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### Recommended Citation

Dunaetz, D. R. (2013). Finding still waters and green pastures: Understanding and reducing stress in urban church planting. *Great Commission Research Journal*, 4(2), 235-250.

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# Finding Still Waters and Green Pastures: Understanding and Reducing Stress in Urban Church Planting

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## Abstract

The work of urban church planters is often hindered by high levels of stress. Stress may be viewed as a process that involves stressors and an individual's perceptions of both the level of threat and his or her ability to deal with the threat. The long term and the short term consequences of stress can be attenuated through appropriate coping strategies such as problem solving, prayer, and seeking social support. Recent empirical evidence indicates that exposure to nature is also very effective, a strategy that might be especially beneficial to urban church planters and their ministries. Several practical applications are suggested.

Environmental psychology is the scientific study of how physical and social environments influence the behavior and well-being of individuals. Aspects of the environment which are studied include noise, pollution, climate, personal space, population density, architectural design, and nature.

Urbanization and its resulting problems have been a driving force in the development of this science. The most obvious psychological response to urbanization is stress. Crowding, over-stimulation of the senses, and increased physical dangers all contribute to increased stress levels of people in urban environments, including church planters.

Stress and coping strategies have long been studied in psychology. During the second half of the twentieth century, psychology evolved from speculative philosophy (e.g. Freud) to a modern science based on experiments and statistical analysis. An overview of what we know about stress in urban environments will allow us to make several recommendations for helping urban church planters serve more effectively. It will especially highlight the

results of more recent experimental studies which have demonstrated the restorative effects of exposure to nature on people suffering from urban stress.

## Understanding Stress and Its Effects

Stress has long been associated with church planting, especially cross cultural church planting (Carter, 1999), regardless of whether it has been done in urban, suburban, or rural contexts. Slightly more than half of the world's population lives in urban settings, and this will increase to two-thirds of the world's population by 2045 (United Nations, 2009). Thus it is likely that more and more church planters will find themselves working in an urban context.

## Causes of Stress

For the urban church planter, stress can come from both the nature of church planting and the urban environment. In addition, there are other stressors that may come from crossing cultures.

**Stress Due to Church Planting.** Church planting is debatably one of the most stressful professions. Many church plants are not successful (Ott & Wilson, 2011). Because the outcome of their efforts is so uncertain, church planters are often stressed due to the possibility of career failure. Financial and time resources are often limited. Expectations from supporters and from self may also increase the stress. Both the people who need the gospel and those who need pastoral care are virtually unlimited in most contexts. People who join church plants are often quite needy or have a history of dysfunction in other churches. Although there is perhaps no greater joy than seeing a church planted (III John 4), the path to success is paved with sorrow and pain from innumerable stressful events that may occur with uncanny regularity.

**Stress Due to the Urban Environment.** In addition to the stress due to the nature of church planting, stress is a common occurrence due to the nature of urban environments. Crowding in public places produces fatigue and aggressiveness (Baron & Richardson, 2004). Higher crime rates produce fear due to the greater likelihood of becoming a victim. The overstimulation that comes from constant exposure to people, noise, and advertisements leads to fatigue. This fatigue prevents the church planter from processing information correctly and concentrating on the work and on the relationships which are the most important. In addition, transportation time and irregularities makes it difficult to maintain relationships and coordinate schedules. Due to the price of housing, families often live in cramped quarters, which in extreme cases can contribute to child abuse and poor mental health (Stillwaggon, 1998), but, at the very least, can increase the likelihood of being exposed to neighbors who are dealing with these issues. Other health stressors include frequent exposure to infectious diseases (ranging from colds to HIV), pollution, and easy access to unhealthy food (Galea & Vlahov, 2005; White, 2007).

**Cross-Cultural Stress.** If the church planter is working in a new culture, the number of stressors he or she experiences will be even greater (Loss, 1983; Oberg, 1960). The church planter must learn to interpret events and behaviors in new ways; interpretations based on one's home culture may frequently lead to misunderstandings. Similarly, the meaning of discourse, gestures, and other behaviors in social interactions may have to be completely relearned, creating an unending source of stress. Perhaps the church planter will feel pressure to accept beliefs and behaviors that were previously viewed as unacceptable, such as public spitting or gift giving to facilitate administrative tasks. Adding to

the stress may be guilt feelings associated with having a higher standard of living than most people in the host culture (Carter, 1999).

If the church planter must learn a new language, there will be even more stressors. There will be the cognitive stress that comes from learning the vocabulary and grammar of the language. There might also be physical stress as the church planter practices for hours trying to reproduce new phonemes, tones, and rhythms found in the language. Added to this is the social stress that comes from an inability to communicate, the fear of social rejection, possible negative evaluations by the people whom the church planter wants to serve, and the inevitable embarrassment coming from innumerable mistakes that are made during language learning.

Yet another source of stress in cross-cultural church planting occurs from the interaction of the church planting task and the culture. In pioneer church planting settings, it is quite possible that the culture has been relatively stable for centuries or even millennia without the gospel. Under such conditions, the gospel is likely to meet resistance, increasing stress as the church planter tries to maintain relationships and credibility.

### **The Effects of Stress**

Stress in itself can have positive effects. In sticky situations, stress arouses people to work their hardest to solve the problems at hand. Athletes and public speakers often do their best when the pressure is highest. Going through trying situations often teaches people lessons about life or deepens their commitment to God. However, the long term effects of stress can be devastating to people's health. Even the short term effects of a continuous stressor can have negative effects, especially affecting people's cognitive functioning.

**Long Term Effects of Stress.** The long term effects of stress are relatively well-known (Myers, 2010). First comes exhaustion and a feeling of being unable to work to one's full capacity, accompanied by a desire to remove oneself from the situation (Selye, 1956). If these conditions continue for months or years, the brain's production of certain types of neurons slows down (Mirescu & Gould, 2006) and the DNA at the ends of chromosomes (telomeres) breaks down, a condition which results in premature aging (Epel et al., 2004). Stress especially tends to reduce life expectancy by increasing susceptibility to coronary heart disease (Friedman & Ulmer, 1985). In the meantime, as many church planters know, stress reduces immunity resulting in more frequent occurrences of infectious diseases (Glaser et al., 1987) and hypertension related headaches (Holm, Holroyd, Hursey, & Penzien,

1986). Such long term effects of stress are clearly detrimental to the well-being of church planters.

**Short Term Effects of Stress.** Besides long term effects on a church planter's health, stress also has a number of short terms effects that are felt relatively quickly, effects that can occur in matter of minutes or hours (Baumeister, Bratslavsky, Muraven, & Tice, 1999; Kaplan & Berman, 2010). Highly elevated levels of stress have long been known to limit cognitive functioning (Teigen, 1994; Yerkes & Dodson, 1908). At least two important brain functions are fatigued by stress and result in less than optimal functioning. These functions are known as *executive functioning* and *self-regulation*.

Executive functioning (Miyake et al., 2000) describes the complex processing of information that is carried out in the frontal lobes of the brain. It enables us to plan, solve problems, focus our attention on certain stimuli, think abstractly, and incorporate new information into our understanding of the world around us. When executive processing is impaired, we find it more difficult to solve the problems we encounter or to carry out plans that we have made. Self-regulation (Carver & Scheier, 1998) refers to the processes that allow us to do the good that we want to do and to avoid doing the bad that we wish to avoid (cf. Rom. 7:15-20). It is quite similar to the concept of self-control. Both executive functioning (clear thinking) and self-regulation (self-control) have been found to be hindered when humans undergo stress (Jaffe, 2010; Kaplan & Berman, 2010).

It appears that stress reduces our ability to think clearly and exercise self-control by limiting our ability to focus our attention (Kaplan & Berman, 2010). Focusing one's attention is an important aspect of cognitive functioning. Among all the stimuli that continually bombard our senses, we tend to focus on only a very small subset of these stimuli (Pashler & Johnston, 1998). For example, suppose a church planter is writing a letter to his prayer and financial supporters. At this moment his eyes are focused on the letters he is typing on the computer screen, but he is oblivious to the keys that he can feel in his pocket or the ticking of a clock behind him. If he loses his ability to focus his attention, he may get distracted by the keys, the clock, or by a stray thought that he should check Facebook. Thus both his executive functioning and self-regulation can suffer if his ability to focus his attention weakens. He will not think clearly about accomplishing the task he is undertaking (writing the letter) and he risks doing something that he does not desire to do (spending the rest of the evening surfing the web).

So church planters (and everyone else) who live in urban environments characterized by stressors

such as noise, limited personal space, difficulties in transportation, a mixture of cultures, and crime are likely to suffer long term health related consequences as well as short term effects of less clear thinking and increased difficulties in self-control. Before discussing ways that church planters can reduce stress, we will examine a conceptual model of stress to better understand its origins and regulation.

### A Conceptual Model of Stress

Stress can be viewed in various ways. It can be viewed as a stimulus (something that happens to a person from the exterior) or it can be viewed as a response (an internal reaction to a situation). Stress in the form of a lack of finances or a high crime rate might act as a stimulus that reduces the church planter's ability concentrate on the church planting task. Stress in the form of headaches and anger may be a response to the fear of failure. Given that stress is associated with both stimuli and responses, it is best to view stress as a process.

**Four Elements of Stress.** A model of stress created by Richard Lazarus (Lazarus & Folkman, 1984) of the University of California, Berkeley, is composed of four elements as illustrated in Figure 1. The model begins with *stressors*, events in the environment which threaten or challenge us. These include all of the sources of stress described above, such as crime levels, difficulty in transportation, or noise made by our neighbors. While stressors are external to us, the next two elements are our assessments of the stressors and are thus internal to us.

After we observe a stressor, we assess it on two different levels. The *primary assessment* is our analysis of the extent of the threat. We might feel that our life is threatened. We might fear that we will miss an appointment. We might feel that a noise is preventing us from concentrating. Sometimes the primary assessment indicates that the threat is very dangerous, and at other times the threat might be only minimally bothersome; usually it is somewhere in between. We also make a *secondary assessment* of the threat posed by the stressor, this time focusing on our ability to respond appropriately to the threat. We might feel quite confident that we can avoid danger in a situation by taking a different route to our destination. We might think there's a bit of a chance that we'll arrive on time to our appointment if we walk faster. We might feel completely helpless when the neighbors make noise that we find distracting. So, just as the primary assessment measures the threat on a scale going from major to minor, the secondary assessment measures our ability to adequately respond to the threat on a scale from sufficient to insufficient.

The fourth element of Lazarus' model is the actual stress that is experienced. This stress is proportional to the difference between our primary assessment and our secondary assessment. If we feel we can respond adequately to a threat, our stress level will be low. For example, if there is a life threatening situation which we know we can easily avoid, we may feel little stress. But if we feel we cannot respond adequately to a threat, then even minor nuisances can cause high levels of stress. For example, if our neighbors are making noise and we believe that we cannot work under such circumstances and that there is nothing we can do to stop this noise, our stress level will be high.

**Coping Strategies.** Stress results from the difference between the perceived threat and our perceived ability to respond to the threat. Our actual responses to the threat are the *coping strategies* that we use to protect ourselves from the threat. There is a fascinating variety of coping strategies that people use (Carver, Scheier, & Weintraub, 1989; Vaillant, 1995), some of which are more effective than others. We shall examine several that are especially relevant for urban church planting.

### **Coping Strategies for Urban Church Planters**

Numerous coping strategies, both religious and non-religious, are available to church planters. Some are quite ineffective at attenuating the negative effects of stress (e.g. denial or doubting God's goodness; Carver et al., 1989; Pargament, Koenig, & Perez, 2000). We will, therefore, examine some of the more effective strategies. After briefly examining some traditional approaches that church planters use to cope with stress, we will examine *exposure to nature* as a coping strategy, a strategy whose effectiveness has recently received strong empirical support and is quite relevant to urban church planting. We will also briefly examine a coping strategy that is less effective but commonly used – watching television.

### **Traditional Coping Strategies**

Many church planters may not be conscious of how they cope with stress, but there are at least three effective strategies that are used to respond to threatening situations that are encountered. All three have been empirically demonstrated to reduce stress levels and improve the quality of one's life (Carver et al., 1989; Diener, Suh, Lucas, & Smith, 1999; Vaillant, 1995).

**Reflection and Problem Solving.** Although it might seem obvious to most church planters that reflecting on a problem and trying to come up with a solution to it would normally be an effective coping

strategy, there is a great amount of variability in the degree to which people actually do this (Carver et al., 1989). Many people become overwhelmed by emotions or feel additional threats when considering various possible solutions to a problem. Nevertheless, reflection and problem solving, followed by a plan to implement the chosen solution, in general, reduces the secondary assessment of the threat and thus lower one's stress reaction.

**Prayer.** Church planting experts (e.g. Ott & Wilson, 2011; Payne, 2009) generally value prayer quite highly as a foundational aspect of church planting. Prayer, especially frequent prayer, has also been empirically demonstrated to be quite effective in reducing stress and increasing the quality of one's life (Bremner, Koole, & Bushman, 2011; Pargament et al., 1990; Pargament et al., 2000; Poloma & Pendleton, 1991). Although divine intervention is difficult to measure in such empirical studies, other results of prayer are measurable. For example, these studies indicate that prayer reduces stress through a reframing of the situation so that the situation seems less dangerous because of increased confidence in God's direction. Prayer also provides people with emotional support from their relationship and communication with God, increasing their motivation to do what they believe he wants them to do. Prayer also helps people affirm their values and refocus on their priorities, motivating them to increase their efforts to accomplish the corresponding goals.

**Social Support.** Another common coping strategy which is often, though not always, effective is seeking social support, interacting with others and discussing issues which may or may not be relevant to the stressor (Carver et al., 1989). When social support leads to problem solving (via a discussion of what to do to reduce the danger of the situation at hand), it is generally positive. Similarly, when social support enables a person to calm down and think more clearly about the issues, the results are positive. Friends and family are usually the source of social support, but God may be also; in this case, there is a large conceptual overlap with prayer as a coping strategy.

However, social support may not always be positive. Continual focus on expressing one's emotions to a sympathetic ear, rather than moving forward in a painful situation or finding an appropriate response to a threat, may be detrimental to an individual's well-being (Carver et al., 1989).

The coping strategies of problem solving, prayer, and social support have long been studied by social scientists and are known to be effective. We will now turn our attention to a more recent subject of research, exposure to nature, which is also an

effective, but less well known, coping strategy, and quite relevant for urban church planters.

### **Exposure to Nature as a Coping Strategy**

Nature scenes have long been used as a representation of a peaceful, stress free existence in both the Bible (e.g., Ps. 23 and Song of Songs) and in secular literature and art (e.g. Marlowe's *Passionate Shepherd to His Love* and the paintings of Fragonard and Watteau). But only recently have the beneficial effects of nature been empirically studied, enabling us to understand the mechanism by which exposure to nature can undo the effects of stress.

**Experimentally Measured Benefits of Exposure to Nature.** A number of recent studies have demonstrated that exposure to nature can reduce stress (Jaffe, 2010). In one study (Berman, Jonides, & Kaplan, 2008), students were randomly assigned to two groups who walked through two different parts of Ann Arbor, Michigan. One group walked through a large arboretum and another walked through downtown. Members of each group were then given an attention span test (measuring the number of digits that they could repeat backwards, a standard test of attention). Although the attention span of the members of both groups increased after going on a walk, those who walked through the greenery of the arboretum increased their attention span significantly more than those who walked through downtown, essentially enabling them to better concentrate on what they wanted and reducing the degree that they were distracted by the various stressors in their life.

In Chicago, 145 residents of a public housing project for the poor were surveyed as to the degree of aggression and violence they used to settle domestic disputes (Kuo & Sullivan, 2001). Those who had been randomly assigned an apartment with a window overlooking a park or other sources of greenery used aggression and violence much less than those who only had a view of concrete buildings from their windows. In another study of children in the same complex (Taylor, Kuo, & Sullivan, 2002), children with window views of nature were better able to concentrate and inhibit their impulses than children who were not able to see nature regularly. These studies demonstrate that exposure to nature increases people's ability to function effectively.

Exposure to nature also enables people to work longer on solving problems than people who are only exposed to an urban environment. When people are shown films of driving either on a scenic parkway in a forest or through a city, those who are exposed to nature scenes become less stressed and get over stressful events quicker than those who are exposed to city scenes (Parsons, Tassinary, Ulrich,

Hebl, & Grossman-Alexander, 1998). Similarly, when presented an unsolvable puzzle (an anagram that could not be unscrambled to spell anything), people shown the scenic parkway film were willing to work about 50% longer before giving up than people who watched the city film (Cackowski & Nasar, 2003). Exposure to nature (even an artificial drive through nature) helps people cope with stress, lowers their stress level, and increases their willingness to persist when facing obstacles.

Other studies have found similar benefits from exposure to nature. People living near greenery in the United Kingdom have better health than those without easy access to nature, even controlling for income (Mitchell & Popham, 2008). Hospital patients with a window view of nature view get better quicker, have a more positive attitude, and require less pain medication than those with a view of another building (Ulrich, 1984). Students who walk through a wooded area for 10 minutes feel more prepared to deal with life's problems and experience more positive emotions than students who walk through a quiet urban area with no exposure to nature (Mayer, Frantz, Bruehlman-Senecal, & Dolliver, 2009). This last study is especially relevant in church planting contexts because many church planters spend much of their time trying to solve problems. There is even experimental evidence that exposure to nature can make people more culturally and socially sensitive by enabling them to think more clearly about what is appropriate to say (von Hippel & Gonsalkorale, 2005).

**The Mechanism by which Nature Restores.** The benefits of exposure to nature are numerous; it makes us less irritable, gives us greater perseverance and improved health, helps us solve problems better, and improves our health (Jaffe, 2010). Whereas stress impairs our focused attention, resulting in limited executive functioning (clear thinking) and limited self-regulation (self-control), exposure to nature has the opposite effect (see Figure 2). When we spend time in nature, our ability to focus our attention is restored, resulting in increased executive functioning and increased self-regulation, leading to better coping and attenuating the negative effects of stress (Berman et al., 2008; Kaplan, 1995; Kaplan & Berman, 2010).

Prolonged exposure to a stressful situation may make it difficult for church planters to focus their attention on solving the problems that they face. They may no longer think clearly and their level of self-control may decrease, resulting in wasted time or damaged relationships. But exposure to nature, such as a walk through a forest or contemplating a park from a window, may help restore the church planters'

ability to focus, enabling them to think more clearly about the situation and have the self-discipline necessary to make wise decisions and respond appropriately to others.

### **Ineffective Coping Strategies**

While exposure to nature is a strategy that has been used for millennia, several modern, more technologically driven coping strategies should be noted.

**Television.** Unlike exposure to nature, watching television does not restore focused attention. Television is very effectively designed to capture attention (Mander, 1978). The more time people spend watching television, the worse their mood becomes; they wish they watched it less, tend to feel guilty, and experience less ability to deal with situations around them (Kubey & Csikszentmihalyi, 1990, 2002). It is one of the avoidance coping strategies that has few benefits, if any, especially when compared to more constructive coping strategies (Carver et al., 1989).

**Internet.** Web surfing and social networking share many of the dangers of television watching, but also provide the opportunity for social interaction. Some people experience significant increased social support from computer mediated communication, but many others become more socially isolated (Kraut et al., 2002). If social networking is used primarily for impression management, as is often the case (Buffardi & Campbell, 2008; Krämer & Winter, 2008), it is likely that online interactions will remain superficial and little social support will occur. For church planters, social media must be used judiciously and with much discernment in order to beneficially deal with stressful situations.

### **Missiological Applications**

To reduce stress, there are many specific steps that urban church planters may undertake. By seeking to reduce their own stress, they will be empowered for more effective ministry. But they can also seek to reduce stress in the life of church members as well. Although the coping strategies associated with reflection and problem solving, prayer, and social support could be discussed much more, we will focus on exposure to nature in this discussion.

### **Personal and Family Strategies**

When a church planter chooses housing, there are many factors to consider such as cost, size, and proximity to the target population. Another factor to consider is the view and the proximity to

green spaces such as parks, fields, and forests. A view of nature or easy access to natural settings may significantly reduce stress and be worth the extra cost.

Similarly, church planters must use their rest and recreation time wisely. Whether it is an annual vacation, a weekly day off, or a ten minute walk, exposure to nature may be more refreshing than a purely urban outing. Even a trip to a major city is more likely to be restorative if it includes time in parks and natural settings.

### **Ministry Strategies**

Just as urban church planters can benefit from exposure to nature, church members and potential church members can as well. Activities that include exposure to nature, such as retreats, might not only be quite attractive to city dwellers but might have significantly different results than activities that occur in an urban environment. In more rural settings, participants are likely to be less stressed and more open to receiving new information.

If renting or constructing a building fits into the church planting strategy, greenery should be taken into consideration. A location that is near a park or includes some sort of garden or landscaping can create a less stressful environment and a more attractive building. In the same way, using plants and natural wood in the decoration of the interior of the building may also produce similar results.

### **Conclusion**

Urban church planting is inherently stressful. Both the long term and short term consequences of stress reduce the efficiency of church planters. However, the use of coping strategies such as problem solving, prayer, social support, and exposure to nature can reduce these negative consequences. By understanding the mechanisms by which stress affects their performance, church planters can avoid many of the negative consequences and increase their ministry effectiveness.

## References

- Baron, R. A., & Richardson, D. R. (2004). *Human aggression*. New York, NY: Plenum Press.
- Baumeister, R. F., Bratslavsky, E., Muraven, M., & Tice, D. M. (1999). Ego depletion: Is the active self a limited resource? *Journal of Personality and Social Psychology, 74*, 1252-1265.
- Berman, M. G., Jonides, J., & Kaplan, S. (2008). The cognitive benefits of interacting with nature. *Psychological Science, 19*, 1207-1212.
- Bremner, R. H., Koole, S. L., & Bushman, B. J. (2011). "pray for those who mistreat you": Effects of prayer on anger and aggression. *Personality and Social Psychology Bulletin, 37*, 830-837.
- Buffardi, L. E., & Campbell, W. K. (2008). Narcissism and social networking web sites. *Personality and Social Psychology Bulletin, 34*, 1303-1314.
- Cackowski, J. M., & Nasar, J. L. (2003). The restorative effects of roadside vegetation. *Environment and Behavior, 35*, 736-751.
- Carter, J. (1999). Missionary stressors and implications for care. *Journal of Psychology and Theology, 27*, 171-180.
- Carver, C. S., & Scheier, M. F. (1998). *On the self-regulation of behavior*. Cambridge, UK: Cambridge Univ Press.
- Carver, C. S., Scheier, M. F., & Weintraub, J. K. (1989). Assessing coping strategies: A theoretically based approach. *Journal of personality and Social Psychology, 56*, 267-283.
- Diener, E., Suh, E. M., Lucas, R. E., & Smith, H. L. (1999). Subjective well-being: Three decades of progress. *Psychological Bulletin, 125*, 276-302.
- Epel, E. S., Blackburn, E. H., Lin, J., Dhabhar, F. S., Adler, N. E., Morrow, J. D., et al. (2004). Accelerated telomere shortening in response to life stress. *Proceedings of the National Academy of Sciences of the United States of America, 101*, 17312-17315.
- Friedman, M., & Ulmer, D. (1985). *Treating Type A behavior and your heart*. New York, NY: Knopf.
- Galea, S., & Vlahov, D. (2005). Urban health: Evidence, challenges, and directions. *Annual Review of Public Health, 26*, 341-365.
- Glaser, R., Rice, J., Sheridan, J., Fertel, R., Stout, J., Speicher, C., et al. (1987). Stress-related immune suppression: Health implications. *Brain, behavior, and immunity, 1*, 7-20.
- Holm, J. E., Holroyd, K. A., Hursey, K. G., & Penzien, D. B. (1986). The role of stress in recurrent tension headache. *Headache: The Journal of Head and Face Pain, 26*, 160-167.
- Jaffe, E. (2010). This side of paradise: Discovering why the human mind needs nature. *Observer, 23*, 10-15.
- Kaplan, S. (1995). The restorative benefits of nature: Toward an integrative framework. *Journal of environmental psychology, 15*, 169-182.
- Kaplan, S., & Berman, M. G. (2010). Directed attention as a common resource for executive functioning and self-regulation. *Perspectives on Psychological Science, 5*, 43-57.
- Krämer, N. C., & Winter, S. (2008). Impression management 2.0: The relationship of self-esteem, extraversion, self-efficacy, and self-presentation within social networking sites. *Journal of Media Psychology, 20*, 106-116.
- Kraut, R., Kiesler, S., Boneva, B., Cummings, J., Helgeson, V., & Crawford, A. (2002). Internet paradox revisited. *Journal of Social Issues, 58*, 49-74.
- Kubey, R., & Csikszentmihalyi, M. (1990). *Television and the quality of life: How viewing shapes everyday experience*. Hillsdale, NJ: Lawrence Erlbaum.
- Kubey, R., & Csikszentmihalyi, M. (2002). Television addiction is no mere metaphor. *Scientific American, 286*, 74-80.
- Kuo, F. E., & Sullivan, W. C. (2001). Aggression and violence in the inner city. *Environment and Behavior, 33*, 543-571.
- Lazarus, R. S., & Folkman, S. (1984). *Stress, appraisal, and coping*. New York, NY: Springer Publishing Company.
- Loss, M. (1983). *Culture shock: Dealing with stress in cross-cultural living*. Winona Lake, IN: Light and Life Press.
- Mander, J. (1978). *Four arguments for the elimination of television*. New York, NY: HarperCollins Perennial.
- Mayer, F. S., Frantz, C. M. P., Bruehlman-Senecal, E., & Dolliver, K. (2009). Why is nature beneficial? *Environment and Behavior, 41*, 607-643.
- Mirescu, C., & Gould, E. (2006). Stress and adult neurogenesis. *Hippocampus, 16*, 233-238.
- Mitchell, R., & Popham, F. (2008). Effect of exposure to natural environment on health inequalities: An observational population study. *The Lancet, 372*, 1655-1660.
- Miyake, A., Friedman, N. P., Emerson, M. J., Witzki, A. H., Howerter, A., & Wager, T. D. (2000). The unity and diversity of executive functions and their contributions to complex



- “frontal lobe” tasks: A latent variable analysis. *Cognitive psychology*, 41, 49-100.
- Myers, D. G. (2010). *Psychology* (9th ed.). New York, NY: Worth Publishers.
- Oberg, K. (1960). Culture shock: Adjustment to new cultural environments. *Practical Anthropology*, 7, 177-182.
- Ott, C., & Wilson, G. (2011). *Global church planting: Biblical principles and best practices for multiplication*. Grand Rapids, MI: Baker Academic.
- Pargament, K. I., Ensing, D. S., Falgout, K., Olsen, H., Reilly, B., Haitsma, K., et al. (1990). God help me:(I): Religious coping efforts as predictors of the outcomes to significant negative life events. *American journal of community psychology*, 18, 793-824.
- Pargament, K. I., Koenig, H. G., & Perez, L. M. (2000). The many methods of religious coping: Development and initial validation of the rcope. *Journal of Clinical Psychology*, 56, 519-543.
- Parsons, R., Tassinary, L. G., Ulrich, R. S., Hebl, M. R., & Grossman-Alexander, M. (1998). The view from the road: Implications for stress recovery and immunization. *Journal of Environmental Psychology*, 18, 113-140.
- Pashler, H., & Johnston, J. C. (1998). Attentional limitations in dual-task performance. In H. Pashler (Ed.), *Attention* (pp. 155-190). Hove, U.K.: Psychology Press.
- Payne, J. D. (2009). *Discovering church planting: An introduction to the whats, whys, and hows of global church planting*. Colorado Springs, CO: Paternoster.
- Poloma, M. M., & Pendleton, B. F. (1991). The effects of prayer and prayer experiences on measures of general well-being. *Journal of Psychology and Theology*, 19, 71-83.
- Selye, H. (1956). *The stress of life*. New York, NY: McGraw-Hill.
- Stillwaggon, E. (1998). *Stunted lives, stagnant economies: Poverty, disease, and underdevelopment*. New Brunswick, NJ: Rutgers University Press.
- Taylor, A. F., Kuo, F. E., & Sullivan, W. C. (2002). Views of nature and self-discipline: Evidence from inner city children. *Journal of environmental psychology*, 22, 49-63.
- Teigen, K. H. (1994). Yerkes-Dodson: A law for all seasons. *Theory & Psychology*, 4, 525-547.
- Ulrich, R. S. (1984). View through a window may influence recovery from surgery. *Science*, 224, 420-421.
- United Nations. (2009). *World urbanization prospects: The 2009 revision*. New York, NY: United Nations.
- Vaillant, G. E. (1995). *Adaptation to life*. Boston, MA: Little, Brown and Company.
- von Hippel, W., & Gonsalkorale, K. (2005). That is bloody revolting! Inhibitory control of thoughts better left unsaid. *Psychological Science*, 16, 497-500.
- White, M. (2007). Food access and obesity. *Obesity Reviews*, 8, 99-107.
- Yerkes, R. M., & Dodson, J. D. (1908). The relation of strength of stimulus to rapidity of habit formation. *Journal of comparative neurology and psychology*, 18, 459-482.

Figure 1. A Conceptual Model of Stress  
(based on Lazarus and Folkman,  
1984)

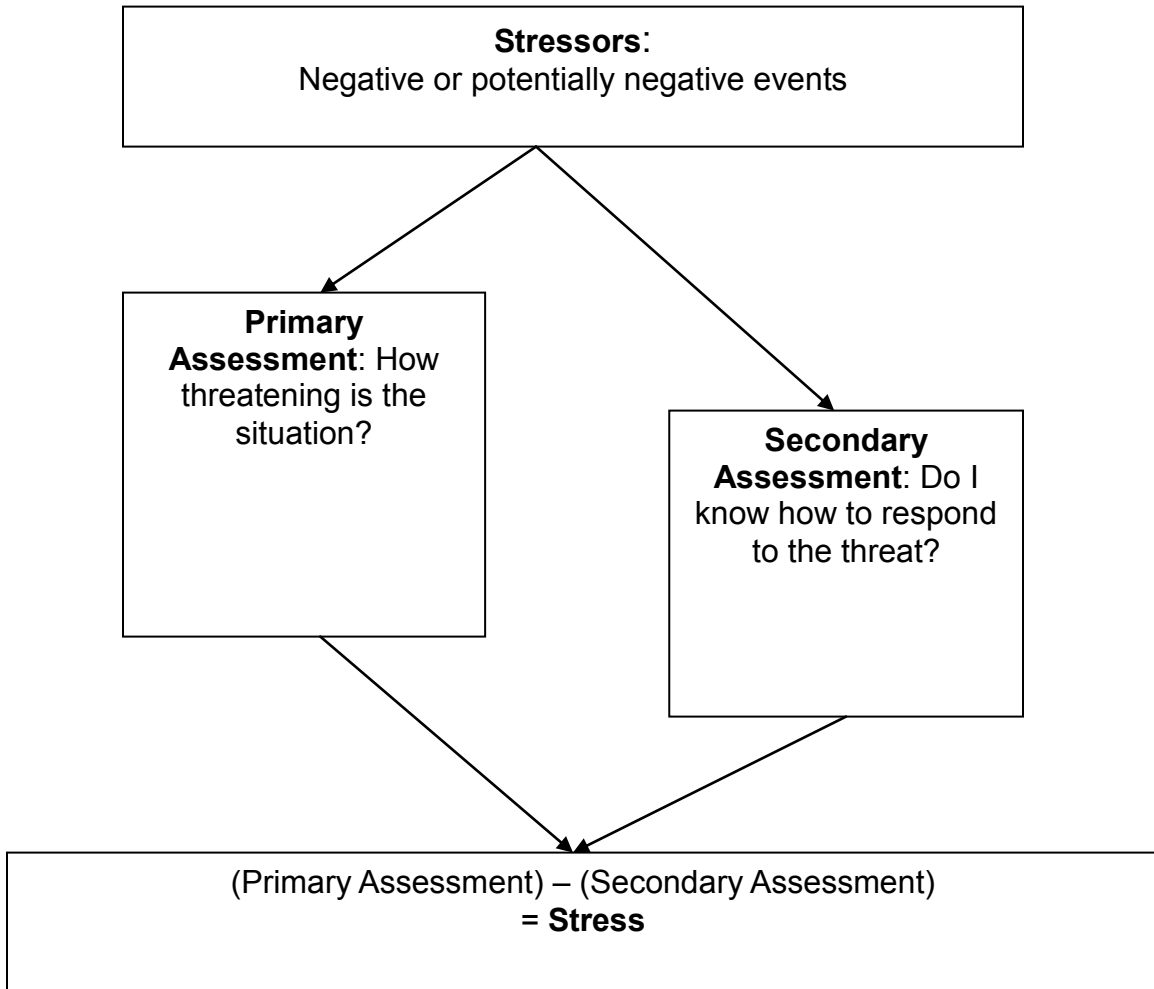


Figure 2. The Effects of Stress and Exposure to Nature on Cognitive Functioning (based on Kaplan & Berman, 2010)

