significant with any (after Bonferroni adjustment). However, the direction of the correlations with age that did exist were in anticipated directions (positive with presence of meaning in life).

Limitations

Unfortunately, as with much social research, initial limitations were obviously noted regarding sample diversity. As can be seen in the demographics table (Table 1.0), the majority of respondents were Caucasian, Christian, females. The sample provided enough variability between sexes to make some comparisons but definitely did not produce the ethnic or religious diversity originally desired. This was disappointing as care was taken to disseminate the survey to diverse groups (i.e., differing religious and secular institutions, as well as exposure to diverse groups through social media and email). Although the sample has some cultural consistency within the geographical location from which the research was based, it was hoped that use of the internet would move the sampling beyond physical borders. This reality limits generalizability of any study findings until future research can demonstrate their applicability with other culturally diverse samples.

Regarding measures used, it has already been mentioned that a significant limitation discovered in data analysis was the inability to use the FDS to differentiate faith stage differences beyond high and low scores. Additionally, as the FDS was compared to other scales it became evident that the high and low scorers did not behave in ways that were anticipated to be consistent with higher levels of faith development. The fact that the authors have now developed the Revised Faith Development scale attests to some of the scale's weaknesses in the current study (Harris & Leak, 2013). Had the RFDS been available for use as the current study was being developed, it might have been more successful at differentiating between FDS respondents as it allows for responses to be set on a continuum rather than forced-choice polar opposite categories.

Future research

With the high prevalence rates of Generalized Anxiety Disorder in society and the proven lethality of chronically high stress levels, the construct of worry should continue to be high on the list of researchers wanting to make a readily applicable impact on society for the better (Querstret & Cropley, 2013; Verkuil, Brosschot, Gebhardt, & Thayer, 2010). Fertile grounds for further exploration include examining conditions for optimal growth of one's sense of autonomy, understood as a sense of personal agency, as well as better understanding factors involved in the development and satisfaction of personal meaning. Also interesting would be further investigation into Self-Determination Theory's emphasis on intrinsic versus extrinsic motivation and their impact on one's propensity to worry (Deci & Ryan, 2000).

As a continuation of the issue regarding the FDS mentioned as a limitation, even with the revision of the RFDS, this researcher believes that the scale still fails to adequately catalogue the journey of faith development. That is, the scale does not explore how contented people actually are and how it is that they arrived at their current state. For example, the scale penalizes people on maturity if they responded that they did not disagree with their church on faith matters or if their faith looked very much like that of their parents. While these indicators may be consistent with a lower level of faith development, they may also be indicative of someone who has wandered far and critically chosen a faith stance consistent with their hard-earned beliefs, which may be compatible with their current faith community or family of origin. Future research regarding Fowler's (1981) theory would benefit greatly from a self-report measure that more competently captures the experience of the development of one's faith. To their credit, the RFDS authors shift focus away from Fowler's (1981) theory being highly associated with the scale and emphasize the scale as a tool for measuring post-conventional religious reasoning.

Future clinical research should focus on the implications of the constructs examined in this study in a psychotherapeutic context. The development of autonomy, pursuit of meaning, development of faith, and finding peace in the midst of worry and stress are issues encountered daily in the course of treatment provided by psychologists and counselors. Any applicable contribution to evidenced-based practice regarding these issues would be more than welcomed by mental-health practitioners and the clients and patients they work with and treat.

Finally, future research in the field of theology and religion could continue the examination of the constructs' impact on faith development. Further testing of the theoretical model would behoove faith communities as they attempt to aid their members towards greater meaning in life. By utilizing the theoretical model proposed to help explain the foundational aspects of this development, it could refine the focus of faith leaders and seekers and help concentrate efforts at increasing individual and communal well-being.

Implications and Conclusion

Frankl (1963) suggests that healthy psychological well-being is not marked by a tensionless state (a state without worry or concern), but that the well-being is defined and life-meaning is found in one's response to the tension. Some of the psychophysiology of stress was discussed earlier in this study, and it was pointed out that allostatic load (chronic stress) has a deleterious impact on both physical and mental well-being (Lovallo, 2005; McEwen & Stellar, 1993). Stress (chronic threat anticipation and subsequent state of readiness to respond) and pathological worry (chronic threat anticipation and subsequent doubts about one's state of readiness to adequately respond) seem synonymous. This study offers some insight into what might protect some from pathological worry, and it seems to hinge on how one experiences and defines threat.

Frankl (1963) pointed out, and none seek to dispute, that with life exists tension. However, it would seem that not all tension need be experienced as threat. This study's results suggest that embracing a system of resources and support (i.e., lower scores on

FDS and STS, whether received via tradition and social learning or arrived at via critical analysis, or both) as well as believing in one's ability to respond (Autonomy Satisfaction) could result in an ability to successfully experience and navigate the inevitable, universal tension of life. This success is not only marked by lower pathological worry but a higher perception of life as meaning-filled. If humanity's ultimate fear is annihilation, then the ironic truth is that as long as one can engage in fearing this object, it hasn't come to pass.

Existence implies action by definition, and it would seem that the psychological need that carried the most weight regarding worry protection was the one that is most fundamentally related to what it means to exist (Autonomy). In collectivist cultures this autonomy may very well be acted out in conjunction with, and never considered apart from, the greater good (heteronomous), but this does not detract from the individual's subjective experience and satisfaction or dissatisfaction with their sense of autonomy Care must be taken not to understand the concept of autonomy strictly from individualistic cultural lenses (Luciano, 2010).

A connection to faith and spirituality, rather than thwarting autonomy, may provide a manageable framework within which to assert one's autonomy. As autonomy is understood as a personal sense of agency, it would seem that faith and spirituality have much to do with highlighting this aspect of the human experience. The critique that faith, spirituality, or religion do existential harm by attempting to manipulate the direction in which one's agency is applied should first observe the pre-requisite assertion implied in the critique, which is that one's sense of agency must be awakened and engaged before directed movement can occur. As hypothesized, presence of

meaning in life does appear to serve as an antagonist to pathological worry and it seems to be an experience achieved in the act of engaging one's autonomy (agency). Thus, considering the variables studied here, it would seem that correlates moving in the direction of decreased pathological worry (e.g., presence of meaning in life, autonomy satisfaction, grounding in a faith/spiritual tradition) contribute to the universal human goal of a life well-lived.

Regarding faith development and its proposed stages, it was obvious in this study that the FDS did not adequately capture the stages theorized by Fowler (1981), as was hoped. However, Fowler (1986) noted that "we do not make the transition from one stage to another without disruption, pain, confusion, and loss" (p.40). He goes on to highlight that growth is not experienced apart from pain, but that as we see growth for what it is, we can experience and even embrace this necessary pain *sans* anxiety and fear (i.e., pathological worry), those being the elements by which pain actually harms us. The study did seem to confirm that a state of conflict *vis a vis* issues of faith and spirituality does come with increased pain (worry, dissatisfaction, meaninglessness). However, it also seemed to confirm that working to honestly and courageously resolve the conflicts encountered regarding faith and spirituality, in spite of the accompanying growing pains, can lead to greater life satisfaction and, ultimately, a more meaning-filled existence.

Table 1. Demographic Variables

Gender	Frequency	Percent
Male	73	27.70
Female	191	72.30
Race/Ethnicity		
White/Caucasian	229	86.74
African-American	10	0.04
Hispanic, Latino/a	9	0.03
Asian	6	0.02
Native American or Alaskan Native	1	<0.01
Middle Eastern	1	<0.01
Other	8	0.03
Religious Affiliation		
Christian	194	73.50
Agnostic	25	9.47
Atheist	19	7.20
Jewish	13	4.92
Buddhist	1	< 0.01
Other	12	4.55

Table 2. Correlations Between Study Variables

	TOT Relate Satisfaction	TOT Relate Dissat	TOT Comp Satisfaction	TOT Comp Dissat	TOT Autonomy Satisafaction	TOT Autonomy DIssat	TOT Presence of Meaning	TOT Search for Meaning	TOT FDS	Age	TOT PSWQ
TOT Relate Satisfaction	1	-.360**	.292**	-.165**	.416**	-.210**	.355**	-.180**	-.111	-.010	-.004
TOT Relate Dissat		1	-.157*	.506**	-.313**	.530**	-.406**	.358**	.157*	-.078	.352**
TOT Comp Satisfaction			1	-.336**	.485**	-.066	.211**	-.127*	.097	-.071	-.037
TOT Comp Dissatisfaction				1	-.281**	.508**	-.347**	.250**	.131*	-.004	.273**
TOT Autonomy Satisfaction					1	-.373**	.377**	-.216**	.033	.023	-.270**
TOT Autonomy Dissatisfaction						1	-.310**	.248**	.216**	-.189**	.356**
TOT Presence of Meaning							1	-.460**	-.304**	.137*	-.250**
TOT Search for Meaning								1	.133*	-.170**	.272**
TOT FDS									1	-.207**	.070
Age										1	-.196**
TOT PSWQ											1

Correlations at $p < .001$ are statistically significant. *** p < 0.001 (2-tailed), ** p < 0.01 (2-tailed), * p < 0.05 (2-tailed).

Table 3. Current Study Reliability: Cronbach Alpha Values

Measure	Current study alpha
Penn State Worry Questionnaire	.95
Micro Worry Subscale	.85
Macro Worry Subscale	.90
Faith Development Scale	.66
Balanced Measure of Psychological Needs Subscales	
Relatedness Satisfaction	.81
Relatedness Dissatisfaction	.65
Competence Satisfaction	.81
Competence Dissatisfaction	.76
Autonomy Satisfaction	.65
Autonomy Dissatisfaction	.59
Spiritual Transcendence Scale- Total Transcendence Subscale	.78
Meaning in Life Questionnaire	
Presence of Meaning in Life Subscale	.91
Search for Meaning in Life Subscale	.90

Figure 1. Stage Structure (Fowler, 1986, p. 32)

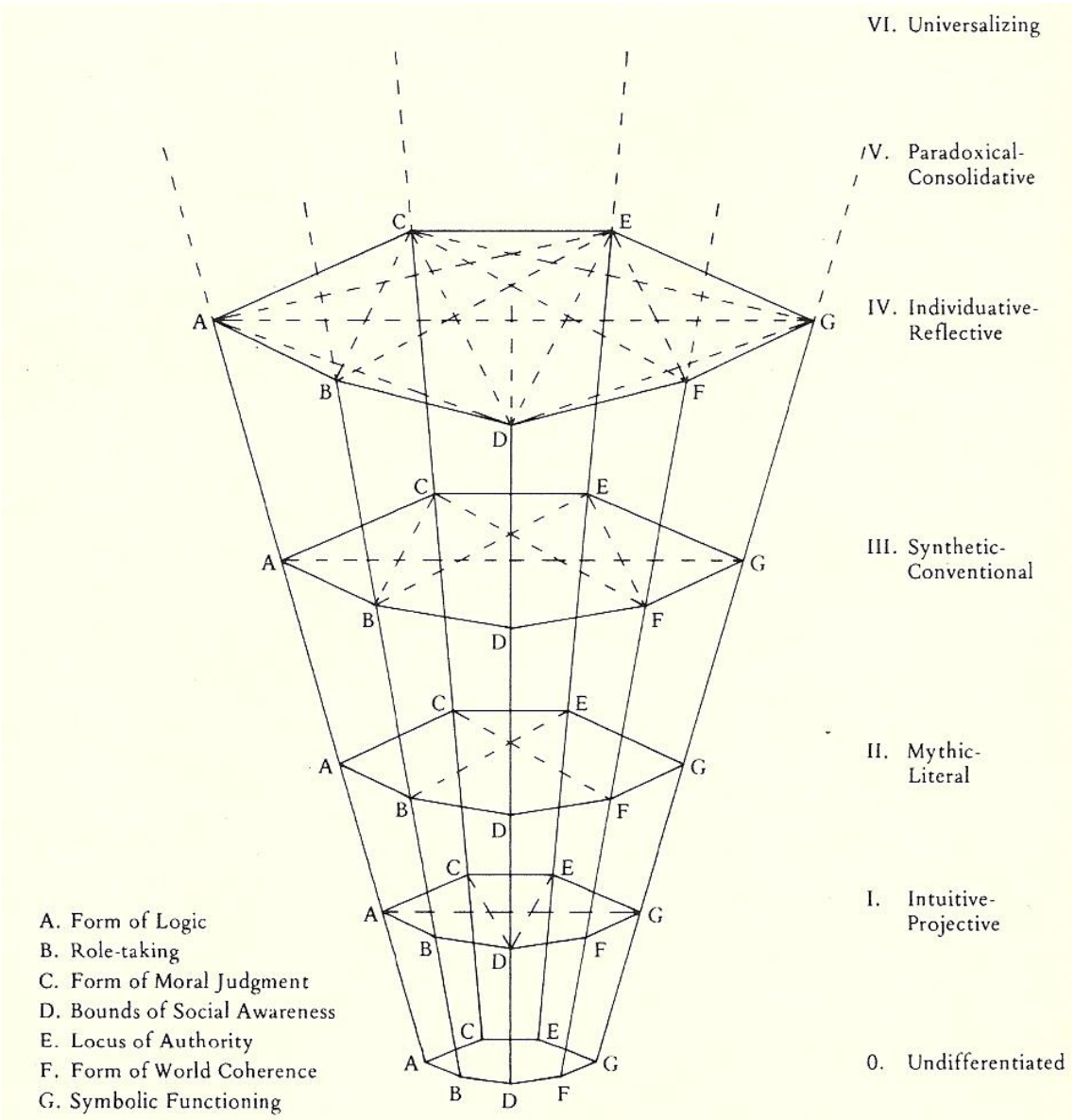


Figure 2. Faith Stage Aspects (Fower, 1981, p. 244-45)

Aspect:	A. Form of Logic (Piaget)	B. Perspective Taking (Selman)	C. Form of Moral Judgment (Kohlberg)	D. Bounds of Social Awareness	E. Locus of Authority	F. Form of World Coherence	G. Symbolic Function
Stage I	Pre-operational	Rudimentary empathy (egocentric)	Punishment-reward	Family, primal others	Attachment/ dependence relationships, Size, power, visible symbols of authority	Episodic	Magical-Numinous
Stage II	Concrete Operational	Simple perspective taking	Instrumental hedonism (reciprocal fairness)	"Those like us" (in familial, ethnic, racial, class and religious terms)	Incumbents of authority roles, salience increased by personal relatedness	Narrative-Dramatic	One- dimensional; literal
Stage III	Early Formal Operations	Mutual interpersonal	Interpersonal expectations and concordance	Composite of groups in which one has interpersonal relationships	Consensus of valued groups and in personally worthy representatives of belief- value traditions	Tacit system, felt meanings symbolically mediated, globally held	Symbols multi-dimensional; evocative power inheres in symbol
Stage IV	Formal Operations (Dichotomizing)	Mutual, with self-selected group or class (societal)	Societal perspective, Reflective relativism or class-biased universalism	Ideologically compatible communities with congruence to self-chosen norms and insights	One's own judgment as informed by a self-ratified ideological perspective. Authorities and norms must be congruent with this.	Explicit system, conceptually mediated, clarity about boundaries and inner connections of system	Symbols separated from symbolized. Translated (reduced) to ideations. Evocative power inheres in *meaning* conveyed by symbols

Figure 2. continued: Faith Stage Aspects (Fower, 1981, p. 244-45)

Aspect:	A. Form of Logic (Piaget)	B. Perspective Taking (Selman)	C. Form of Moral Judgment (Kohlberg)	D. Bounds of Social Awareness	E. Locus of Authority	F. Form of World Coherence	G. Symbolic Function
Stage V	Formal Operational (Dialectical)	Mutual with groups, classes and traditions "other" than one's own	Prior to society, Principled higher law (universal and critical)	Extends beyond class norms and interests. Disciplined ideological vulnerability to "truths and "claims" of outgroups and other traditions	Dialectical joining of judgment-experience processes with reflective claims of others and of various expressions of cumulative human wisdom.	Multisystemic symbolic and conceptual mediation	Postcritical rejoining of irreducible symbolic power and ideational meaning. Evocative power inherent in the reality in and beyond symbol and in the power of unconscious processes in the self.
Stage VI	Formal Operations (Synthetic)	Mutual, with the commonwealth of being	Loyalty to being	Identification with the species. Transnarcissistic love of being	In a personal judgment informed by the experiences and truths of previous stages, purified of egoic striving, and linked by disciplined intuition to the principle of being	Unitive actuality felt and participated unity of "One beyond the many"	Evocative power of symbols actualized through unification of reality mediated by symbols and the self

References

Ai, A. L., Pargament, K. I., Appel, H. B., & Kronfol, Z. (2010). Depression following open-heart surgery: A path model involving interleukin-6, spiritual struggle, and hope under preoperative distress. *Journal of Clinical Psychology, 66*(10), 1057 1075.

American Psychiatric Association (APA) (2013). *Diagnostic and statistical manual of mental disorders (5th ed), (DSM-V).* Arlington, VA: American Psychiatric Publishing.

Basevitz, P., Pushkar, D., Chaikelson, J., Conway, M., & Dalton, C. (2008). Age-related differences in worry and related processes. *International Journal of Aging and Human Development, 66,* 283-305.

Battista, J., & Almond, R. (1973). The development of meaning in life. *Psychiatry: Journal for the Study of Interpersonal Processes, 36*(4), 409-427.

Baumeister, R. F., & Leary, M. R. (1995). The need to belong: Desire for interpersonal attachments as a fundamental human motivation. *Psychological Bulletin, 117*(3), 497-529. doi: 10.1037/0033-2909.117.3.497

Boehnke, K., Schwartz, S., Stromberg, C., & Sagiv, L. (1998). The structure and dynamics of worry: Theory, measurement, and cross-national replications. *Journal of Personality, 66,* 745-782.

Borkovec, T. D. (2002). Life in the future versus life in the present. *Clinical Psychology: Science and Practice, 9*(1), 76-80. doi: 10.1093/clipsy/9.1.76

Borkovec, T. D. (1994). The nature, functions, and origins of worry. In G. C. L. Davey and F. Tallis (Eds.), *Worrying: Perspectives on theory, assessment, and treatment.* (pp. 5-33). Chichester, England: Wiley.

Borkovec, T. D., & Roemer, L. (1995). Perceived functions of worry among generalized anxiety disorder subjects: Distraction from more emotionally distressing topics? *Journal of Behavior Therapy and Experimental Psychiatry, 26,* 25-30.

Brassai, L., Piko, B. F., & Steger, M. F. (2012). Existential attitudes and Eastern European adolescents, problem and health behaviors: Highlighting the role of the search for meaning in life. *The Psychological Record, 62*(4), 719-734.

Breitholtz, E., Johansson, B., & Ost, L. G. (1999). Cognitions in generalized anxiety disorder and panic disorder patients: A prospective approach. *Behaviour Research and Therapy, 37*(6), 533-544. doi: 10.1016/S0005-7967(98)00147-8

Brown, T. A., O'Leary, T. A., & Barlow, D. H. (2001). Generalized anxiety disorder. In D. H. Barlow (Ed.), *Clinical handbook of psychological disorders: A step-by-step treatment manual (3rd ed.).* (pp. 154-208). New York, NY US: Guilford Press.

Campbell-Sills, L., & Brown, T. A. (2010). Generalized anxiety disorder. In M. M. Antony & D. H. Barlow (Eds.), *Handbook of assessment and treatment planning for psychological disorders (2nd ed.).* (pp. 224-266). New York: Guilford Press.

Cartwright-Hatton, S., & Wells, A. (1997). Beliefs about worry and intrusions: The Meta Cognitions Questionnaire and its correlates. *Journal of Anxiety Disorders, 11*(3), 279-296. doi: 10.1016/S0887-6185(97)00011-X

Chorpita, B. F., Tracey, S. A., Brown, T. A., Collica, T. J., & Barlow, D. H. (1997). Assessment of worry in children and adolescents: An Adaptation of the Penn State Worry Questionnaire. *Behaviour Research and Therapy, 35*(6), 569-581. doi: 10.1016/S0005-7967(96)00116-7

Clore, V., & Fitzgerald, J. (2002). Intentional faith: An alternative view of faith development. *Journal of Adult Development, 9*(2), 97-107. doi: 10.1023/a:1015781212168

Cohen, J. (1992). A power primer. *Psychological Bulletin, 112*(1), 155-159. doi: 10.1037/0033-2909.112.1.155

Conway, M., Wood, W., Dugas, M., & Pushkar, D. (2003). Are women perceived as engaging in more maladaptive worry than men? A status interpretation. *Sex Roles, 49*(1/2), 1-10.

Costa, P. T., & McCrae, R. R. (1992). The five-factor model of personality and its relevance to personality disorders. *Journal of Personality Disorders, 6*(4), 343-359. doi: 10.1521/pedi.1992.6.4.343

Crumbaugh, J. C., & Maholick, L. T. (1964). An experimental study in existentialism: The psychometric approach to Frankl's concept of noogenic neurosis. *Journal of Clinical Psychology, 20*(2), 200-207. doi: 10.1002/1097-4679(196404)20:2<200::AID-JCLP2270200203>3.0.CO;2-U

Davey, C. L. G. (1993). A comparison of three worry questionnaires. *Behaviour Research and Therapy, 31*, 51-56.

Davey, C. L. G (1994a). Pathological worrying as exacerbated problem-solving. In G. C. L. Davey and F. Tallis (Eds.), *Worrying: Perspectives on theory, assessment, and treatment* (pp. 35-59). Chichester, England: Wiley.

Davey, C. L. G. (1994b). Worry, social problem solving abilities, and social problem solving confidence. *Behaviour Research and Therapy, 32,* 327-330.

Davey, C. L. G., Tallis, F., & Capuzzo, N. (1996). Beliefs about the consequences of worrying. *Cognitive Therapy and Research, 20,* 499-520.

Deci, E. L., & Ryan, R. M. (2000). The 'what' and 'why' of goal pursuits: Human needs and the self-determination of behavior. *Psychological Inquiry, 11*(4), 227-268. doi: 10.1207/S15327965PLI1104_01

Deci, E. L., & Ryan, R. M. (2008a). Facilitating optimal motivation and psychological well-being across life's domains. *Canadian Psychology/Psychologie canadienne, 49*(1), 14-23. doi: 10.1037/0708-5591.49.1.14

Deci, E. L., & Ryan, R. M. (2008b). Self-determination theory: A macrotheory of human motivation, development, and health. *Canadian Psychology/Psychologie canadienne, 49*(3), 182-185. doi: 10.1037/a0012801

Delgado, L. C., Guerra, P., Perakakis, P., Vera, M. N., del Paso, G. R., & Vila, J. (2010). Treating chronic worry: Psychological and physiological effects of a training programme based on mindfulness. *Behaviour Research and Therapy, 48*(9), 873-882. doi: 10.1016/j.brat.2010.05.012

Dy-Liacco, G. S., Kennedy, M. C., Parker, D. J., & Piedmont, R. L. (2005). Spiritual transcendence as an unmediated causal predictor of psychological growth and worldview among Filipinos. *Research in the Social Scientific Study of Religion, 16*(1), 261-285.

Erikson, E. H. (1950). *Childhood and society.* New York: Norton.

Fabry, J. B. (1968). *The Pursuit of Meaning: Logotherapy Applied to Life*. Boston: Beacon Press.

Faul, F., Erdfelder, E., Lang, A. G., & Buchner, A. (2007). GPower 3: A flexible statistical power analysis program for the social, behavioral, and biomedical sciences. *Behavior Research Methods, 39*(2), 175-191. doi: 10.3758/BF03193146

Fowler, J. W. (1981). *Stages of faith: The psychology of human development and the quest for meaning.* New York: Harper-Row.

Fowler, J. W. (1986). Faith and the Structure of Meaning. In C. Dykstra & S. Parks (Eds.), *Faith development and Fowler* (pp. 15-42). Birmingham, AL, US: Religious Education Press.

Fowler, J. W., & Dell, M. L. (2006). Stages of Faith From Infancy Through Adolescence: Reflections on Three Decades of Faith Development Theory. In E. C. Roehlkepartain, P. E. King, L. Wagener & P. L. Benson (Eds.), *The handbook of spiritual development in childhood and adolescence,* (pp. 34-45). Thousand Oaks, CA, US: Sage Publications, Inc.

Fowler, J., & Keen, S. (1978). *Life Maps: Conversations on the Journey of Faith*. Waco, TX: Word.

Frankl, V. E. (1955). *The Doctor and the Soul: An Introduction to Logotherapy. (1st ed).* New York: Knopf.

Frankl, V. E. (1958). The will to meaning. *Journal of Pastoral Care, 12*, 82-88.

Frankl, V. E. (1963). *Man's Search for Meaning: An Introduction to Logotherapy*. Boston: Beacon Press.

Gibson, T. S. (2004). Proposed levels of Christian spiritual maturity. *Journal of Psychology and Theology, 32*(4), 295-304.

Goldenring, J. M., & Doctor, R. (1986). Teen-age worry about nuclear war: North American and European questionnaire studies. *International Journal of Mental Health, 15*(1-3), 72-92.

Green, C. W., & Hoffman, C. L. (1989). Stages of faith and perceptions of similar and dissimilar others. *Review of Religious Research, 30*(3), 246.

Grist, R. M., & Field, A. P. (2012). The mediating effect of cognitive development on children's worry elaboration. *Journal of Behavior Therapy and Experimental Psychiatry, 43*(2), 801-807. doi: 10.1016/j.jbtep.2011.11.002

Grouzet, F. M. E., Kasser, T., Ahuvia, A., Dols, J. M. F., Kim, Y., Lau, S., & Sheldon, K. M. (2005). The structure of goal contents across 15 cultures. *Journal of Personality and Social Psychology, 89*(5), 800-816. doi: 10.1037/0022-3514.89.5.800

Harris, J. I., & Leak, G. K. (2013). The Revised Faith Development Scale: An option for a more reliable self-report measurement of postconventional religious reasoning. *Research in the Social Scientific Study of Religion, 24*, 1-13. doi: 10.1163/9789004252073_002

Hart, J. T., Limke, A., & Budd, P. R. (2010). Attachment and faith development. *Journal of Psychology & Theology, 38*(2), 122-128.

Harter, S. (1978). Effectance motivation reconsidered: Toward a developmental model. *Human Development, 21*(1), 34-64. doi: 10.1159/000271574

Hicks, J. A., Trent, J., Davis, W. E., & King, L. A. (2012). Positive affect, meaning in life, and future time perspective: An application of socioemotional selectivity theory. *Psychology and Aging, 27*(1), 181-189. doi: 10.1037/a0023965

Hill, P. C., Pargament, K., II, Hood, J. R. W., McCullough, M. E., Swyers, J. P., Larson, D. B., & Zinnbauer, B. J. (2000). Conceptualizing religion and spirituality: Points of commonality, points of departure. *Journal for the Theory of Social Behaviour, 30*(1), 51.

Hirsch, C. R., Hayes, S., & Mathews, A. (2009). Looking on the bright side: Accessing benign meanings reduces worry. *Journal of Abnormal Psychology, 118*(1), 44-54. doi: 10.1037/a0013473

Ho, M. Y., Cheung, F. M., & Cheung, S. F. (2010). The role of meaning in life and optimism in promoting well-being. *Personality and Individual Differences, 48*(5), 658-663. doi: 10.1016/j.paid.2010.01.008

Hoare, C. (2009). Identity and spiritual development in the papers of Erik Erikson. *Identity: An International Journal of Theory and Research, 9*(3), 183-200. doi: 10.1080/15283480903344497

Holaway, R. M., Rodebaugh, T. L., & Heimberg, G. (2006). The Epidemiology of Worry and Generalized Anxiety Disorder. In G. C. L. Davey & A. Wells (Eds.), *Worry and its psychological disorders: Theory, assessment, and treatment,* (pp. 3-20). Chichester, England: Wiley.

Iyengar, S. S., & DeVoe, S. E. (2003). Rethinking the value of choice: Considering cultural mediators of intrinsic motivation. In V. Murphy-Berman & J. J. Berman (Eds.), *Cross-cultural differences in perspectives on the self*. (pp. 146-191). Lincoln, NE: University of Nebraska Press.

James, B. J., & Samuels, C. A. (1999). High stress life events and spiritual development. *Journal of Psychology and Theology, 27*(3), 250-260.

Juster, R.-P., Bizik, G., Picard, M., Arsenault-Lapierre, G., Sindi, S., Trepanier, L., & Lupien, S. J. (2011). A transdisciplinary perspective of chronic stress in relation to psychopathology throughout life span development. *Development and Psychopathology, 23*(3), 725-776. doi: 10.1017/s0954579411000289

Kertz, S. J., & Woodruff-Borden, J. (2011). The developmental psychopathology of worry. *Clinical Child and Family Psychology Review, 14*(2), 174-197. doi: 10.1007/s10567-011-0086-3

King, P. E., & Boyatzis, C. J. (2004). Exploring adolescent spiritual and religious development: Current and future theoretical and empirical perspectives. *Applied Developmental Science, 8*(1), 2-6.

Kohlberg, L. (1976). Moral stages and moralization. In T. Lickona (Ed.), *Moral development and behavior* (pp. 31-53). New York: Holt, Rinehart & Winston.

Kohlberg, L., & Goslin, D. A. (1969). Stage & sequence: the cognitive developmental approach to socialization. *Handbook of socialization theory and research.* pp. 347-480. Chicago: Rand McNally.

Laurencelle, R. M., Abell, S. C., & Schwartz, D. J. The Relation Between Intrinsic Religious Faith and Psychological Well-Being. [Article]. *International Journal for the Psychology of Religion, 12*(2), 109-123.

Leach, M. M., Piedmont, R. L., & Monteiro. (2001). Images of god among Christians, Hindus, and Muslims in India. *Research in the Social Scientific Study of Religion, 12,* 207-225.

Leak, G. K., Loucks, A. A., & Bowlin, P. (1999). Measurement development: Development and initial validation of an objective measure of faith development. *International Journal for the Psychology of Religion*, *9*(2), 105-124.

Leak, G. K. (2009). An assessment of the relationship between identity development, faith development, and religious commitment. *Identity: An International Journal of Theory and Research, 9*(3), 201-218. doi: 10.1080/15283480903344521

Levy, S., & Guttman, L. (1975). Structure and Dynamics of Worries. *Sociometry, 38*(4), 445-473.

Lovallo, W. R. (2005). *Stress & health: Biological and psychological interactions (2nd ed.)*. Thousand Oaks, CA: Sage Publications, Inc.

Luciano, M. M. (2010). Commentary: Autonomy and relatedness reconsidered: Learning from Indian families. *Culture & Psychology, 16*(4), 497-505. doi: 10.1177/1354067X10380164

Lyubomirsky, S., Boehm, J. K., Kasri, F., & Zehm, K. (2011). The cognitive and hedonic costs of dwelling on achievement-related negative experiences: Implications for enduring happiness and unhappiness. *Emotion, 11*(5), 1152-1167. doi: 10.1037/a0025479

Lyubomirsky, S., & Nolen-Hoeksema, S. (1995). Effects of self-focused rumination on negative thinking and interpersonal problem solving. *Journal of Personality & Social Psychology, 69*(1), 176-190.

MacDonald, D. A., & Holland, D. (2002). Examination of the psychometric properties of the Temperament and Character Inventory self-transcendence dimension. *Personality and Individual Differences, 32*(6), 1013-1027. doi: 10.1016/S0191-8869(01)00107-6

Maslow, A. H. (1943). A theory of human motivation. *Psychological Review, 50*(4), 370-396. doi: 10.1037/h0054346

May, R. (1950). *The meaning of anxiety*. New York, NY: Ronald Press Company.

McCullough, M. E., Enders, C. K., Brion, S. L., & Jain, A. R. (2005). The varieties of religious development in adulthood: A longitudinal investigation of religion and rational choice. *Journal of Personality & Social Psychology, 89*(1), 78-89. doi: 10.1037/0022-3514.89.1.78

McEwen, B. S., & Stellar, E. (1993). Stress and the individual. Mechanisms leading to disease. Archives of Internal Medicine,153, 2093–2101.

McLaughlin, K. A., Borkovec, T. D., & Sibrava, N. J. (2007). The effects of worry and rumination on affect states and cognitive activity. *Behavior Therapy, 38*(1), 23-38. doi: 10.1016/j.beth.2006.03.003

Meyer, T. J., Miller, M. L., Metzger, R. L., & Borkovec, T. D. (1990). Development and validation of the Penn State Worry Questionnaire. *Behaviour Research and Therapy, 28*(6), 487-495. doi: 10.1016/0005-7967(90)90135-6

Myers, J. E., & Williard, K. (2003). Integrating Spirituality Into Counselor Preparation: A developmental Wellness Approach. [Article]. *Counseling & Values, 47*(2), 142.

Pargament, K. I. (1997). *The psychology of religion and coping: theory, research, practice.* New York: Guilford Press.

Pargament, K. I., Smith, B. W., Koenig, H. G., & Perez, L. (1998). Patterns of positive and negative religious coping with major life stressors. *Journal for the Scientific Study of Religion, 37*(4), 710-724.

Parker, S. (2006). Measuring faith development. *Journal of Psychology and Theology, 34(4)*, 337-348.

Parker, S. (2011). Spirituality in Counseling: A Faith Development Perspective. *Journal of Counseling & Development, 89*(1), 112-119.

Pearce, R. (2011). On being a person: Sartre's contribution to psychotherapy. *Existential Analysis, 22*(1), 83-95.

Pfeifer, S., & Waelty, U. (1999). Anxiety, depression, and religiosity--a controlled clinical study. *Mental Health, Religion & Culture, 2*(1), 35.

Piaget, J. (1928). *The child's conception of the world.* London: Routledge and Kegan Paul.

Piedmont, R. L. (1999). Does spirituality represent the sixth factor of personality? Spiritual transcendence and the five-factor model. *Journal of Personality, 67*(6), 985-1013.

Piedmont, R. L. (2007). Cross-cultural generalizability of the Spiritual Transcendence Scale to the Philippines: Spirituality as a human universal. *Mental Health, Religion & Culture, 10*(2), 89-107. doi: 10.1080/13694670500275494

Piedmont, R. L., Kennedy, M. C., Sherman, M. F., Sherman, N. C., & Williams, J. E. G. (2008). A psychometric evaluation of the Assessment of Spirituality and Religious Sentiments (ASPIRES) Scale: Short form. *Research in the Social Scientific Study of Religion, 19,* 163-181. doi: 10.1163/ej.9789004166462.i-299.55

Piedmont, R. L., & Leach, M. M. (2002). Cross-Cultural Generalizability of the Spiritual Transcendence Scale in India: Spirituality as a universal aspect of human experience. *American Behavioral Scientist, 45*(12), 1888.

Piedmont, R. L., Werdel, M. B., & Fernando, M. (2009). The utility of the Assessment of Spirituality and Religious Sentiments (ASPIRES) scale with Christians and Buddhists in Sri Lanka. *Research in the Social Scientific Study of Religion, 20,* 131-143. doi: 10.1163/ej.9789004175624.i-334.42

Plante, T. G., Yancey, S., Sherman, A., & Guertin, M. (2000). The association between Strength of religious faith and psychological functioning. *Pastoral Psychology, 48*(5), 405-412.

Querstret, D., & Cropley, M. (2013). Assessing treatments used to reduce rumination and/or worry: A systematic review. *Clinical Psychology Review, 33*(8), 996-1009. doi: 10.1016/j.cpr.2013.08.004

Rasic, D., Robinson, J. A., Bolton, J., Bienvenu, O. J., & Sareen, J. (2011). Longitudinal relationships of religious worship attendance and spirituality with major depression, anxiety disorders, and suicidal ideation and attempts: Findings from the Baltimore epidemiologic catchment area study. *Journal of Psychiatric Research, 45*(6), 848-854. doi: 10.1016/j.jpsychires.2010.11.014

Reis, H. T., Sheldon, K. M., Gable, S. L., Roscoe, J., & Ryan, R. M. (2000). Daily well-being: The role of autonomy, competence, and relatedness. *Personality and Social Psychology Bulletin, 26*(4), 419-435. doi: 10.1177/0146167200266002

Rican, P., & Janosova, P. (2010). Spirituality as a basic aspect of personality: A cross-cultural verification of Piedmont's model. *International Journal for the Psychology of Religion, 20*(1), 2-13. doi: 10.1080/10508610903418053

Robichaud, M., Dugas, M. J., & Conway, M. (2003). Gender differences in worry and associated cognitive-behavioral variables. *Anxiety Disorders, 17,* 501-516.

Roemer, L., Molina, S., & Borkovec, T. D. (1997). An investigation of worry content among generally anxious individuals. *Journal of Nervous and Mental Disease, 185*(5), 314-319. doi: 10.1097/00005053-199705000-00005

Rosmarin, D. H., Krumrei, E. J., & Andersson, G. (2009). Religion as a predictor of psychological distress in two religious communities. *Cognitive Behaviour Therapy, 38*(1), 54-64. doi: 10.1080/16506070802477222

Rutjens, B. T., van der Pligt, J., & van Harreveld, F. (2009). Things will get better: The anxiety-buffering qualities of progressive hope. *Personality and Social Psychology Bulletin, 35*(5), 535-543. doi: 10.1177/0146167208331252

Ryan, R. M., & Deci, E. L. (2004). Avoiding death or engaging life as accounts of meaning and culture: Comment on Pyszczynski et al. (2004). *Psychological Bulletin, 130*(3), 473-477. doi: 10.1037/0033-2909.130.3.473

Ryan, R. M., & Deci, E. L. (2000a). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist, 55*(1), 68-78.

Ryan, R. M., & Deci, E. L. (2000b). The darker and brighter sides of human existence: Basic psychological needs as a unifying concept. *Psychological Inquiry, 11*(4), 319-338. doi: 10.1207/S15327965PLI1104_03

Ryan, R. M., & Deci, E. L. (2006). Self-regulation and the problem of human autonomy: Does psychology need choice, self-determination, and will? *Journal of Personality, 74*(6), 1557-1586. doi: 10.1111/j.1467-6494.2006.00420.x

Ryan, R. M., Huta, V., & Deci, E. L. (2008). Living well: a self-determination theory perspective on eudaimonia. *Journal of Happiness Studies, 9*(1), 139-170. doi: 10.1007/s10902-006-9023-4

Sanders, J. L. (1998). Religious ego identity and its relationship to faith maturity. *Journal of Psychology: Interdisciplinary and Applied, 132*(6), 653-658. doi: 10.1080/00223989809599296

Schmiege, S. J., Bryan, A., & Klein, W. M. P., (2009). Distinctions between worry and perceived risk in the context of the theory of planned behavior. *Journal of Applied Social Psychology, 39*(1), 95-119.

Schulenberg, S. E., Strack, K. M., & Buchanan, E. M. (2011). The Meaning in Life Questionnaire: Psychometric properties with individuals with serious mental illness in an inpatient setting. *Journal of Clinical Psychology, 67*(12), 1210-1219. doi: 10.1002/jclp.20841

Schwartz, S. H., Sagiv, L., & Boehnke, K. (2000). Worries and Values. *Journal of Personality, 68*(2), 309-346.

Selman, R. L. (1980). *Growth of Interpersonal Understanding: Developmental & Clinical Analyses.* New York: Academic Press.

Shreve-Neiger, A. K., & Edelstein, B. A. (2004). Religion and anxiety: A critical review of the literature. *Clinical Psychology Review, 24*(4), 379-397. doi: 10.1016/j.cpr.2004.02.003

Sinnott, J. (2005). Spirituality as "feeling connected with the transcendent": Outline of a transpersonal psychology of adult development of self. *Research in the Social Scientific Study of Religion, 16,* 287-307.

St. Clair, D. M., & Castro, L. (2005). Native Men, Spirituality, and Cancer Recovery. *Journal of Cancer Education, 20*(1, Suppl), 33-36. doi: 10.1207/s15430154jce2001s_08

Steger, M. F., & Frazier, P. (2005). Meaning in life: One link in the chain from religiousness to well-being. *Journal of Counseling Psychology, 52*(4), 574-582. doi: 10.1037/0022-0167.52.4.574

Steger, M. F., Frazier, P., Oishi, S., & Kaler, M. (2006). The Meaning in Life Questionnaire: Assessing the presence of and search for meaning in life. *Journal of Counseling Psychology, 53*(1), 80-93. doi: 10.1037/0022-0167.53.1.80

Steger, M. F., Kawabata, Y., Shimai, S., & Otake, K. (2008). The meaningful life in Japan and the United States: Levels and correlates of meaning in life. *Journal of Research in Personality, 42*(3), 660-678. doi: 10.1016/j.jrp.2007.09.003

Steger, M. F., Oishi, S., & Kashdan, T. B. (2009). Meaning in life across the life span: Levels and correlates of meaning in life from emerging adulthood to older adulthood. *Journal of Positive Psychology, 4*(1), 43-52. doi: 10.1080/17439760802303127

Steger, M. F., Pickering, N. K., Adams, E., Burnett, J., Shin, J. Y., Dik, B. J., & Stauner, N. (2010). The quest for meaning: religious affiliation differences in the correlates of religious quest and search for meaning in life. *Psychology of Religion and Spirituality, 2*(4), 206-226.

Sterling, P., & Eyer, J. (1988). Allostasis: A new paradigm to explain arousal pathology. In S. Fisher & J. Reason (Eds.) Handbook of life stress, cognition and health (pp. 629- 649). New York: Wiley.

Streib, H. (2001). Faith development theory revisited: the religious styles perspective. *International Journal for the Psychology of Religion, 11*(3), 143-158.

Streib, H. (2005). Faith development research revisited: Accounting for diversity in structure, content, and narrativity of faith. *International Journal for the Psychology of Religion, 15(2),* 99-121.

Streib, H., Hood, R. W., & Klein, C. (2010). The religious schema scale: construction and initial validation of a quantitative measure for religious styles. *International Journal for the Psychology of Religion, 20*(3), 151-172.

Tabachnick, B. G. & Fidell, L. S. (2007). *Using Multivariate Statistics. (5th ed.)*. Boston: Pearson Education.

Tallis, F. (1994). The worry domains questionnaire. In G. C. L. Davey and F. Tallis (Eds.), *Worrying: Perspectives on theory, assessment, and treatment* (pp. 285 297). Chichester, England: Wiley.

Tallis, F., Eysenck, M. W., & Mathews, A. (1992). A questionnaire for the measurement of nonpathological worry. *Personality and Individual Differences, 13*(2), 161-168. doi: 10.1016/0191-8869(92)90038-Q

Tavernier, R., & Willoughby, T. (2012). Adolescent turning points: The association between meaning-making and psychological well-being. *Developmental Psychology, 48*(4), 1058-1068. doi: 10.1037/a0026326

van Deurzen-Smith, E. (1988). *Existential counselling in practice*. Thousand Oaks, CA: Sage Publications, Inc.

Van Rijsoort, S., Emmelkamp, P., & Vervaeke, G. The Penn State Worry Questionnaire and the Worry Domains Questionnaire: structure, reliability and validity. *Clinical Psychology & Psychotherapy, 6*(4), 297-307.

Verkuil, B., Brosschot, J. F., Gebhardt, W. A., & Thayer, J. F. (2010). When worries make you sick: A review of perseverative cognition, the default stress response and somatic health. *Journal of Experimental Psychopathology, 1*(1), 87-118. doi: 10.5127/jep.009110

Watson, P. J., & Morris, R. J. (2005). Spiritual experience and identity: Relationships with religious orientation, religious interest, and intolerance of ambiguity. *Review of Religious Research, 46*(4), 371-379.

Wells, A. (2006). The Metacognitive Model of Worry and Generalised Anxiety Disorder. In G. C. L. Davey & A. Wells (Eds.), *Worry and its psychological disorders: Theory, assessment, and treatment,* (pp. 179-200). Chichester, England: Wiley.

Wetherell, J. L. (2006). Worry in older adults. In G. C. L. Davey & A. Wells (Eds.), *Worry and its psychological disorders: Theory, assessment and treatment.* (pp. 69-80). Hoboken, NJ: Wiley Publishing.

Wilber, K. (2006). *Integral spirituality: A startling new role for religion in the modern and postmodern world.* Boston: Routledge.

Williamson, I. T., & Sandage, S. J. (2009). Longitudinal analyses of religious and spiritual development among seminary students. *Mental Health, Religion & Culture, 12*(8), 787-801. doi: 10.1080/13674670902956604

Yalom, I. D. (2008). Staring at the sun: Overcoming the terror of death. *Humanistic Psychologist, 36*(3-4), 283-297. doi: 10.1080/08873260802350006

Zlomke, K. R. & Hahn, K. S. (2010). Cognitive emotion regulation strategies: Gender differences and associations to worry. *Personality and Individual Differences, 48,* 408-413.

Appendix 1.0: Penn State Worry Questionnaire (PSWQ)

Instructions: Rate each of the following statements on a scale of:

1	2	3	4	5
Not at all typical of me				Very typical of me

Please do not leave any items blank.

___1. If I do not have enough time to do everything, I do not worry about it.

___2. My worries overwhelm me.

___3. I do not tend to worry about things.

___4. Many situations make me worry.

___5. I know I should not worry about things, but I just cannot help it.

___6. When I am under pressure I worry a lot.

___7. I am always worrying about something.

___8. I find it easy to dismiss worrisome thoughts.

___9. As soon as I finish one task, I start to worry about everything else I have to do.

___10. I never worry about anything.

___11. When there is nothing more I can do about a concern, I do not worry about it anymore.

___12. I have been a worrier all my life.

___13. I notice that I have been worrying about things.

___14. Once I start worrying, I cannot stop.

___15. I worry all the time.

___16. I worry about projects until they are all done.

Appendix 2.0: Micro/Macro Worry Scale

Please ask yourself, "How worried, if at all, am I worried about…"

1. My getting cancer	Macro
2. Conflict among groups in our society	Micro
3. Worsening destruction of the environment	Micro
4. Someone in my family not having enough money to live on	Macro
5. My country getting involved in a war	Macro
6. My life being boring	Macro
7. Many people in our country living poverty	Micro
8. My parents dying	Micro
9. Our society not succeeding in maintaining high standards in education, science and technology	Macro (borderline)
10. Someone in my family being in a traffic accident	Micro
11. Things not working out in my studies or job	Micro
12. Someone close to me being infected with AIDS	Micro
13. Damage to nature (forests, animals, etc.) in our country	Macro
14. My not having any close friends	Micro
15. The population explosion in the third world	Macro
16. My being unattractive	Micro
17. A value crisis in society	Macro
18. My own death	Micro
19. Unemployment in our country	Macro
20. Politically motivated violence in our country	Macro
21. My life not really being meaningful	Micro
22. Hostility of people in the world toward one another	Macro
23. Pollution in my immediate neighborhood (air, water, noise, trash, etc.)	Macro
24. The outbreak of a nuclear war	Macro
25. My getting into financial difficulties some day	Micro
26. Humankind not being wise enough to make responsible use of new scientific knowledge	Macro

27. My closest relationship breaking up	Micro
28. People in the world dying from hunger	Macro
29. My not really being good enough to get a job	Micro
30. People becoming addicted to hard drugs	Macro
31. My being the victim of a violent crime	Micro
32. A nuclear power plant leaking or blowing up	Macro
33. Simply about the future	Macro

Use a 5-point rating scale ranging from 0 to 4 with scores 0, 2, and 4 anchored verbally: 0 = “no worry at all,” 2 = “somewhat worried”, 4 = “very worried”

Appendix 4.0, Faith Development Scale (FDS)

Instructions: Please circle either *A* or *B* for the following 8 pairings according to which you feel best describes your current state.

1. A. I believe totally the teachings of my church.
   B. I find myself disagreeing with my church over numerous aspects of my faith.

2. A. I believe that my church offers a full insight into what God wants for us and how we should worship him.
   B. I believe that my church has much to offer, but that other religions can also provide many religious insights.

3. A. It is very important for me to critically examine my religious beliefs and values.
   B. It is very important for me to accept the religious beliefs and values of my church.

4. A. My religious orientation comes primarily from my own efforts to analyze and understand God.
   B. My religious orientation comes primarily from the teaching of my family and church.

5. A. It does not bother me to become exposed to other religions.
   B. I don't find value in becoming exposed to other religions.

6. A. My personal religious growth has occasionally required me to come into conflict with my family or friends.
   B. My personal religious growth has not required me to come into conflict with my family or friends.

7. A. It is very important that my faith is highly compatible with or similar the faith of my family.
   B. It isn't essential that my faith be highly compatible with the faith of my family.

8. A. The religious traditions and beliefs I grew up with are very important to me and do not need changing.
   B. The religious traditions and beliefs I grew up with have become less and less relevant to my current religious orientation.

Appendix 5.0: Balanced Measure of Psychological Needs Scale (BMPN)

Instructions: Please read the statements and think about how true you feel the statement represents you at this point in your life. Then, indicate the degree to which statement each feels true using the 5-point scale shown at the top of the page.

1	2	3	4	5
Not at all true of me		**Somewhat true of me**		**Very much true of me**

____1. I do well even at hard things.

____2. I really do what interests me.

____3. I feel a strong sense of intimacy with people I spend time with.

____4. I struggle doing some things I should be good at.

____5. I have to do things against my will.

____6. I have disagreements or conflicts with people I usually get along with.

____7. I successfully complete difficult tasks and projects.

____8. I am free to do things my own way.

____9. I feel a sense of contact with people who care for me, and whom I care for.

____10. I have recently experienced failure or been unable to do well at something.

____11. I have a lot of pressures I could do without.

____12. I am lonely.

____13. I take on and master hard challenges.

____14. My choices express my "true self."

____15. I feel close and connected with other people who are important to me.

____16. I do stupid things that make me feel incompetent.

____17. There are people telling me what I have to do.

____18. I feel unappreciated by one or more important people.

Appendix 6.0, Assessment of Spirituality and Religious Sentiments- Self Report, Short Form (ASPIRES-SF)

1) Age:_____

2) Gender:
__Female
__Male

3) Race/Ethnicity:
__American Indian / Native American
__African American / Black
__Caucasian / White
__Hispanic / Latino(a)
__Asian / Pacific Islander
__Middle Eastern
__Other: _____

4) Religious affiliation:
__Catholic
__Lutheran
__Methodist
__Episcopal
__Unitarian
__Baptist
__Presbyterian
__Mormon
__Other Christian, please specify:_____
__Jewish
__Muslim
__Hindu
__Buddhist
__Atheist/Agnostic
__Other Faith Tradition, please specify:_____

Instructions: This questionnaire will ask you about various perceptions you hold about your view of the world and your place in it. Answer each question on the scale provided by checking the response that best expresses your feelings. If you are not sure of your answer or believe that the question is not relevant to you, then mark the "Neutral" category.

Please work quickly, do not spend too much time thinking about your responses to any single item. Usually, your first answer is your best response, so go with your first reaction to the item.

Section I.

1. How often do you read the Bible/Torah/Koran/Geeta?

__Never __About once a month __Several times a week
__About once or twice a year __2 or 3 times a month
__Several times a year __Nearly every week

2. How often do you read religious literature other than the Bible/Torah/Koran/Geeta?

__Never __About once a month __Several times a week
__About once or twice a year __2 or 3 times a month
__Several times a year __Nearly every week

3. How often do you pray?

__Never __About once a month __Several times a week
__About once or twice a year __2 or 3 times a month
__Several times a year __Nearly every week

4. How frequently do you attend religious services?

__Never __Occasionally __Quite often
__Rarely __Often

Section II.

1. In the quite time of my prayers and/or meditations, I find a sense of wholeness.

__Strongly agree __Agree __Neutral __Disagree __Strongly disagree

2. I have done things in my life because I believed it would please a parent, relative, or friend that had died.

__Strongly agree __Agree __Neutral __Disagree __Strongly disagree

3. Although dead, memories and thoughts of some of my relatives continue to influence my current life.

__Strongly agree __Agree __Neutral __Disagree __Strongly disagree

4. I find inner strength and/or peace from my prayers and/or meditations.

__Strongly agree __Agree __Neutral __Disagree __Strongly disagree

5. I do not have any strong emotional ties to someone who has died.

__Strongly agree __Agree __Neutral __Disagree __Strongly disagree

6. There is no higher plane of consciousness or spirituality that binds all people.

__Strongly agree __Agree __Neutral __Disagree __Strongly disagree

7. Although individual people may be difficult, I feel an emotional bond with all of humanity.

__Strongly agree __Agree __Neutral __Disagree __Strongly disagree

8. My prayers and/or meditations provide me with a sense of emotional support.
__Strongly agree __Agree __Neutral __Disagree __Strongly disagree

9. I feel that on a higher level all of us share a common bond.
__Strongly agree __Agree __Neutral __Disagree __Strongly disagree

Appendix 7.0: Meaning in Life Questionnaire (MLQ)

Please take a moment to think about what makes your life feel important to you. Please respond to the following statements as truthfully and accurately as you can, and also please remember that these are very subjective questions and that there are no right or wrong answers. Please answer according to the scale below:

Absolutely Untrue	Mostly Untrue	Somewhat Untrue	Can't Say True or False	Somewhat True	Mostly True	Absolutely True
1	2	3	4	5	6	7

1. ____I understand my life's meaning.

2. ____I am looking for something that makes my life feel meaningful.

3. ____I am always looking to find my life's purpose.

4. ____My life has a clear sense of purpose.

5. ____I have a good sense of what makes my life meaningful.

6. ____I have discovered a satisfying life purpose.

7. ____I am always searching for something that makes my life feel significant.

8. ____I am seeking a purpose or mission for my life.

9. ____My life has no clear purpose.

10. ____I am searching for meaning in my life.

MLQ Presence and Search subscales:
Presence- 1, 4, 5, 6, & 9-reverse-coded
Search- 2, 3, 7, 8, & 10